

**TENTATIVE AGENDA  
STATE OF TENNESSEE  
REGULAR MEETING  
AIR POLLUTION CONTROL BOARD  
Davy Crockett Tower, First Floor  
Conference Room 1-A  
500 James Robertson Parkway  
Nashville, TN 37243-0582  
In Person and  
Remote Access Via WebEx link**

**Wednesday, July 10, 2024  
9:30 A.M.**

**\*\*\*\*Public Comments:** If you wish to speak on topic(s) shown here, please print your name on the Sign-In Sheet provided at the guest table or type your name into the Webex chat box. Someone will recognize you during the meeting for comments or questions. **\*\*\*\*\***

|    | <b>Item</b>   | <b>Presenter</b> | <b>Page</b> |
|----|---|------------------|-------------|
| 1. | Roll Call   |                  |             |
| 2. | Approval of the April 10, 2024, Board Meeting Minutes |                  | 02          |
| 3. | NSPS Rules Incorporation by Reference                 | Mark Reynolds    | 07          |
|    | General Business:                                     |                  |             |
|    | Revised PM NAAQS Designation Process                  | James Johnston   | 353         |
|    | Bristol Lead Maintenance Plan                         | Michelle Oakes   | 382         |
|    | APC Board Manual 2024                                 | Grant Ruhl       | 400         |
|    | Comments from the Public or Online Participants       |                  |             |

The meeting will be held in compliance with Tennessee Code Annotated Section 8-44-108, as amended by Chapter 490 of the 1999 Public Acts of the Tennessee General Assembly. The meeting will be conducted permitting participation by electronic or other means of communication. Consequently, some members of the Tennessee Air Pollution Control Board are allowed to and may participate by electronic or other means of communication and may not be physically present at the announced location of the meeting.

Air Pollution Control Board  
of the  
State of Tennessee  
Regular Meeting

On Wednesday April 10, 2024, at 9:37 A.M., the Air Pollution Control Board of the State of Tennessee, (hereinafter, referred to as the "Board"), began its meeting on the 3<sup>rd</sup> Floor of the Tennessee Tower in the Nashville Room. The following Board members were physically present.

Dr. Ronne' Adkins  
Dr. John Benitez  
Mr. Kyle Etheridge  
Mr. Mike Haverstick  
Dr. Shawn Hawkins  
Mayor Ken Moore  
Mr. Stephen Moore  
Mayor Larry Waters  
Mr. Jimmy West

The following Board members joined the meeting via WebEx.

Dr. Chunrong Jia

The following Board member was absent:

Dr. Joshua Fu  
Ms. Caitlyn Roberts  
Mr. Nicholas Ramos  
Ms. Amy Spann

Since the Chairman, David Salyers, P.E., could not attend the meeting, Dr. Ronne' Adkins represented the Chairman by proxy. Ms. Michelle Owenby, Director, Division of Air Pollution Control, served as Technical Secretary.

The Vice-Chairman, Mayor Larry Waters, called the meeting to order and asked for a roll call and the response was as follows:

|                |         |             |         |
|----------------|---------|-------------|---------|
| Dr. Adkins     | Present | Dr. Benitez | Present |
| Mr. Etheridge  | Present | Dr. Fu      | Absent  |
| Mr. Haverstick | Present | Mr. Hawkins | Present |
| Dr. Jia        | WebEx   | Mayor Moore | Present |
| Mr. Moore      | Present | Ms. Roberts | Absent  |
| Mr. Ramos      | Absent  | Ms. Spann   | Absent  |

|              |         |          |         |
|--------------|---------|----------|---------|
| Mayor Waters | Present | Mr. West | Present |
|--------------|---------|----------|---------|

Nine (9) Board members were present, one (1) participated via WebEx and four (4) were absent.

The next item on the agenda was the approval of the minutes from the March 13, 2024, Board meeting. The Vice-Chairman requested a motion to approve the minutes. Mayor Moore made a motion to approve the minutes and Dr. Benitez seconded the motion. The Vice-Chairman asked if there were any additions or corrections to the minutes. Hearing none, the Vice-Chair asked for a roll call and the response was as follows:

|                |        |             |         |
|----------------|--------|-------------|---------|
| Dr. Adkins     | Yes    | Dr. Benitez | Yes     |
| Mr. Etheridge  | Yes    | Dr. Fu      | Absent  |
| Mr. Haverstick | Yes    | Dr. Hawkins | Abstain |
| Dr. Jia        | Yes    | Mayor Moore | Yes     |
| Mr. Moore      | Yes    | Ms. Roberts | Absent  |
| Mr. Ramos      | Absent | Ms. Spann   | Absent  |
| Mayor Waters   | Yes    | Mr. West    | Yes     |

The motion carried with Nine (9) affirmative votes; the minutes were approved as presented.

Mayor Waters then invited Ms. Lacey Hardin to the podium.

Ms. Lacey Hardin, Environmental Consultant with the Division of Air Pollution Control, presented the board with the revised Title V form for approval. Title V APC 1 Application Form BO # 24-008, contains an address update, with the addition of the APC email to reflect our new APC location:

Davy Crockett Tower, 7th Floor 500 James Robertson Parkway,  
Nashville, TN 37243  
Telephone: (615) 532-0554, Email: [Air.Pollution.Control@TN](mailto:Air.Pollution.Control@TN).

The Vice-Chairman requested a motion to approve the Title V APC 1 Application Form Revisions BO# 24-008. Mr. West made a motion to approve, and Mr. Haverstick seconded the motion.

The Vice-Chair asked for a Roll Call and the response was as follows:

|                |        |             |        |
|----------------|--------|-------------|--------|
| Dr. Adkins     | Yes    | Dr. Benitez | Yes    |
| Mr. Etheridge  | Yes    | Dr. Fu      | Absent |
| Mr. Haverstick | Yes    | Dr. Hawkins | Yes    |
| Dr. Jia        | Yes    | Mayor Moore | Yes    |
| Mr. Moore      | Yes    | Ms. Roberts | Absent |
| Mr. Ramos      | Absent | Ms. Spann   | Absent |

Mayor Waters                      Yes                      Mr. West                      Yes

The motion carried with Ten (10) affirmative votes; Title V APC 1 Application Form Revision BO# 24-008 was approved.

Mayor Waters invited Mr. Marc Corrigan to the podium.

Mr. Corrigan presented the Local Program Certificates of Exemption. Tennessee has four local Air Pollution Control Programs (Davidson, Hamilton, Knox, and Shelby) Board Orders 24-004 through 24-007. The current certificates expire June 30, 2024. The proposed certificates for renewal will be issued for July 1, 2024, through June 30, 2024. Local program directors gave a presentation to the board highlighting any positive accomplishments and activities that have occurred in the last two years. The local program directors also addressed any anticipated issues in continuing to administer a local program.

The Local Program speakers were as follow: Mr. John Finke, Director of the Division of Pollution Control for Metro Nashville, and Davidson County. Mr. Ron Drumeller, Director of the Chattanooga/Hamilton County Air Pollution Control Bureau. Mr. Justin Mayer, Director of the Division of Air Quality Management for Knox County. Ms. Kasia Smith-Alexander, Director of the Environmental Health Bureau Shelby County Health Department.

The Vice-Chairman requested a motion to approve the Local Program Certificates of Exemption. Board Order 24-004 Nashville/Davidson County. Mayor Moore made a motion to approve, and Mr. Hawkins seconded the motion.

The Vice-Chair asked for a Roll Call and the response was as follows:

|                |        |             |        |
|----------------|--------|-------------|--------|
| Dr. Adkins     | Yes    | Dr. Benitez | Yes    |
| Mr. Etheridge  | Yes    | Dr. Fu      | Absent |
| Mr. Haverstick | Yes    | Dr. Hawkins | Yes    |
| Dr. Jia        | Yes    | Mayor Moore | Yes    |
| Mr. Moore      | Yes    | Ms. Roberts | Absent |
| Mr. Ramos      | Absent | Ms. Spann   | Absent |
| Mayor Waters   | Yes    | Mr. West    | Yes    |

The motion carried with Ten (10) affirmative votes; Local Certificate of Exemption BO 24-004 was approved.

The Vice-Chairman requested a motion to approve the Local Program Certificates of Exemption. Board Order 24-005 Chattanooga/Hamilton County. Dr Benitez made a motion to approve, and Mayor Moore seconded the motion.

The Vice-Chair asked for a Roll Call and the response was as follows:

|               |     |             |        |
|---------------|-----|-------------|--------|
| Dr. Adkins    | Yes | Dr. Benitez | Yes    |
| Mr. Etheridge | Yes | Dr. Fu      | Absent |

|                |        |             |        |
|----------------|--------|-------------|--------|
| Mr. Haverstick | Yes    | Dr. Hawkins | Yes    |
| Dr. Jia        | Yes    | Mayor Moore | Yes    |
| Mr. Moore      | Yes    | Ms. Roberts | Absent |
| Mr. Ramos      | Absent | Ms. Spann   | Absent |
| Mayor Waters   | Yes    | Mr. West    | Yes    |

The motion carried with Ten (10) affirmative votes; Local Certificate of Exemption BO 24-005 was approved.

The Vice-Chairman requested a motion to approve the Local Program Certificates of Exemption. Board Order 24-006 Knox County. Dr. Benitez made a motion to approve, and Mr. Moore seconded the motion.

The Vice-Chair asked for a Roll Call and the response was as follows:

|                |        |             |        |
|----------------|--------|-------------|--------|
| Dr. Adkins     | Yes    | Dr. Benitez | Yes    |
| Mr. Etheridge  | Yes    | Dr. Fu      | Absent |
| Mr. Haverstick | Yes    | Dr. Hawkins | Yes    |
| Dr. Jia        | Yes    | Mayor Moore | Yes    |
| Mr. Moore      | Yes    | Ms. Roberts | Absent |
| Mr. Ramos      | Absent | Ms. Spann   | Absent |
| Mayor Waters   | Yes    | Mr. West    | Yes    |

The motion carried with Ten (10) affirmative votes; Local Certificate of Exemption BO 24-006 was approved.

The Vice-Chairman requested a motion to approve the Local Program Certificates of Exemption. Board Order 24-007 Shelby County. Mayor Moore made a motion to approve, and Dr. Benitez seconded the motion.

The Vice-Chair asked for a Roll Call and the response was as follows:

|                |     |             |        |
|----------------|-----|-------------|--------|
| Dr. Adkins     | Yes | Dr. Benitez | Yes    |
| Mr. Etheridge  | Yes | Dr. Fu      | Absent |
| Mr. Haverstick | Yes | Dr. Hawkins | Yes    |
| Dr. Jia        | Yes | Mayor Moore | Yes    |
| Mr. Moore      | Yes | Ms. Roberts | Absent |

|              |        |           |        |
|--------------|--------|-----------|--------|
| Mr. Ramos    | Absent | Ms. Spann | Absent |
| Mayor Waters | Yes    | Mr. West  | Yes    |

The motion carried with Ten (10) affirmative votes; Local Certificate of Exemption BO 24-007 was approved.

Mayor Waters then invited Ms. Mary-Margaret Chandler to the podium.

Mrs. Mary-Margaret Chandler presented the Tennessee Volunteer Emission Reduction Strategy-Planning and Implementation Priority Action Plan on behalf of the Tennessee Department of Environment and Conservation. This plan is the first deliverable of a multiphase process in which forty-five other states are participating. New items to be developed in the plan are greenhouse emissions projections, greenhouse gas reduction targets, and a workforce planning analysis. TDEC will continue to work with CEC to meet these requirements.

Mayor Waters then invited Mr. Donovan Grimwood and Ms. Crystal Warren to the podium.

Mr. Grimwood and Ms. Warren with the Small Business Environmental Assistance Program (SBEAP) presented the board with the current small business environmental assistance updates.

There being no further business to discuss before the Board, nor members of the public wishing to address the Board, the meeting was adjourned at 10:53 am.

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(Signed) Michelle Owenby, Technical Secretary  
Tennessee Air Pollution Control Board

Approved at Nashville, Tennessee on 07/05/2024.

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(Signed) Mayor Larry Waters, Vice-Chairman  
Tennessee Air Pollution Control Board

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(Signed) David Salyers, Chairman  
Tennessee Air Pollution Control Board



Department of  
**Environment &  
Conservation**

# NSPS Rules Incorporation by Reference

# Schedule

| <b>Event</b>                                      | <b>Date</b>       |
|---|-------------------|
| 1 <sup>st</sup> Public Notice                     | May 3, 2023       |
| 1 <sup>st</sup> Public Hearing                    | June 27, 2023     |
| APC Board Approval                                | October 11, 2023  |
| Filed Rule with Secretary of State                | December 21, 2023 |
| SOS & OGC Identified Administrative Error in Rule | March 2023        |
| Board Withdraws Rule                              | March 13, 2023    |
| 2 <sup>nd</sup> Public Notice                     | April 11, 2024    |
| 2 <sup>nd</sup> Public Hearing                    | June 5, 2024      |
| APC Board Vote                                    | July 10, 2024     |
| File Rule with Secretary of State                 | August 2024       |
| Rule Becomes State Effective                      | November 2024     |



# NSPS Rules

- Federal NSPS Rules
- 40 CFR Part 60
- New Source Performance Standards (NSPS)
- TDEC proposes to incorporate federal rules by reference into state rules

# NSPS Rules

- NSPS are technology-based standards
- NSPS apply to new, modified and reconstructed affected facilities in specific source categories such as manufacturers of glass, cement, and rubber tires
- 90 source categories

# NSPS Rules

- In June 2022, Board passed NESHAP rule revision
- National Emission Standards for Hazardous Air Pollutants (NESHAP)
  - 40 CFR Parts 61 & 63
- Federal NESHAP rules were incorporated by reference into state rules
- NSPS rule revision is similar to NESHAP rule revision

# NSPS Rules

- Currently, some federal NSPS rules are in state rules
  - Chapters 6, 16, and 39
- Mostly word-for-word basis
- Difficult to keep up-to-date if federal rule is amended

# NSPS Rules

- Most state rules started out as an exact word-for-word copy of federal rules
- Federal rules have been amended over time while state rules have not been kept up-to-date
- Some state rules are now less stringent than federal rule; some are more stringent

# NSPS Rules

- In some cases, EPA has lost a NSPS court case
- The original federal standard has been replaced by a less stringent standard
- State rule was never updated to reflect less stringent standard
- Thus, state standard is now more stringent than federal standard
- TDEC never intended to have more stringent standards

# NSPS Rules

- Currently, the requirements of a NSPS that are not reproduced through the current regulations must be placed in a permit before they can be enforced
- By adopting federal NSPS rules by reference, the Board will be able to keep the state regulations in line with the federal regulations and will be able to enforce the federal regulations directly

# NSPS Rules

- TDEC proposes to repeal current NSPS rules that are in state rules
- TDEC proposes to adopt by reference all Part 60 rules, except emission guidelines, which are not appropriate to adopt by reference since they require the submission of state plans
- Adopt July 1, 2022, version of 40 CFR Part 60



# Schedule

| <b>Event</b>                                      | <b>Date</b>       |
|---|-------------------|
| 1 <sup>st</sup> Public Notice                     | May 3, 2023       |
| 1 <sup>st</sup> Public Hearing                    | June 27, 2023     |
| APC Board Approval                                | October 11, 2023  |
| Filed Rule with Secretary of State                | December 21, 2023 |
| SOS & OGC Identified Administrative Error in Rule | March 2023        |
| Board Withdraws Rule                              | March 13, 2023    |
| 2 <sup>nd</sup> Public Notice                     | April 11, 2024    |
| 2 <sup>nd</sup> Public Hearing                    | June 5, 2024      |
| APC Board Vote                                    | July 10, 2024     |
| File Rule with Secretary of State                 | August 2024       |
| Rule Becomes State Effective                      | November 2024     |

# Questions

Mark A. Reynolds

Environmental Consultant

Tennessee Department of Environment and Conservation

Division of Air Pollution Control

mark.a.reynolds@tn.gov

(615) 532-0559

**Department of State**  
**Division of Publications**  
 312 Rosa L. Parks Ave., 8th Floor, Snodgrass/TN Tower  
 Nashville, TN 37243  
 Phone: 615-741-2650  
 Email: [publications.information@tn.gov](mailto:publications.information@tn.gov)

**For Department of State Use Only**

Sequence Number: \_\_\_\_\_  
 Rule ID(s): \_\_\_\_\_  
 File Date: \_\_\_\_\_  
 Effective Date: \_\_\_\_\_

# Rulemaking Hearing Rule(s) Filing Form

Rulemaking Hearing Rules are rules filed after and as a result of a rulemaking hearing (Tenn. Code Ann. § 4-5-205).

Pursuant to Tenn. Code Ann. § 4-5-229, any new fee or fee increase promulgated by state agency rule shall take effect on July 1, following the expiration of the ninety (90) day period as provided in § 4-5-207. This section shall not apply to rules that implement new fees or fee increases that are promulgated as emergency rules pursuant to § 4-5-208(a) and to subsequent rules that make permanent such emergency rules, as amended during the rulemaking process. In addition, this section shall not apply to state agencies that did not, during the preceding two (2) fiscal years, collect fees in an amount sufficient to pay the cost of operating the board, commission, or entity in accordance with § 4-29-121(b).

|                                 |  |
|---------------------------------|--|
| <b>Agency/Board/Commission:</b> | Air Pollution Control Board  |
| <b>Division:</b>                | Air Pollution Control  |
| <b>Contact Person:</b>          | Mark A. Reynolds   |
| <b>Address:</b>                 | William R. Snodgrass Tennessee Tower<br>312 Rosa L. Parks Avenue, 15 <sup>th</sup> Floor<br>Nashville, Tennessee |
| <b>Zip:</b>                     | 37243  |
| <b>Phone:</b>                   | (615) 532-0559   |
| <b>Email:</b>                   | <a href="mailto:mark.a.reynolds@tn.gov">mark.a.reynolds@tn.gov</a>   |

**Revision Type (check all that apply):**

Amendment  Content based on previous emergency rule filed on \_\_\_\_\_  
 New  Content is identical to the emergency rule  
 Repeal

**Rule(s)** (ALL chapters and rules contained in filing must be listed here. If needed, copy and paste additional tables to accommodate multiple chapters. Please make sure that ALL new rule and repealed rule numbers are listed in the chart below. Please enter only ONE Rule Number/Rule Title per row.)

| Chapter Number | Chapter Title   |
|----------------|---|
| 0400-30-39     | Standards of Performance for New Stationary Sources         |
| Rule Number    | Rule Title  |
| 0400-30-39-.01 | Stationary Compression Ignition Internal Combustion Engines |
| 0400-30-39-.02 | Stationary Spark Ignition Internal Combustion Engines       |

| Chapter Number | Chapter Title       |
|----------------|---------------------|
| 1200-03-02     | Definitions         |
| Rule Number    | Rule Title          |
| 1200-03-02-.01 | General Definitions |

| Chapter Number | Chapter Title                         |
|----------------|---------------------------------------|
| 1200-03-05     | Visible Emission Regulations          |
| Rule Number    | Rule Title                            |
| 1200-03-05-.04 | Exemption                             |
| 1200-03-05-.05 | Standard for Certain Existing Sources |

| <b>Chapter Number</b> | <b>Chapter Title</b>  |
|-----------------------|---|
| 1200-03-06            | Non-Process Emission Standards  |
| <b>Rule Number</b>    | <b>Rule Title</b>   |
| 1200-03-06-.06        | Commercial and Industrial Solid Waste Incineration Units that Commenced Construction on or before November 30, 1999 |

| <b>Chapter Number</b> | <b>Chapter Title</b>               |
|-----------------------|------------------------------------|
| 1200-03-09            | Construction and Operating Permits |
| <b>Rule Number</b>    | <b>Rule Title</b>                  |
| 1200-03-09-.01        | Construction Permits               |
| 1200-03-09-.02        | Operating Permits                  |
| 1200-03-09-.04        | Exemptions                         |
| 1200-03-09-.07        | Permits-by-Rule                    |

| <b>Chapter Number</b> | <b>Chapter Title</b>   |
|-----------------------|--|
| 1200-03-16            | New Source Performance Standards   |
| <b>Rule Number</b>    | <b>Rule Title</b>  |
| 1200-03-16-.01        | General Provisions   |
| 1200-03-16-.02        | Fuel Fired Steam Generators for which Construction Is Commenced After April 3, 1972                      |
| 1200-03-16-.03        | Electric Utility Steam Generating Units for which Construction Commenced After September 18, 1978        |
| 1200-03-16-.04        | Incinerators   |
| 1200-03-16-.05        | Portland Cement Plants   |
| 1200-03-16-.06        | Sulfuric Acid Plants   |
| 1200-03-16-.07        | Nitric Acid Plants   |
| 1200-03-16-.08        | Hot Mix Asphalt Facilities   |
| 1200-03-16-.09        | Petroleum Refineries   |
| 1200-03-16-.10        | Reserved   |
| 1200-03-16-.11        | Reserved   |
| 1200-03-16-.12        | Secondary Lead Smelters  |
| 1200-03-16-.13        | Secondary Brass and Bronze Ingot Production Plants   |
| 1200-03-16-.14        | Iron and Steel Plants  |
| 1200-03-16-.15        | Sewage Treatment Plant Incinerators  |
| 1200-03-16-.16        | Phosphate Fertilizer Industry: Wet Process Phosphoric Acid Plants  |
| 1200-03-16-.17        | Phosphate Fertilizer Industry: Superphosphoric Acid Plants   |
| 1200-03-16-.18        | Phosphate Fertilizer Industry: Diammonium Phosphate Plants   |
| 1200-03-16-.19        | Phosphate Fertilizer Industry: Triple Superphosphate Plants  |
| 1200-03-16-.20        | Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities                         |
| 1200-03-16-.21        | Primary Aluminum Reduction Plants  |
| 1200-03-16-.22        | Reserved   |
| 1200-03-16-.23        | Primary Copper Smelters  |
| 1200-03-16-.24        | Primary Zinc Smelters  |
| 1200-03-16-.25        | Primary Lead Smelters  |
| 1200-03-16-.26        | Steel Plants: Electric Arc Furnaces Constructed After February 9, 1977, and On or Before August 17, 1983 |
| 1200-03-16-.27        | Ferroalloy Production Facilities   |
| 1200-03-16-.28        | Lime Manufacturing Plants  |
| 1200-03-16-.29        | Kraft Pulp Mills   |
| 1200-03-16-.30        | Grain Elevators  |
| 1200-03-16-.31        | Reserved   |
| 1200-03-16-.32        | Ammonium Sulfate Manufacture   |
| 1200-03-16-.33        | Reserved   |
| 1200-03-16-.34        | Automobile and Light Duty Truck Surface Coating Operations   |
| 1200-03-16-.35        | Asphalt Processing and Asphalt Roofing Manufacture   |
| 1200-03-16-.36        | Industrial Surface Coating: Large Appliances   |
| 1200-03-16-.37        | Surface Coating of Metal Furniture   |
| 1200-03-16-.38        | Metal Coil Surface Coating   |
| 1200-03-16-.39        | Graphic Arts Industry: Publication Rotogravure Printing  |
| 1200-03-16-.40        | Beverage Can Surface Coating   |

|                                       |  |
|---------------------------------------|--|
| 1200-03-16-.41                        | Metallic Mineral Processing Plants   |
| 1200-03-16-.42                        | Pressure Sensitive Tape and Label Surface Coating Operations   |
| 1200-03-16-.43                        | Reserved   |
| 1200-03-16-.44                        | Bulk Gasoline Terminals  |
| 1200-03-16-.45                        | Synthetic Fiber Production Facilities  |
| 1200-03-16-.46                        | Lead Acid Battery Manufacturing Plants   |
| 1200-03-16-.47                        | Equipment Leaks of VOC in Petroleum Refineries   |
| 1200-03-16-.48                        | Flexible Vinyl and Urethane Coating and Printing   |
| 1200-03-16-.49                        | Petroleum Dry Cleaners   |
| 1200-03-16-.50                        | Phosphate Rock Plants  |
| 1200-03-16-.51                        | Equipment Leaks of VOC from Onshore Natural Gas Processing Plants  |
| 1200-03-16-.52                        | Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels   |
| 1200-03-16-.53                        | Reserved   |
| 1200-03-16-.54                        | Onshore Natural Gas Processing: SO2 Emissions  |
| 1200-03-16-.55                        | Secondary Emissions from Basic Oxygen Process Steelmaking Facilities for which Construction is Commenced after November 6, 1988. |
| 1200-03-16-.56                        | Wool Fiberglass Insulation Manufacturing Plants  |
| 1200-03-16-.57                        | Industrial Surface Coating: Surface Coating of Plastic Parts of Business Machines  |
| 1200-03-16-.58                        | Reserved   |
| 1200-03-16-.59                        | Industrial-Commercial-Institutional Steam Generating Units   |
| 1200-03-16-.60 through 1200-03-16-.73 | Reserved   |
| 1200-03-16-.74                        | Standards of Performance for Calciners and Dryers in Mineral Industries  |
| 1200-03-16-.75                        | Reserved   |
| 1200-03-16-.76                        | Reserved   |
| 1200-03-16-.77 through 1200-03-16-.99 | Reserved   |

| Chapter Number | Chapter Title                         |
|----------------|---------------------------------------|
| 1200-03-18     | Volatile Organic Compounds            |
| Rule Number    | Rule Title                            |
| 1200-03-18-.48 | Volatile Organic Liquid Storage Tanks |

| Chapter Number | Chapter Title  |
|----------------|--|
| 1200-03-20     | Limits on Emissions Due to Malfunctions, Startups, and Shutdowns |
| Rule Number    | Rule Title   |
| 1200-03-20-.06 | Report Required Upon the Issuance of a Notice of Violation       |

| Chapter Number | Chapter Title                        |
|----------------|--------------------------------------|
| 1200-03-21     | General Alternate Emission Standards |
| Rule Number    | Rule Title                           |
| 1200-03-21-.01 | General Alternate Emission Standard  |

| Chapter Number | Chapter Title                                 |
|----------------|---|
| 1200-03-22     | Lead Emission Standards                       |
| Rule Number    | Rule Title                                    |
| 1200-03-22-.04 | Standards for New or Modified Sources of Lead |

|                       |   |
|-----------------------|---|
| <b>Chapter Number</b> | <b>Chapter Title</b>                        |
| 1200-03-25            | Standards for Infectious Waste Incinerators |
| <b>Rule Number</b>    | <b>Rule Title</b>                           |
| 1200-03-25-.05        | Emission Standards                          |

|                       |                                       |
|-----------------------|---------------------------------------|
| <b>Chapter Number</b> | <b>Chapter Title</b>                  |
| 1200-03-26            | Administrative Fees Schedule          |
| <b>Rule Number</b>    | <b>Rule Title</b>                     |
| 1200-03-26-.02        | Construction and Annual Emission Fees |

Place substance of rules and other info here. Please be sure to include a detailed explanation of the changes being made to the listed rule(s). Statutory authority must be given for each rule change. For information on formatting rules go to <https://sos.tn.gov/products/division-publications/rulemaking-guidelines>.

Chapter 0400-30-39  
Standards of Performance for New Stationary Sources

Amendments

The Table of Contents to Chapter 0400-30-39 Standards of Performance for New Stationary Sources is amended by deleting it in its entirety and substituting instead the following:

0400-30-39-.01 Federal Standards of Performance for New Stationary Sources  
0400-30-39-.02 Reserved  
0400-30-39-.03 Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Rule 0400-30-39-.01 Stationary Compression Ignition Internal Combustion Engines is amended by deleting it in its entirety and substituting instead the following:

0400-30-39-.01 Federal Standards of Performance for New Stationary Sources

(1) The provisions of the subparts and appendices of 40 C.F.R. Part 60 listed in subparagraph (b) of this paragraph are hereby incorporated by reference as published in the July 1, 2022, edition of the Code of Federal Regulations, except as provided in subparagraph (a) of this paragraph.

(a) Any reference contained in 40 C.F.R. Part 60 to the:

1. Administrator shall instead be a reference to the Technical Secretary, except for specific authorities that have not been delegated to the State of Tennessee; and
2. EPA regional office shall instead be a reference to the EPA Region IV office.

(b) List of Federal Regulations under 40 C.F.R. Part 60:

1. 40 C.F.R. Part 60 Subpart A: General provisions;
2. Reserved;
3. Reserved;
4. Reserved;
5. Reserved;
6. Reserved;
7. Reserved;
8. Reserved;
9. Reserved;
10. Reserved;
11. 40 C.F.R. Part 60 Subpart D: Standards of Performance for Fossil-Fuel-Fired Steam Generators;
12. 40 C.F.R. Part 60 Subpart Da: Standards of Performance for Electric Utility Steam

Generating Units;

13. 40 C.F.R. Part 60 Subpart Db: Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units;
14. 40 C.F.R. Part 60 Subpart Dc: Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units;
15. 40 C.F.R. Part 60 Subpart E: Standards of Performance for Incinerators;
16. 40 C.F.R. Part 60 Subpart Ea: Standards of Performance for Municipal Waste Combustors for Which Construction Is Commenced After December 20, 1989 and On or Before September 20, 1994;
17. 40 C.F.R. Part 60 Subpart Eb: Standards of Performance for Large Municipal Waste Combustors for Which Construction is Commenced After September 20, 1994, or for Which Modification or Reconstruction is Commenced After June 19, 1996;
18. 40 C.F.R. Part 60 Subpart Ec: Standards of Performance for New Stationary Sources: Hospital/Medical/Infectious Waste Incinerators;
19. 40 C.F.R. Part 60 Subpart F: Standards of Performance for Portland Cement Plants;
20. 40 C.F.R. Part 60 Subpart G: Standards of Performance for Nitric Acid Plants;
21. 40 C.F.R. Part 60 Subpart Ga: Standards of Performance for Nitric Acid Plants for Which Construction, Reconstruction, or Modification Commenced After October 14, 2011;
22. 40 C.F.R. Part 60 Subpart H: Standards of Performance for Sulfuric Acid Plants;
23. 40 C.F.R. Part 60 Subpart I: Standards of Performance for Hot Mix Asphalt Facilities;
24. 40 C.F.R. Part 60 Subpart J: Standards of Performance for Petroleum Refineries;
25. 40 C.F.R. Part 60 Subpart Ja: Standards of Performance for Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007;
26. 40 C.F.R. Part 60 Subpart K: Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978;
27. 40 C.F.R. Part 60 Subpart Ka: Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984;
28. 40 C.F.R. Part 60 Subpart Kb: Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984;
29. 40 C.F.R. Part 60 Subpart L: Standards of Performance for Secondary Lead Smelters;
30. 40 C.F.R. Part 60 Subpart M: Standards of Performance for Secondary Brass and Bronze Production Plants;
31. 40 C.F.R. Part 60 Subpart N: Standards of Performance for Primary Emissions from Basic Oxygen Process Furnaces for Which Construction is Commenced After June 11, 1973;
32. 40 C.F.R. Part 60 Subpart Na: Standards of Performance for Secondary Emissions from Basic Oxygen Process Steelmaking Facilities for Which Construction is Commenced After January 20, 1983;



33. 40 C.F.R. Part 60 Subpart O: Standards of Performance for Sewage Treatment Plants;
34. 40 C.F.R. Part 60 Subpart P: Standards of Performance for Primary Copper Smelters;
35. 40 C.F.R. Part 60 Subpart Q: Standards of Performance for Primary Zinc Smelters;
36. 40 C.F.R. Part 60 Subpart R: Standards of Performance for Primary Lead Smelters;
37. 40 C.F.R. Part 60 Subpart S: Standards of Performance for Primary Aluminum Reduction Plants;
38. 40 C.F.R. Part 60 Subpart T: Standards of Performance for the Phosphate Fertilizer Industry: Wet-Process Phosphoric Acid Plants;
39. 40 C.F.R. Part 60 Subpart U: Standards of Performance for the Phosphate Fertilizer Industry: Superphosphoric Acid Plants;
40. 40 C.F.R. Part 60 Subpart V: Standards of Performance for the Phosphate Fertilizer Industry: Diammonium Phosphate Plants;
41. 40 C.F.R. Part 60 Subpart W: Standards of Performance for the Phosphate Fertilizer Industry: Triple Superphosphate Plants;
42. 40 C.F.R. Part 60 Subpart X: Standards of Performance for the Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities;
43. 40 C.F.R. Part 60 Subpart Y: Standards of Performance for Coal Preparation and Processing Plants;
44. 40 C.F.R. Part 60 Subpart Z: Standards of Performance for Ferroalloy Production Facilities;
45. 40 C.F.R. Part 60 Subpart AA: Standards of Performance for Steel Plants: Electric Arc Furnaces Constructed After October 21, 1974, and On or Before August 17, 1983;
46. 40 C.F.R. Part 60 Subpart AAa: Standards of Performance for Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 17, 1983;
47. Reserved;
48. 40 C.F.R. Part 60 Subpart BB: Standards of Performance for Kraft Pulp Mills;
49. 40 C.F.R. Part 60 Subpart BBa: Standards of Performance for Kraft Pulp Mill Affected Sources for Which Construction, Reconstruction, or Modification Commenced After May 23, 2013;
50. 40 C.F.R. Part 60 Subpart CC: Standards of Performance for Glass Manufacturing Plants;
51. 40 C.F.R. Part 60 Subpart DD: Standards of Performance for Grain Elevators;
52. 40 C.F.R. Part 60 Subpart EE: Standards of Performance for Surface Coating of Metal Furniture;
53. Reserved;
54. 40 C.F.R. Part 60 Subpart GG: Standards of Performance for Stationary Gas Turbines;
55. 40 C.F.R. Part 60 Subpart HH: Standards of Performance for Lime Manufacturing Plants;
56. 40 C.F.R. Part 60 Subpart KK: Standards of Performance for Lead-Acid Battery Manufacturing Plants;

57. 40 C.F.R. Part 60 Subpart LL: Standards of Performance for Metallic Mineral Processing Plants;
58. 40 C.F.R. Part 60 Subpart MM: Standards of Performance for Automobile and Light Duty Truck Surface Coating Operations;
59. Reserved;
60. 40 C.F.R. Part 60 Subpart NN: Standards of Performance for Phosphate Rock Plants;
61. 40 C.F.R. Part 60 Subpart PP: Standards of Performance for Ammonium Sulfate Manufacture;
62. 40 C.F.R. Part 60 Subpart QQ: Standards of Performance for the Graphic Arts Industry: Publication Rotogravure Printing;
63. 40 C.F.R. Part 60 Subpart RR: Standards of Performance for Pressure Sensitive Tape and Label Surface Coating Operations;
64. 40 C.F.R. Part 60 Subpart SS: Standards of Performance for Industrial Surface Coating: Large Appliances;
65. 40 C.F.R. Part 60 Subpart TT: Standards of Performance for Metal Coil Surface Coating;
66. 40 C.F.R. Part 60 Subpart UU: Standards of Performance for Asphalt Processing and Asphalt Roofing Manufacture;
67. 40 C.F.R. Part 60 Subpart VV: Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for which Construction, Reconstruction, or Modification Commenced After January 5, 1981, and on or Before November 7, 2006;
68. 40 C.F.R. Part 60 Subpart VVa: Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006;
69. 40 C.F.R. Part 60 Subpart WW: Standards of Performance for the Beverage Can Surface Coating Industry;
70. 40 C.F.R. Part 60 Subpart XX: Standards of Performance for Bulk Gasoline Terminals;
71. Reserved;
72. 40 C.F.R. Part 60 Subpart AAA: Standards of Performance for New Residential Wood Heaters;
73. 40 C.F.R. Part 60 Subpart BBB: Standards of Performance for the Rubber Tire Manufacturing Industry;
74. Reserved;
75. 40 C.F.R. Part 60 Subpart DDD: Standards of Performance for Volatile Organic Compound (VOC) Emissions from the Polymer Manufacturing Industry;
76. Reserved;
77. 40 C.F.R. Part 60 Subpart FFF: Standards of Performance for Flexible Vinyl and Urethane Coating and Printing;
78. 40 C.F.R. Part 60 Subpart GGG: Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for which Construction, Reconstruction, or Modification

Commenced After January 4, 1983, and on or Before November 7, 2006;

79. 40 C.F.R. Part 60 Subpart GGGa: Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006;
80. 40 C.F.R. Part 60 Subpart HHH: Standards of Performance for Synthetic Fiber Production Facilities;
81. 40 C.F.R. Part 60 Subpart III: Standards of Performance for Volatile Organic Compound (VOC) Emissions From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes;
82. 40 C.F.R. Part 60 Subpart JJJ: Standards of Performance for Petroleum Dry Cleaners;
83. 40 C.F.R. Part 60 Subpart KKK: Standards of Performance for Equipment Leaks of VOC From Onshore Natural Gas Processing Plants for Which Construction, Reconstruction, or Modification Commenced After January 20, 1984, and on or Before August 23, 2011;
84. 40 C.F.R. Part 60 Subpart LLL: Standards of Performance for SO<sub>2</sub> Emissions From Onshore Natural Gas Processing for Which Construction, Reconstruction, or Modification Commenced After January 20, 1984, and on or Before August 23, 2011;
85. Reserved;
86. 40 C.F.R. Part 60 Subpart NNN: Standards of Performance for Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations;
87. 40 C.F.R. Part 60 Subpart OOO: Standards of Performance for Nonmetallic Mineral Processing Plants;
88. 40 C.F.R. Part 60 Subpart PPP: Standard of Performance for Wool Fiberglass Insulation Manufacturing Plants;
89. 40 C.F.R. Part 60 Subpart QQQ: Standards of Performance for VOC Emissions From Petroleum Refinery Wastewater Systems;
90. 40 C.F.R. Part 60 Subpart RRR: Standards of Performance for Volatile Organic Compound Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes;
91. 40 C.F.R. Part 60 Subpart SSS: Standards of Performance for Magnetic Tape Coating Facilities;
92. 40 C.F.R. Part 60 Subpart TTT: Standards of Performance for Industrial Surface Coating: Surface Coating of Plastic Parts for Business Machines;
93. Reserved;
94. 40 C.F.R. Part 60 Subpart UUU: Standards of Performance for Calciners and Dryers in Mineral Industries;
95. 40 C.F.R. Part 60 Subpart VVV: Standards of Performance for Polymeric Coating of Supporting Substrates Facilities;
96. 40 C.F.R. Part 60 Subpart WWW: Standards of Performance for Municipal Solid Waste Landfills That Commenced Construction, Reconstruction, or Modification on or After May 30, 1991, but Before July 18, 2014;
97. 40 C.F.R. Part 60 Subpart XXX: Standards of Performance for Municipal Solid Waste

Landfills That Commenced Construction, Reconstruction, or Modification After July 17, 2014;

- 98. Reserved;
- 99. Reserved;
- 100. 40 C.F.R. Part 60 Subpart AAAA: Standards of Performance for Small Municipal Waste Combustion Units for Which Construction is Commenced After August 30, 1999 or for Which Modification or Reconstruction is Commenced After June 6, 2001;
- 101. Reserved;
- 102. 40 C.F.R. Part 60 Subpart CCCC: Standards of Performance for Commercial and Industrial Solid Waste Incineration Units;
- 103. Reserved;
- 104. 40 C.F.R. Part 60 Subpart EEEE: Standards of Performance for Other Solid Waste Incineration Units for Which Construction is Commenced After December 9, 2004, or for Which Modification or Reconstruction is Commenced on or After June 16, 2006;
- 105. Reserved;
- 106. Reserved;
- 107. Reserved;
- 108. 40 C.F.R. Part 60 Subpart IIII: Standards of Performance for Stationary Compression Ignition Internal Combustion Engines;
- 109. 40 C.F.R. Part 60 Subpart JJJJ: Standards of Performance for Stationary Spark Ignition Internal Combustion Engines;
- 110. 40 C.F.R. Part 60 Subpart KKKK: Standards of Performance for Stationary Combustion Turbines;
- 111. 40 C.F.R. Part 60 Subpart LLLL: Standards of Performance for New Sewage Sludge Incineration Units;
- 112. Reserved;
- 113. Reserved;
- 114. 40 C.F.R. Part 60 Subpart OOOO: Standards of Performance for Crude Oil and Natural Gas Facilities for Which Construction, Modification, or Reconstruction Commenced After August 23, 2011, and on or Before September 18, 2015;
- 115. 40 C.F.R. Part 60 Subpart OOOOa: Standards of Performance for Crude Oil and Natural Gas Facilities for Which Construction, Modification or Reconstruction Commenced After September 18, 2015;
- 116. Reserved;
- 117. 40 C.F.R. Part 60 Subpart QQQQ: Standards of Performance for New Residential Hydronic Heaters and Forced-Air Furnaces;
- 118. 40 C.F.R. Part 60 Subpart TTTT: Standards of Performance for Greenhouse Gas Emissions for Electric Generating Units;
- 119. Reserved;

- 120. 40 C.F.R. Part 60 Appendix A-1: Test Methods 1 through 2F;
- 121. 40 C.F.R. Part 60 Appendix A-2: Test Methods 2G through 3C;
- 122. 40 C.F.R. Part 60 Appendix A-3: Test Methods 4 through 5I;
- 123. 40 C.F.R. Part 60 Appendix A-4: Test Methods 6 through 10B;
- 124. 40 C.F.R. Part 60 Appendix A-5: Test Methods 11 through 15A;
- 125. 40 C.F.R. Part 60 Appendix A-6: Test Methods 16 through 18;
- 126. 40 C.F.R. Part 60 Appendix A-7: Test Methods 19 through 25E;
- 127. 40 C.F.R. Part 60 Appendix A-8: Test Methods 26 through 30B;
- 128. 40 C.F.R. Part 60 Appendix B: Performance Specifications;
- 129. 40 C.F.R. Part 60 Appendix C: Determination of Emission Rate Change;
- 130. 40 C.F.R. Part 60 Appendix D: Required Emission Inventory Information;
- 131. Reserved;
- 132. 40 C.F.R. Part 60 Appendix F: Quality Assurance Procedures;
- 133. 40 C.F.R. Part 60 Appendix G: Provisions for an Alternative Method of Demonstrating Compliance With 40 C.F.R. 60.43 for the Newton Power Station of Central Illinois Public Service Company;
- 134. Reserved; and
- 135. 40 C.F.R. Part 60 Appendix I: Owner's Manuals and Temporary Labels for Wood Heaters Subject to Subparts AAA and QQQQ of Part 60.

(2) Reserved.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Rule 0400-30-39-.02 Stationary Spark Ignition Internal Combustion Engines is amended by deleting it in its entirety and substituting instead the following:

0400-30-39-.02 Reserved.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Chapter 1200-03-02  
Definitions

Amendments

Subparagraph (g) of paragraph (1) of Rule 1200-03-02-.01 General Definitions is amended by deleting it in its entirety and substituting instead the following:

- (g) “Best available control technology (BACT)” means an emission limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to regulation under these rules which would be emitted from any proposed new or modified air contaminant source that the Technical Secretary, on a case-by-case bases, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant. In no event shall application of best available control technology result in emissions of any pollutant that would exceed the emissions allowed by any applicable standard under Chapters 0400-30-38 or 0400-30-39 of these rules. If the Technical Secretary determines that technological or economic limitations on the application of measurement methodology to a particular class of sources would make the imposition of an emission standard infeasible, a design, equipment, work practice, or operational standard, or combination thereof, may be prescribed instead to require the application of best available control technology. Such standard must, to the degree possible, set forth the emission reduction achievable by implementation of such design, equipment, work practice, or operation, and must provide for compliance by means that achieve equivalent results.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Chapter 1200-03-05  
Visible Emission Regulations

Amendments

Paragraph (2) of Rule 1200-03-05-.04 Exemption is amended by deleting it in its entirety and substituting instead the following:

- (2) Unless the visible emission standard was set under the authority of paragraph (2), (3), or (4) of Rule 1200-03-05-.01, the visible emission standards of this chapter shall not apply where a source has an applicable visible emissions standard under Chapter 0400-30-39.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Paragraph (3) of Rule 1200-03-05-.04 Exemption is amended by deleting it in its entirety and substituting instead the following:

- (3) If the installation of an in-stack opacity monitor is required by a standard contained in Chapter 0400-30-39, then for an identical existing source to obtain the less restrictive opacity standard contained in Chapter 0400-30-39, the installation of an in-stack opacity monitor meeting the specifications contained in part (1)(d)1 of Rule 1200-03-10-.02 shall be required. For situations where the installation of an in-stack opacity monitor would be required to obtain an opacity standard for an existing source equivalent to that set forth for an identical new source subject to Chapter 0400-30-39, it is the responsibility of the source owner or operator to notify the Technical Secretary in writing that this revision to the source's existing opacity standard is requested and that the required in-stack opacity monitor will be installed in accordance with Rule 1200-03-10-.02.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Subparagraph (b) of Paragraph (2) of Rule 1200-03-05-.05 Standard for Certain Existing Sources is amended by deleting it in its entirety and substituting instead the following:

- (b) The air contaminant source is not regulated under Chapters 0400-30-38, 0400-30-39, 1200-03-25, or paragraph (4) of Rule 1200-03-09-.01.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Chapter 1200-03-06  
Non-Process Emission Standards

Amendments

The table of contents to Chapter 1200-03-06 Non-Process Emission Standards is amended by deleting the current title of Rule 1200-03-06-.06 "Commercial and Industrial Solid Waste Incineration Units That Commenced Construction On Or Before November 30, 1999" and substituting instead "Reserved."

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Rule 1200-03-06-.06 Commercial and Industrial Solid Waste Incineration Units That Commenced Construction On Or Before November 30, 1999 is amended by deleting it in its entirety and substituting instead the following:

1200-03-06-.06 Reserved.

Authority: §§ 68-201-101 et seq. and 4-5-201 et seq.



Chapter 1200-03-09  
Construction and Operating Permits

Amendments

Subparagraph (d) of paragraph (2) of Rule 1200-03-09-.01 Construction Permits is amended by deleting it in its entirety and substituting instead the following:

- (d) “Best available control technology (BACT)” means an emission limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to regulation under these rules that would be emitted from any proposed new or modified air contaminant source which the Technical Secretary, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant. In no event shall application of best available control technology result in emissions of any pollutant that would exceed the emissions allowed by any applicable standard under Chapters 0400-30-38 or 0400-30-39 of these rules. If the Technical Secretary determines that technological or economic limitations on the application of measurement methodology to a particular class of sources would make the imposition of an emission standard infeasible, a design, equipment, work practice, or operational standard, or combination thereof, may be prescribed instead to require the application of best available control technology. Such standard must, to the degree possible, set forth the emission reduction achievable by implementation of such design, equipment, work practice, or operation, and must provide for compliance by means that achieve equivalent results. This definition does not apply to major sources and major modifications, as defined in subparagraph (4)(b) of this rule, which are subject to the provisions of paragraph (4) of this rule.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Subpart (i) of part 1 of subparagraph (d) of paragraph (4) of Rule 1200-03-09-.01 Construction Permits is amended by deleting it in its entirety and substituting instead the following:

- (i) The source or modification would be a major stationary source or major modification only if fugitive emissions, to the extent quantifiable, are considered in calculating the potential to emit of the stationary source or modification and such source does not belong to any of the categories listed under subpart (b)1-(i), or any other stationary source category which, as of the (effective date of this rule) is being regulated under Chapters 0400-30-38 and 0400-30-39.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Subitem XXVII of item (IV) of subpart (iv) of part 1 of subparagraph (b) of paragraph (5) of Rule 1200-03-09-.01 Construction Permits is amended by deleting it in its entirety and substituting instead the following:

- XXVII. Any other stationary source category that was regulated under Chapter 1200-03-16, New Source Performance Standards (as of August 7, 1980), Chapter 1200-03-11, Hazardous Air Contaminants (as of August 7, 1980), Chapter 1200-03-31, Case-by-Case Determinations of Hazardous Air Pollutant Control Requirements (as of September 18, 1994), Chapter 0400-30-38, Emission Standards for Hazardous Air Pollutants (as of December 28, 2022), or Chapter 0400-30-39, Standards of Performance for New Stationary Sources (as of the most recent effective date of this rule).

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Item (XXVII) of subpart (ii) of part 4 of subparagraph (b) of paragraph (8) of Rule 1200-03-09-.01 Construction Permits is amended by deleting it in its entirety and substituting instead the following:

(XXVII) Any other stationary source category that was regulated under Chapter 1200-03-16, New Source Performance Standards (as of August 7, 1980), Chapter 1200-03-11, Hazardous Air Contaminants (as of August 7, 1980), Chapter 1200-03-31, Case-by-Case Determinations of Hazardous Air Pollutant Control Requirements (as of September 18, 1994), Chapter 0400-30-38, Emission Standards for Hazardous Air Pollutants (as of December 28, 2022), Chapter 0400-30-39, Standards of Performance for New Stationary Sources (as of the most recent effective date of this rule), or 40 C.F.R. Part 60 and 61 (as of July 1, 1993).

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Subpart (ii) of part 1 of subparagraph (c) of paragraph (11) of Rule 1200-03-09-.02 Operating Permits is amended by deleting it in its entirety and substituting instead the following:

- (ii) Any source, including an area source, subject to a standard, limitation, or other requirement under section 111 of the Federal Act, paragraph (4) of Rule 1200-03-07-.07, paragraph (5) of Rule 1200-03-07-.07, or Chapter 0400-30-39;

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Subpart (i) of part 2 of subparagraph (c) of paragraph (11) of Rule 1200-03-09-.02 Operating Permits is amended by deleting it in its entirety and substituting instead the following:

- (i) All non-major sources including those subject to Section 112 of the Federal Clean Air Act, Chapter 0400-30-38, Chapter 1200-03-31, section 111 of the Federal Clean Air Act, or Chapter 0400-30-39. If the Administrator promulgates future regulations that prohibit the exemption of a non-major source from the requirements of this paragraph, such source will be so permitted by the Technical Secretary. Upon the Administrator's written notification to the Technical Secretary that such sources must be permitted according to the provisions of this paragraph, the Technical Secretary must notify the sources that the applications are due within 180 days of the Technical Secretary's written notice. The Technical Secretary shall have up to 90 days to accomplish the notification commencing upon his notification from the Administrator.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Section A of subitem IV of item (I) of subpart (ii) of part 5 of subparagraph (f) of paragraph (11) of Rule 1200-03-09-.02 Operating Permits is amended by deleting it in its entirety and substituting instead the following:

- A. A federally enforceable emissions cap assumed to avoid classification as a modification under any provision of Title I of the Federal Clean Air Act. Further, federally enforceable emission caps assumed to avoid classification as a modification under Chapter 0400-30-38, Chapter 0400-30-39, Chapter 1200-03-31, paragraph (4) of Rule 1200-03-09-.01, or paragraph (5) of Rule 1200-03-09-.01 are included in the criteria of this section.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Subitem V of Item (I) of Subpart (ii) of Part 5 of Subparagraph (f) of Paragraph (11) of Rule 1200-03-09-.02 Operating Permits is amended by deleting it in its entirety and substituting instead the following:

- V. Are not modifications under Title I of the Federal Clean Air Act or the federal regulations promulgated pursuant thereto. Further, the minor permit modification process may be used only for changes that are not modifications under Chapter 0400-30-38, Chapter 0400-30-39, Chapter 1200-03-31, paragraph (4) of Rule 1200-03-09-.01, or paragraph (5) of Rule 1200-03-09-.01; and

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 1 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

1. Unpaved roadways and parking areas unless permits have specific conditions limiting fugitive emissions. This activity is not insignificant if it is subject to new source performance standards for nonmetallic mineral processing plants under Chapter 0400-30-39 or under 40 C.F.R. Part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 2 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

2. Paved roadways and parking areas unless permits have specific conditions limiting fugitive emissions. This activity is not insignificant if it is subject to new source performance standards for nonmetallic mineral processing plants under Chapter 0400-30-39 or under 40 C.F.R. Part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 3 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

3. Equipment used on farms for soil preparation, tending or harvesting of crops, or for preparation of feed to be used on the farm where prepared. This activity is not insignificant if it is subject to new source performance standards under Chapter 0400-30-39 or under 40 C.F.R. Part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 8 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

8. Sewer vents. This activity is not insignificant if it is subject to the new source performance standards for petroleum refinery wastewater systems under Chapter 0400-30-39 or under 40 C.F.R. Part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 9 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

9. Natural gas mixing and treatment operations including sampling and testing. This activity is not insignificant if it is subject to the new source performance standards for onshore natural gas processing plants under Chapter 0400-30-39 or under 40 C.F.R. Part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 16 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

16. Equipment used exclusively to store, hold, or distribute natural gas. This activity is not insignificant if it is subject to the new source performance standards for onshore natural gas processing plants under Chapter 0400-30-39 or under 40 C.F.R. Part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 17 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its

entirety and substituting instead the following:

17. Gasoline, diesel fuel, and fuel oil handling facilities, equipment, and storage tanks, except those subject to new source performance standards and those subject to standards in Chapter 1200-03-18. However, facilities, equipment, and storage tanks which are subject only to Chapter 1200-03-18 requirements for submerged fill and for maintenance of records documenting quantities of gasoline, diesel fuel, and fuel oil dispensed are entitled to the exemption provided by this paragraph, despite the qualification of exemption specified in the first sentence of this subparagraph. This activity is not insignificant if it is subject to the new source performance standards for bulk gasoline terminals under Chapter 0400-30-39 or under 40 C.F.R. Part 60 and the Stage I gasoline distribution MACT standard under Chapter 1200-03-31.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 29 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

29. Sewage treatment facilities (excluding combustion or incineration equipment, land farms, storage silos for dry material, or grease trap waste handling or treatment facilities). This activity is not insignificant if it is subject to new source performance standards for volatile organic compounds emissions under Chapter 0400-30-39 or under 40 C.F.R. Part 60, MACT standard under Chapter 1200-03-31, and hazardous organic NESHAP under 40 C.F.R. Part 63.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 43 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

43. Pressurized vessels designed to operate in excess of 30 psig storing a petroleum fuel. This activity is not insignificant if it is subject to new source performance standards for petroleum liquid storage vessels under Chapter 0400-30-39 or under 40 C.F.R. Part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 52 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

52. Grain, metal or mineral extrusion process. This activity is not insignificant if it is subject to new source performance standards for metallic mineral processing plants under Chapter 0400-30-39 or under 40 C.F.R. Part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 55 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

55. Equipment used exclusively for sintering of ceramics, glass or metals, but not exempting equipment used for sintering metal-bearing ores, metal scale, clay, fly ash, or metal compounds. This activity is not insignificant if it is subject to new source performance standards for primary zinc smelters and glass manufacturing operations under Chapter 0400-30-39 or under 40 C.F.R. Part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 56 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

56. Equipment for the mining and screening of uncrushed native sand and gravel. This activity is not insignificant if it is subject to new source performance standards for nonmetallic

mineral processing plants under Chapter 0400-30-39 or under 40 C.F.R. Part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 58 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

58. Pulp and paper industry, and cellulosic fiber industry insignificant activities: Any of the following activities is not insignificant if it is subject to new source performance standards for kraft pulp mills under Chapter 0400-30-39 or under 40 C.F.R. Part 60, and MACT standard under Chapter 1200-03-31.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 69 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

69. Equipment used to transport or store process wastewater streams to a wastewater treatment facility (i.e. floor drains, sumps, drain headers, manhole covers). This activity is not insignificant if it is subject to the new source performance standards for petroleum refinery wastewater systems under Chapter 0400-30-39 or under 40 C.F.R. Part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 70 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

70. Drum melter operations for low-volatility solid and semi-solid materials using steam or electrical heating. This activity is not insignificant if it is subject to the new source performance standards for electric arc furnaces under Chapter 0400-30-39 or under 40 C.F.R. Part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 86 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

86. Industrial-Commercial-Institutional Steam Generating Facility exemptions are as follows: Any of the following activities is not insignificant if it is subject to new source performance standards for steam-generating facilities under Chapter 0400-30-39 or under 40 C.F.R. part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 87 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

87. Sulfuric acid tanks. This activity is not insignificant if it is subject to new source performance standards for sulfuric acid plants under Chapter 0400-30-39 or under 40 C.F.R. Part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 88 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

88. Soil "borrow" pits. This activity is not insignificant if it is subject to new source performance standards for nonmetallic mineral processing plants under Chapter 0400-30-39 or under 40 C.F.R. Part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 89 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

- 89. Phosphoric acid tanks. This activity is not insignificant if it is subject to new source performance standards for phosphate fertilizer industry under Chapter 0400-30-39 or under 40 C.F.R. Part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Subparagraph (c) of paragraph (5) of Rule 1200-03-09-.07 Permits-By-Rule is amended by deleting it in its entirety and substituting instead the following:

- (c) Emergency stationary compression ignition internal combustion engines subject to the provisions of part (1)(b)108 of Rule 0400-30-39-.01.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Subparagraph (d) of paragraph (5) of Rule 1200-03-09-.07 Permits-By-Rule is amended by deleting it in its entirety and substituting instead the following:

- (d) Emergency stationary spark ignition internal combustion engines subject to the provisions of part (1)(b)109 of Rule 0400-30-39-.01.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Chapter 1200-03-16  
New Source Performance Standards

Repeal

Chapter 1200-03-16 New Source Performance Standards is Repealed.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Chapter 1200-03-18  
Volatile Organic Compounds

Amendments

Subparagraph (c) of paragraph (2) of Rule 1200-03-18-.48 Volatile Organic Liquid Storage Tanks is amended by deleting it in its entirety and substituting instead the following:

- (c) Any definition in 40 C.F.R Part 60, subparts K, Ka, and Kb. The provisions of 40 C.F.R. Part 60, subparts K, Ka, and Kb are hereby incorporated by reference as published in the July 1, 2022, edition of the Code of Federal Regulations.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.



Chapter 1200-03-20  
Limits on Emissions Due to Malfunctions, Startups, and Shutdowns

Amendments

Paragraph (5) of Rule 1200-03-20-.06 Report Required Upon the Issuance of a Notice of Violation is amended by deleting it in its entirety and substituting instead the following:

- (5) Where the violations are determined from properly certified and operated continuous emission monitors, no notice of violation(s) will be automatically issued unless the specified de minimis levels are exceeded:

|     | <u>Source Type</u>   | <u>De Minimis<br/>Pollutant<br/>Monitored</u> | <u>De Minimis Level</u>  |
|-----|--|---|--|
| (a) | Fuel Burning<br>Installations subject to<br>Rule 1200-03-05-.01 or<br>Rule 1200-03-05-.05<br>and having fuel burning<br>equipment of input<br>capacity greater than<br>600 x 106 Btu/hr. | Opacity                                       | Two percent of the time during calendar<br>quarter (Excluding periods of permitted<br>startup or shutdown and excused<br>malfunctions) so long as no more than<br>one 24-hour exceedance per calendar<br>year takes place.   |
|     |  | Sulfur Dioxide                                | One 24-hour exceedance per calendar<br>year.   |
| (b) | Fuel Burning<br>Installations subject to<br>Rule 1200-03-05-.05,<br>Rule 1200-03-05-.10, or<br>Rule 1200-30-06-.05.  | Opacity                                       | One percent of the time during a<br>calendar quarter (Excluding period of<br>permitted startup or shutdown and<br>excused malfunctions) as long as no<br>more than one 24-hour exceedance per<br>calendar year takes place.  |
| (c) | Fuel Burning Equipment<br>subject to part (1)(b)11<br>of Rule 0400-30-39-.01<br>or part (1)(b)13 of Rule<br>0400-30-39-.01.  | Opacity                                       | One percent of the time during a<br>calendar quarter (Excluding periods of<br>permitted startup or shutdown and<br>excused malfunctions) as long as no<br>more than one 24-hour exceedance per<br>calendar year takes place. |
|     |  | Sulfur Dioxide                                | One 3-hour exceedance per year and/or<br>one 24-hour exceedance per year<br>(applicable to sources having three-hour<br>standard only).  |
| (d) | Kraft Recovery<br>Furnaces subject to<br>either Rule 1200-03-05-<br>.09 or part (1)(b)48 of<br>Rule 0400-30-39-.01.  | Opacity                                       | Six percent of the time (Excluding<br>periods of permitted startup or shutdown<br>and excused malfunctions) so long as<br>no more than one 24-hour exceedance<br>per calendar year takes place.                              |
| (e) | Kraft Recovery<br>Furnaces subject to<br>either Rule 1200-03-07-<br>.07, part (1)(b)48 of<br>Rule 0400-30-39-.01 or<br>part (1)(b)49 of Rule<br>0400-30-39-.01.                          | Total Reduced Sulfur                          | One percent of the time during a<br>calendar quarter (Excluding periods of<br>permitted startup or shutdown and<br>excused malfunctions).  |
| (f) | Lime Kilns subject to  | Total Reduced Sulfur                          | Two percent of the time during a   |

|     |   |                 |   |
|-----|---|-----------------|---|
|     | paragraph (4) of Rule 1200-03-07-.07.   |                 | calendar quarter (Excluding periods of permitted startup or shutdown and excused malfunctions).   |
| (g) | Sulfuric Acid Plants subject to part (1)(b)22 of Rule 0400-30-39-.01 and Liquid Sulfur Dioxide Plants subject to Rule 1200-03-19-.19. | Sulfur Dioxide  | One exceedance greater than three hours duration per year (Excluding periods of excused malfunctions).  |
| (h) | Primary Zinc Smelters subject to part (1)(b)35 of Rule 0400-30-39-.01.  | Sulfur Dioxide  | One exceedance of greater than three hours duration but less than 24-hour duration per calendar year and/or one 24-hour exceedance per year (Excluding periods of startup, shutdown, or excused malfunction). |
| (i) | Electric Arc Furnaces subject to part (1)(b)45 of Rule 0400-30-39-.01 or part (1)(b)46 of Rule 0400-30-39-.01.                        | Opacity         | One percent of the time during a calendar quarter (Excluding time periods of startup, shutdown, or excused malfunction) so long as no more than one 24-hour exceedance per calendar year takes place.         |
| (j) | Sulfur Dioxide Abatement System Serving Facilities Producing Organophosphate Compounds.   | Sulfur Dioxide  | One exceedance of greater than three hours duration per calendar year (Excluding periods of excused malfunctions).  |
| (k) | Secondary Lead Furnaces subject to part (1)(b)29 of Rule 0400-30-39-.01.  | Opacity         | One half percent of the time during a calendar quarter (Excluding time periods of startup, shutdown, or excused malfunction).   |
| (l) | Any source type utilizing a thirty day rolling average.   | Nitrogen Oxides | None. (Excluding periods of startup, shutdown, or excused malfunction.)   |

For purposes of this paragraph, the term 24-hour exceedance means a continuous exceedance of an emission standard having a total duration of greater than 24 hours (midnight to midnight).

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Chapter 1200-03-21  
General Alternate Emission Standards

Amendment

Subparagraph (d) of paragraph (2) of Rule 1200-03-21-.01 General Alternate Emission Standard is amended by deleting it in its entirety and substituting instead the following:

- (d) The pollutants involved in the alternate emission standard must be comparable emissions, and no interpollutant trades are allowed. Air contaminant sources subject to the standards in Chapter 0400-30-38 cannot apply the alternate emission standard to hazardous air contaminants. Air contaminant sources subject to emission standards in Chapter 0400-30-39 or paragraph (4) of Rule 1200-03-09-.01 or subparagraph (5)(b) of Rule 1200-03-09-.01 cannot use an alternate emission standard, except for reductions in actual emissions below the level required in these rules. Such reduction may be used as credit for existing source. However, all applicable standards and requirements established under paragraph (4) of Rule 1200-03-09-.01, under Chapters 0400-30-38 and 0400-30-39, and according to a lowest-achievement-emission-rate (LAER) determination under paragraph (5) of Rule 1200-03-09-.01 must be complied with and are not superseded or replaced by the alternate emission standard.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Chapter 1200-03-22  
Lead Emission Standards

Amendment

Paragraph (4) of Rule 1200-03-22-.04 Standards for New or Modified Sources of Lead is amended by deleting it in its entirety and substituting instead the following:

- (4) Additional requirements for certain new or modified sources of lead are given in paragraph (4) of Rule 1200-03-09-.01 and in Chapter 0400-30-39.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Chapter 1200-03-25

Standards for Infectious Waste Incinerators

Amendments

Subparagraph (b) of paragraph (3) of Rule 1200-03-25-.05 Emission Standards is amended by deleting it in its entirety and substituting instead the following:

- (b) Visible determination of opacity of emissions shall be determined by Method 9 as specified in the Federal Register, Vol. 39, No. 219, November 12, 1974.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Chapter 1200-03-26

Administrative Fees Schedule

Amendments

Part 2 of subparagraph (i) of paragraph (2) of Rule 1200-03-26-.02 Construction and Annual Fees is amended by deleting it in its entirety and substituting instead the following:

2. Each regulated pollutant from a source subject to the provisions of Chapter 0400-30-39 Standards of Performance for New Stationary Sources.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

\* If a roll-call vote was necessary, the vote by the Agency on these rulemaking hearing rules was as follows:

| <b>Board Member</b>  | <b>Aye</b> | <b>No</b> | <b>Abstain</b> | <b>Absent</b> | <b>Signature<br/>(if required)</b> |
|--|------------|-----------|----------------|---------------|------------------------------------|
| <b>Dr. Ronné Adkins</b><br>Commissioner's Designee, Dept. of Environment and Conservation                    |            |           |                |               |                                    |
| <b>Dr. John Benitez</b><br>Licensed Physician with experience in health effects of air pollutants            |            |           |                |               |                                    |
| <b>Kyle Etheridge</b><br>Representative of Tennessee Industry  |            |           |                |               |                                    |
| <b>Dr. Joshua Fu</b><br>Involved with Institution of Higher Learning on air pollution evaluation and control |            |           |                |               |                                    |
| <b>Mike Haverstick</b><br>Working in management in Private Manufacturing                                     |            |           |                |               |                                    |
| <b>Dr. Shawn A. Hawkins</b><br>Working in field related to Agriculture or Conservation                       |            |           |                |               |                                    |
| <b>Caitlin Roberts Jennings</b><br>Small Generator of Air Pollution representing Automotive Interests        |            |           |                |               |                                    |
| <b>Dr. Chunrong Jia</b><br>Environmental Interests   |            |           |                |               |                                    |
| <b>Ken Moore</b><br>Working in Municipal Government  |            |           |                |               |                                    |
| <b>Stephen Moore</b><br>Working for Industry with technical experience                                       |            |           |                |               |                                    |
| <b>Nicholas Ramos</b><br>Conservation Interest   |            |           |                |               |                                    |
| <b>Amy Spann, PE</b><br>Registered Professional Engineer   |            |           |                |               |                                    |
| <b>Larry Waters</b><br>County Mayor  |            |           |                |               |                                    |
| <b>Jimmy West</b><br>Commissioner's Designee, Dept. of Economic and Community Development                    |            |           |                |               |                                    |

I certify that this is an accurate and complete copy of rulemaking hearing rules, lawfully promulgated and adopted by the Air Pollution Control Board on 07/10/2024 and is in compliance with the provisions of T.C.A. § 4-5-222.

I further certify the following:

Notice of Rulemaking Hearing filed with the Department of State on: 04/11/2024

Rulemaking Hearing(s) Conducted on: (add more dates). 06/05/2024

Date: \_\_\_\_\_

Signature: \_\_\_\_\_

Name of Officer: Michelle W. Owenby

Title of Officer: Technical Secretary

---

Agency/Board/Commission: Air Pollution Control Board

Rule Chapter Number(s): 0400-30-39, 1200-03-02, 1200-03-05, 1200-03-06, 1200-03-09, 1200-03-16, 1200-03-18, 1200-03-20, 1200-03-21, 1200-03-22, 1200-03-25, 1200-03-26

All rulemaking hearing rules provided for herein have been examined by the Attorney General and Reporter of the State of Tennessee and are approved as to legality pursuant to the provisions of the Administrative Procedures Act, Tennessee Code Annotated, Title 4, Chapter 5.

\_\_\_\_\_  
Jonathan Skrmetti  
Attorney General and Reporter

\_\_\_\_\_  
Date

**Department of State Use Only**

Filed with the Department of State on: \_\_\_\_\_

Effective on: \_\_\_\_\_

\_\_\_\_\_  
Tre Hargett  
Secretary of State



## Public Hearing Comments

One copy of a document that satisfies T.C.A. § 4-5-222 must accompany the filing.

1. Comment: The Division of Air Pollution Control (Division), on behalf of the Air Pollution Control Board, received a comment letter from the U.S. Environmental Protection Agency (EPA).

- (a) EPA commented that there appears to be inconsistency and differences between the language in the federally approved State Implementation Plan (SIP) versus what is being revised in the draft rules.
- (b) Additionally, the EPA's comment letter states that the definitions in subparagraph (2)(c) of Rule 1200-03-18-.48 are proposed for removal in the draft rule. The EPA recommends providing additional information regarding the purpose and effect of removing the definitions in Rules 1200-03-06-.10, 1200-03-06-.11, and 1200-03-06-.16 that are currently contained in subparagraph (2)(c) of Rule 1200-03-18-.48 from the SIP.

Response: The Division did not make any changes to the rule based on EPA's comments.

- (a) The Division is aware that the state approved rules and the EPA's SIP-approved rules do not currently match up. The Division is conducting historical research to identify which state rule revisions need to be sent to EPA to update the SIP. The Division is currently working with EPA to make sure that the state approved rules match up with the EPA's SIP-approved rules.
- (b) The Division is repealing Rules 1200-03-06-.10, 1200-03-06-.11, and 1200-03-06-.16 with this rulemaking. The definitions in these three rules were referenced in subparagraph of Rule 1200-03-18-.48. The definitions in these three rules are being replaced by the equivalent definitions in the federal regulations, which are included in 40 C.F.R. Part 60, subparts K, Ka, and Kb. These three federal regulations are being incorporated by reference with this rulemaking.

## Regulatory Flexibility Addendum

Pursuant to T.C.A. §§ 4-5-401 through 4-5-404, prior to initiating the rule making process, all agencies shall conduct a review of whether a proposed rule or rule affects small business.

- (1) The type or types of small business and an identification and estimate of the number of small businesses subject to the proposed rule that would bear the cost of, or directly benefit from the proposed rule.

Small businesses are already subject to the federal New Source Performance Standards (NSPS) that the Board is incorporating by reference. It is estimated that less than 250 small businesses per year are subject to the current NSPS and likewise subject to this rulemaking.

- (2) The projected reporting, recordkeeping, and other administrative costs required for compliance with the proposed rule, including the type of professional skills necessary for preparation of the report or record.

This rulemaking does not add any additional reporting, recordkeeping, or other administrative costs. The NSPS already require reporting and recordkeeping. There is some skill necessary for preparing reports and records. An employee at a small business with a degree in engineering or environmental studies would generally prepare the reports or records; however, a college degree is not necessary.

- (3) A statement of the probable effect on impacted small businesses and consumers.

This rulemaking will not impose any additional requirements on small businesses currently subject to the NSPS.

- (4) A description of any less burdensome, less intrusive, or less costly alternative methods of achieving the purpose and objectives of the proposed rule that may exist, and to what extent the alternative means might be less burdensome to small business.

The Division of Air Pollution Control on behalf of the Board evaluated how the other states in EPA Region IV were enforcing NSPS. All states in EPA Region IV other than Tennessee have incorporated the NSPS regulations by reference. Also, the EPA has recommended adoption by reference.

- (5) A comparison of the proposed rule with any federal or state counterparts.

The other seven states in EPA Region IV have adopted NSPS regulations by reference. This rulemaking will have no impact on attracting or detracting economic activity in Tennessee.

- (6) Analysis of the effect of the possible exemption of small businesses from all or any part of the requirements contained in the proposed rule.

Under applicable federal law, there is no exemption available for small businesses from the requirements of the NSPS since these regulations are based on the type and amount of air pollutants emitted from a source. The only way for a small business to no longer be subject to the requirements of the NSPS would be to eliminate the emission of air pollutants from the source.

### **Impact on Local Governments**

Pursuant to T.C.A. §§ 4-5-220 and 4-5-228, "On any rule and regulation proposed to be promulgated, the proposing agency shall state in a simple declarative sentence, without additional comments on the merits or the policy of the rule or regulation, whether the rule or regulation may have a projected financial impact on local governments. The statement shall describe the financial impact in terms of increase in expenditures or decrease in revenues."

The Board anticipates that this rule will not result in an increase in expenditures or a decrease in revenues for local governments.

## Additional Information Required by Joint Government Operations Committee

All agencies, upon filing a rule, must also submit the following pursuant to T.C.A. § 4-5-226(i)(1).

- (A)** A brief summary of the rule and a description of all relevant changes in previous regulations effectuated by such rule;

The proposed amendments to Chapter 0400-30-39 will incorporate by reference all New Source Performance Standards (NSPS) from 40 C.F.R. Part 60, except the emission guidelines. Currently, the requirements of a NSPS must be placed in a permit before the State of Tennessee can enforce them. The Tennessee Air Pollution Control Board (Board) proposes to repeal all of Chapter 1200-03-16 and one rule in Chapter 1200-03-06, which currently reproduce some, but not all, of the NSPS regulations. The proposed rule will incorporate by reference the federal NSPS regulations and allow the Technical Secretary of the Board to enforce these federal regulations directly. In addition, current references in other rules to Chapter 1200-03-16 will be revised to reference to Chapter 0400-30-39. The proposed amendments will also remove the permit-by-rule provisions of paragraphs 0400-30-39-.01(1) and 0400-30-39-.02(1) because they are no longer necessary.

- (B)** A citation to and brief description of any federal law or regulation or any state law or regulation mandating promulgation of such rule or establishing guidelines relevant thereto;

Pursuant to Clean Air Act section 111, Tennessee is required to enforce the NSPS as part of its federally authorized air program and incorporating the NSPS into Chapter 0400-30-39 will streamline permitting and compliance-related evaluations. According to Tennessee Code Annotated section 68-201-103 the intent and purpose of Tennessee Code Annotated Title 68, Chapter 201, Part 1 is to maintain purity of the air resources of the state consistent with the protection of normal health, general welfare, and physical property of the people, maximum employment and the full industrial development of the state and for the Board to do so through the prevention, abatement, and control of air pollution by all practical and economically feasible methods.

- (C)** Identification of persons, organizations, corporations or governmental entities most directly affected by this rule, and whether those persons, organizations, corporations or governmental entities urge adoption or rejection of this rule;

Persons, organizations, corporations, or governmental entities most directly affected by this rule are regulated facilities that are subject to the NSPS. The U.S. Environmental Protection Agency is a proponent of this rulemaking.

- (D)** Identification of any opinions of the attorney general and reporter or any judicial ruling that directly relates to the rule or the necessity to promulgate the rule;

The Board is not aware of any opinions of the Attorney General and Reporter or any judicial ruling that directly relates to the rule or the necessity to promulgate the rule.

- (E)** An estimate of the probable increase or decrease in state and local government revenues and expenditures, if any, resulting from the promulgation of this rule, and assumptions and reasoning upon which the estimate is based. An agency shall not state that the fiscal impact is minimal if the fiscal impact is more than two percent (2%) of the agency's annual budget or five hundred thousand dollars (\$500,000), whichever is less;

The Board anticipates that this rule will not result in an increase in expenditures or a decrease in revenues for state or local governments.

- (F)** Identification of the appropriate agency representative or representatives, possessing substantial knowledge and understanding of the rule;

Mark A. Reynolds  
Division of Air Pollution Control  
Davy Crockett Tower, Floor 7  
500 James Robertson Parkway  
Nashville, Tennessee 37243  
[mark.a.reynolds@tn.gov](mailto:mark.a.reynolds@tn.gov)

- (G) Identification of the appropriate agency representative or representatives who will explain the rule at a scheduled meeting of the committees;

Blair Beaty  
Legislative Director  
Office of General Counsel

- (H) Office address, telephone number, and email address of the agency representative or representatives who will explain the rule at a scheduled meeting of the committees; and

Tennessee Department of Environment and Conservation  
Davy Crockett Tower, Floor 5  
500 James Robertson Parkway  
Nashville, Tennessee 37243  
(615) 253-5339  
[Blair.Beaty@tn.gov](mailto:Blair.Beaty@tn.gov)

- (I) Any additional information relevant to the rule proposed for continuation that the committee requests.

- (1) A description of the action proposed, the purpose of the action, the legal authority for the action and the plan for implementing the action.

The action proposed is to incorporate by reference all New Source Performance Standards (NSPS) from 40 C.F.R. Part 60, except the emission guidelines. The proposed rule will incorporate by reference the NSPS regulations and allow the Technical Secretary of the Board to enforce these federal regulations directly instead of including them in individual permits. The statutory authority for this rulemaking is Tennessee Code Annotated Title 68, Chapter 201, Part 1. The NSPS regulations protect public health by limiting the emissions of air pollution. These rules effectuate the intent of Tennessee Code Annotated section 68-201-103 "to maintain purity of the air resources of the state consistent with the protection of normal health, general welfare and physical property of the people, maximum employment and the full industrial development of the state" and for the board to do so "through the prevention, abatement and control of air pollution by all practical and economically feasible methods."

- (2) A determination that the action is the least-cost method for achieving the stated purpose.

This rulemaking is believed to be the least-cost method for the State to enforce the NSPS regulations. The Division of Air Pollution Control (Division) evaluated how the other states in EPA Region IV were enforcing the NSPS regulations. The other seven states in EPA Region IV have incorporated the NSPS regulations by reference. Also, the EPA has recommended adoption by reference.

- (3) A comparison of the cost-benefit relation of the action to nonaction.

This rulemaking incorporates by reference all federal NSPS and authorizes the Technical Secretary to enforce these regulations directly. There will be no additional costs associated with the proposed rule. Regulated facilities are already required to comply with the most current version of the NSPS regardless of whether they are incorporated in a permit, because EPA has authority under Clean Air Act section 111 to enforce the federal NSPS regulations in states. If the rules are not promulgated, the Technical Secretary will not be able to enforce the NSPS directly in the event that a permit for a regulated source has not yet been issued or must be revised to incorporate the relevant NSPS provisions. Based on this comparison, the benefits of moving forward with this rulemaking outweigh the costs.

- (4) A determination that the action represents the most efficient allocation of public and private resources.

This action represents the most efficient allocation of public and private resources. The NSPS regulations help protect public health by limiting the emissions of air pollution. By making these changes, the Board will fully incorporate the federal regulations so that they can be directly enforced by the Technical Secretary.

- (5) A determination of the effect of the action on competition.

This rulemaking will not affect competition.

- (6) A determination of the effect of the action on the cost of living in the geographical area in which the action would occur.

Cost of living in the geographical area in which the action would occur will not be affected.

- (7) A determination of the effect of the action on employment in the geographical area in which the action would occur.

It is not anticipated that the action will affect employment.

- (8) The source of revenue to be used for the action.

The action can be accommodated with existing resources.

- (9) A conclusion as to the economic impact upon all persons substantially affected by the action, including an analysis containing a description as to which persons will bear the costs of the action and which persons will benefit directly and indirectly from the action.

There will be no additional costs associated with this rulemaking. Regulated facilities are already required to comply with the most current version of the NSPS regulations regardless of whether they are incorporated in a permit, because EPA has authority under Clean Air Act section 111 to enforce the NSPS regulations in states. However, this rule will allow the Technical Secretary to enforce the most current version of the federal requirements even if the provisions of the current version have not been incorporated into a permit.

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 File Date: \_\_\_\_\_  
 Effective Date: \_\_\_\_\_

# Rulemaking Hearing Rule(s) Filing Form

*Rulemaking Hearing Rules are rules filed after and as a result of a rulemaking hearing (Tenn. Code Ann. § 4-5-205).*

*Pursuant to Tenn. Code Ann. § 4-5-229, any new fee or fee increase promulgated by state agency rule shall take effect on July 1, following the expiration of the ninety (90) day period as provided in § 4-5-207. This section shall not apply to rules that implement new fees or fee increases that are promulgated as emergency rules pursuant to § 4-5-208(a) and to subsequent rules that make permanent such emergency rules, as amended during the rulemaking process. In addition, this section shall not apply to state agencies that did not, during the preceding two (2) fiscal years, collect fees in an amount sufficient to pay the cost of operating the board, commission, or entity in accordance with § 4-29-121(b).*

|                                 |   |
|---------------------------------|---|
| <b>Agency/Board/Commission:</b> | Air Pollution Control Board   |
| <b>Division:</b>                | Air Pollution Control   |
| <b>Contact Person:</b>          | Mark A. Reynolds  |
| <b>Address:</b>                 | Davy Crockett Tower, Floor 7<br>500 James Robertson Parkway<br>Nashville, Tennessee |
| <b>Zip:</b>                     | 37243   |
| <b>Phone:</b>                   | (615) 532-0559  |
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**Revision Type (check all that apply):**

- Amendment  Content based on previous emergency rule filed on \_\_\_\_\_  
 New  Content is identical to the emergency rule  
 Repeal

**Rule(s)** (ALL chapters and rules contained in filing must be listed here. If needed, copy and paste additional tables to accommodate multiple chapters. Please make sure that ALL new rule and repealed rule numbers are listed in the chart below. Please enter only ONE Rule Number/Rule Title per row.)

| Chapter Number | Chapter Title  |
|----------------|--|
| 0400-30-39     | Standards of Performance for New Stationary Sources  |
| Rule Number    | Rule Title   |
| 0400-30-39-.01 | <del>Stationary Compression Ignition Internal Combustion Engines Federal Standards of Performance for New Stationary Sources</del> |
| 0400-30-39-.02 | <del>Stationary Spark Ignition Internal Combustion Engines Reserved</del>  |

| Chapter Number | Chapter Title       |
|----------------|---------------------|
| 1200-03-02     | Definitions         |
| Rule Number    | Rule Title          |
| 1200-03-02-.01 | General Definitions |

| Chapter Number | Chapter Title                         |
|----------------|---------------------------------------|
| 1200-03-05     | Visible Emission Regulations          |
| Rule Number    | Rule Title                            |
| 1200-03-05-.04 | Exemption                             |
| 1200-03-05-.05 | Standard for Certain Existing Sources |

| Chapter Number | Chapter Title   |
|----------------|---|
| 1200-03-06     | Non-Process Emission Standards  |
| Rule Number    | Rule Title  |
| 1200-03-06-.06 | <del>Commercial and Industrial Solid Waste Incineration Units that Commenced Construction on or before November 30, 1999</del> Reserved |

| Chapter Number | Chapter Title                      |
|----------------|------------------------------------|
| 1200-03-09     | Construction and Operating Permits |
| Rule Number    | Rule Title                         |
| 1200-03-09-.01 | Construction Permits               |
| 1200-03-09-.02 | Operating Permits                  |
| 1200-03-09-.04 | Exemptions                         |
| 1200-03-09-.07 | Permits-by-Rule                    |

| Chapter Number            | Chapter Title   |
|---------------------------|---|
| 1200-03-16                | <del>New Source Performance Standards</del> Repealed  |
| Rule Number               | Rule Title  |
| <del>1200-03-16-.01</del> | <del>General Provisions</del>   |
| <del>1200-03-16-.02</del> | <del>Fuel-Fired Steam Generators for which Construction Is Commenced After April 3, 1972</del>                      |
| <del>1200-03-16-.03</del> | <del>Electric Utility Steam-Generating Units for which Construction Commenced After September 18, 1978</del>        |
| <del>1200-03-16-.04</del> | <del>Incinerators</del>   |
| <del>1200-03-16-.05</del> | <del>Portland Cement Plants</del>   |
| <del>1200-03-16-.06</del> | <del>Sulfuric Acid Plants</del>   |
| <del>1200-03-16-.07</del> | <del>Nitric Acid Plants</del>   |
| <del>1200-03-16-.08</del> | <del>Hot Mix Asphalt Facilities</del>   |
| <del>1200-03-16-.09</del> | <del>Petroleum Refineries</del>   |
| <del>1200-03-16-.10</del> | <del>Reserved</del>   |
| <del>1200-03-16-.11</del> | <del>Reserved</del>   |
| <del>1200-03-16-.12</del> | <del>Secondary Lead Smelters</del>  |
| <del>1200-03-16-.13</del> | <del>Secondary Brass and Bronze Ingot Production Plants</del>   |
| <del>1200-03-16-.14</del> | <del>Iron and Steel Plants</del>  |
| <del>1200-03-16-.15</del> | <del>Sewage Treatment Plant Incinerators</del>  |
| <del>1200-03-16-.16</del> | <del>Phosphate Fertilizer Industry: Wet Process Phosphoric Acid Plants</del>  |
| <del>1200-03-16-.17</del> | <del>Phosphate Fertilizer Industry: Superphosphoric Acid Plants</del>   |
| <del>1200-03-16-.18</del> | <del>Phosphate Fertilizer Industry: Diammonium Phosphate Plants</del>   |
| <del>1200-03-16-.19</del> | <del>Phosphate Fertilizer Industry: Triple Superphosphate Plants</del>  |
| <del>1200-03-16-.20</del> | <del>Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities</del>                         |
| <del>1200-03-16-.21</del> | <del>Primary Aluminum Reduction Plants</del>  |
| <del>1200-03-16-.22</del> | <del>Reserved</del>   |
| <del>1200-03-16-.23</del> | <del>Primary Copper Smelters</del>  |
| <del>1200-03-16-.24</del> | <del>Primary Zinc Smelters</del>  |
| <del>1200-03-16-.25</del> | <del>Primary Lead Smelters</del>  |
| <del>1200-03-16-.26</del> | <del>Steel Plants: Electric Arc Furnaces Constructed After February 9, 1977, and On or Before August 17, 1983</del> |
| <del>1200-03-16-.27</del> | <del>Ferrous Alloy Production Facilities</del>  |
| <del>1200-03-16-.28</del> | <del>Lime Manufacturing Plants</del>  |
| <del>1200-03-16-.29</del> | <del>Kraft Pulp Mills</del>   |
| <del>1200-03-16-.30</del> | <del>Grain Elevators</del>  |
| <del>1200-03-16-.31</del> | <del>Reserved</del>   |
| <del>1200-03-16-.32</del> | <del>Ammonium Sulfate Manufacture</del>   |
| <del>1200-03-16-.33</del> | <del>Reserved</del>   |
| <del>1200-03-16-.34</del> | <del>Automobile and Light Duty Truck Surface Coating Operations</del>   |
| <del>1200-03-16-.35</del> | <del>Asphalt Processing and Asphalt Roofing Manufacture</del>   |
| <del>1200-03-16-.36</del> | <del>Industrial Surface Coating: Large Appliances</del>   |
| <del>1200-03-16-.37</del> | <del>Surface Coating of Metal Furniture</del>   |
| <del>1200-03-16-.38</del> | <del>Metal Coil Surface Coating</del>   |
| <del>1200-03-16-.39</del> | <del>Graphic Arts Industry: Publication Rotogravure Printing</del>  |



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|--|--|
| <del>1200-03-16-40</del>                       | <del>Beverage Can Surface Coating</del>  |
| <del>1200-03-16-41</del>                       | <del>Metallic Mineral Processing Plants</del>  |
| <del>1200-03-16-42</del>                       | <del>Pressure Sensitive Tape and Label Surface Coating Operations</del>  |
| <del>1200-03-16-43</del>                       | <del>Reserved</del>  |
| <del>1200-03-16-44</del>                       | <del>Bulk Gasoline Terminals</del>   |
| <del>1200-03-16-45</del>                       | <del>Synthetic Fiber Production Facilities</del>   |
| <del>1200-03-16-46</del>                       | <del>Lead Acid Battery Manufacturing Plants</del>  |
| <del>1200-03-16-47</del>                       | <del>Equipment Leaks of VOC in Petroleum Refineries</del>  |
| <del>1200-03-16-48</del>                       | <del>Flexible Vinyl and Urethane Coating and Printing</del>  |
| <del>1200-03-16-49</del>                       | <del>Petroleum Dry Cleaners</del>  |
| <del>1200-03-16-50</del>                       | <del>Phosphate Rock Plants</del>   |
| <del>1200-03-16-51</del>                       | <del>Equipment Leaks of VOC from Onshore Natural Gas Processing Plants</del>   |
| <del>1200-03-16-52</del>                       | <del>Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels</del>  |
| <del>1200-03-16-53</del>                       | <del>Reserved</del>  |
| <del>1200-03-16-54</del>                       | <del>Onshore Natural Gas Processing: SO2 Emissions</del>   |
| <del>1200-03-16-55</del>                       | <del>Secondary Emissions from Basic Oxygen Process Steelmaking Facilities for which Construction is Commenced after November 6, 1988</del> |
| <del>1200-03-16-56</del>                       | <del>Wool Fiberglass Insulation Manufacturing Plants</del>   |
| <del>1200-03-16-57</del>                       | <del>Industrial Surface Coating: Surface Coating of Plastic Parts of Business Machines</del>   |
| <del>1200-03-16-58</del>                       | <del>Reserved</del>  |
| <del>1200-03-16-59</del>                       | <del>Industrial-Commercial-Institutional Steam Generating Units</del>  |
| <del>1200-03-16-60 through 1200-03-16-73</del> | <del>Reserved</del>  |
| <del>1200-03-16-74</del>                       | <del>Standards of Performance for Calciners and Dryers in Mineral Industries</del>   |
| <del>1200-03-16-75</del>                       | <del>Reserved</del>  |
| <del>1200-03-16-76</del>                       | <del>Reserved</del>  |
| <del>1200-03-16-77 through 1200-03-16-99</del> | <del>Reserved</del>  |

|                       |                                       |
|-----------------------|---------------------------------------|
| <b>Chapter Number</b> | <b>Chapter Title</b>                  |
| 1200-03-18            | Volatile Organic Compounds            |
| <b>Rule Number</b>    | <b>Rule Title</b>                     |
| 1200-03-18-.48        | Volatile Organic Liquid Storage Tanks |

|                       |  |
|-----------------------|--|
| <b>Chapter Number</b> | <b>Chapter Title</b>   |
| 1200-03-20            | Limits on Emissions Due to Malfunctions, Startups, and Shutdowns |
| <b>Rule Number</b>    | <b>Rule Title</b>  |
| 1200-03-20-.06        | Report Required Upon the Issuance of a Notice of Violation       |

|                       |                                      |
|-----------------------|--------------------------------------|
| <b>Chapter Number</b> | <b>Chapter Title</b>                 |
| 1200-03-21            | General Alternate Emission Standards |
| <b>Rule Number</b>    | <b>Rule Title</b>                    |
| 1200-03-21-.01        | General Alternate Emission Standard  |

|                       |   |
|-----------------------|---|
| <b>Chapter Number</b> | <b>Chapter Title</b>                          |
| 1200-03-22            | Lead Emission Standards                       |
| <b>Rule Number</b>    | <b>Rule Title</b>                             |
| 1200-03-22-.04        | Standards for New or Modified Sources of Lead |

|                       |   |
|-----------------------|---|
| <b>Chapter Number</b> | <b>Chapter Title</b>                        |
| 1200-03-25            | Standards for Infectious Waste Incinerators |
| <b>Rule Number</b>    | <b>Rule Title</b>                           |
| 1200-03-25-.05        | Emission Standards                          |

|                       |                              |
|-----------------------|------------------------------|
| <b>Chapter Number</b> | <b>Chapter Title</b>         |
| 1200-03-26            | Administrative Fees Schedule |

| <b>Rule Number</b> | <b>Rule Title</b>                     |
|--------------------|---------------------------------------|
| 1200-03-26-.02     | Construction and Annual Emission Fees |

Place substance of rules and other info here. Please be sure to include a detailed explanation of the changes being made to the listed rule(s). Statutory authority must be given for each rule change. For information on formatting rules go to <https://sos.tn.gov/products/division-publications/rulemaking-guidelines>.

Chapter 0400-30-39  
Standards of Performance for New Stationary Sources

Amendments

Chapter 0400-30-39  
Standards of Performance for New Stationary Sources

The Table of Contents to Chapter 0400-30-39 Standards of Performance for New Stationary Sources is amended by deleting it in its entirety and substituting instead the following:

Table of Contents

0400-30-39-.01 ~~Stationary Compression Ignition Internal Combustion Engines~~ Federal Standards of Performance for New Stationary Sources

0400-30-39-.02 ~~Stationary Spark Ignition Internal Combustion Engines~~ Reserved

0400-30-39-.03 Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Rule 0400-30-39-.01 Stationary Compression Ignition Internal Combustion Engines is amended by deleting it in its entirety and substituting instead the following:

0400-30-39-.01 ~~Stationary Compression Ignition Internal Combustion Engines~~ Federal Standards of Performance for New Stationary Sources

(1) ~~Emergency stationary compression ignition internal combustion engines subject to the provisions of this rule may qualify for a permit-by-rule as specified in Rule 1200-03-09-.07. The provisions of the subparts and appendices of 40 C.F.R. Part 60 listed in subparagraph (b) of this paragraph are hereby incorporated by reference as published in the July 1, 2022, edition of the Code of Federal Regulations, except as provided in subparagraph (a) of this paragraph.~~

(a) Any reference contained in 40 C.F.R. Part 60 to the:

1. Administrator shall instead be a reference to the Technical Secretary, except for specific authorities that have not been delegated to the State of Tennessee; and

2. EPA regional office shall instead be a reference to the EPA Region IV office.

(b) List of Federal Regulations under 40 C.F.R. Part 60:

1. 40 C.F.R. Part 60 Subpart A: General provisions;

2. Reserved;

3. Reserved;

4. Reserved;

5. Reserved;

6. Reserved;

7. Reserved;

8. Reserved;

9. Reserved;
10. Reserved;
11. 40 C.F.R. Part 60 Subpart D: Standards of Performance for Fossil-Fuel-Fired Steam Generators;
12. 40 C.F.R. Part 60 Subpart Da: Standards of Performance for Electric Utility Steam Generating Units;
13. 40 C.F.R. Part 60 Subpart Db: Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units;
14. 40 C.F.R. Part 60 Subpart Dc: Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units;
15. 40 C.F.R. Part 60 Subpart E: Standards of Performance for Incinerators;
16. 40 C.F.R. Part 60 Subpart Ea: Standards of Performance for Municipal Waste Combustors for Which Construction Is Commenced After December 20, 1989 and On or Before September 20, 1994;
17. 40 C.F.R. Part 60 Subpart Eb: Standards of Performance for Large Municipal Waste Combustors for Which Construction is Commenced After September 20, 1994, or for Which Modification or Reconstruction is Commenced After June 19, 1996;
18. 40 C.F.R. Part 60 Subpart Ec: Standards of Performance for New Stationary Sources: Hospital/Medical/Infectious Waste Incinerators;
19. 40 C.F.R. Part 60 Subpart F: Standards of Performance for Portland Cement Plants;
20. 40 C.F.R. Part 60 Subpart G: Standards of Performance for Nitric Acid Plants;
21. 40 C.F.R. Part 60 Subpart Ga: Standards of Performance for Nitric Acid Plants for Which Construction, Reconstruction, or Modification Commenced After October 14, 2011;
22. 40 C.F.R. Part 60 Subpart H: Standards of Performance for Sulfuric Acid Plants;
23. 40 C.F.R. Part 60 Subpart I: Standards of Performance for Hot Mix Asphalt Facilities;
24. 40 C.F.R. Part 60 Subpart J: Standards of Performance for Petroleum Refineries;
25. 40 C.F.R. Part 60 Subpart Ja: Standards of Performance for Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007;
26. 40 C.F.R. Part 60 Subpart K: Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978;
27. 40 C.F.R. Part 60 Subpart Ka: Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984;
28. 40 C.F.R. Part 60 Subpart Kb: Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984;
29. 40 C.F.R. Part 60 Subpart L: Standards of Performance for Secondary Lead Smelters;
30. 40 C.F.R. Part 60 Subpart M: Standards of Performance for Secondary Brass and Bronze

Production Plants:

31. 40 C.F.R. Part 60 Subpart N: Standards of Performance for Primary Emissions from Basic Oxygen Process Furnaces for Which Construction is Commenced After June 11, 1973;
32. 40 C.F.R. Part 60 Subpart Na: Standards of Performance for Secondary Emissions from Basic Oxygen Process Steelmaking Facilities for Which Construction is Commenced After January 20, 1983;
33. 40 C.F.R. Part 60 Subpart O: Standards of Performance for Sewage Treatment Plants;
34. 40 C.F.R. Part 60 Subpart P: Standards of Performance for Primary Copper Smelters;
35. 40 C.F.R. Part 60 Subpart Q: Standards of Performance for Primary Zinc Smelters;
36. 40 C.F.R. Part 60 Subpart R: Standards of Performance for Primary Lead Smelters;
37. 40 C.F.R. Part 60 Subpart S: Standards of Performance for Primary Aluminum Reduction Plants;
38. 40 C.F.R. Part 60 Subpart T: Standards of Performance for the Phosphate Fertilizer Industry: Wet-Process Phosphoric Acid Plants;
39. 40 C.F.R. Part 60 Subpart U: Standards of Performance for the Phosphate Fertilizer Industry: Superphosphoric Acid Plants;
40. 40 C.F.R. Part 60 Subpart V: Standards of Performance for the Phosphate Fertilizer Industry: Diammonium Phosphate Plants;
41. 40 C.F.R. Part 60 Subpart W: Standards of Performance for the Phosphate Fertilizer Industry: Triple Superphosphate Plants;
42. 40 C.F.R. Part 60 Subpart X: Standards of Performance for the Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities;
43. 40 C.F.R. Part 60 Subpart Y: Standards of Performance for Coal Preparation and Processing Plants;
44. 40 C.F.R. Part 60 Subpart Z: Standards of Performance for Ferroalloy Production Facilities;
45. 40 C.F.R. Part 60 Subpart AA: Standards of Performance for Steel Plants: Electric Arc Furnaces Constructed After October 21, 1974, and On or Before August 17, 1983;
46. 40 C.F.R. Part 60 Subpart AAa: Standards of Performance for Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 17, 1983;
47. Reserved;
48. 40 C.F.R. Part 60 Subpart BB: Standards of Performance for Kraft Pulp Mills;
49. 40 C.F.R. Part 60 Subpart BBa: Standards of Performance for Kraft Pulp Mill Affected Sources for Which Construction, Reconstruction, or Modification Commenced After May 23, 2013;
50. 40 C.F.R. Part 60 Subpart CC: Standards of Performance for Glass Manufacturing Plants;
51. 40 C.F.R. Part 60 Subpart DD: Standards of Performance for Grain Elevators;
52. 40 C.F.R. Part 60 Subpart EE: Standards of Performance for Surface Coating of Metal Furniture;

- 53. Reserved;
- 54. 40 C.F.R. Part 60 Subpart GG: Standards of Performance for Stationary Gas Turbines;
- 55. 40 C.F.R. Part 60 Subpart HH: Standards of Performance for Lime Manufacturing Plants;
- 56. 40 C.F.R. Part 60 Subpart KK: Standards of Performance for Lead-Acid Battery Manufacturing Plants;
- 57. 40 C.F.R. Part 60 Subpart LL: Standards of Performance for Metallic Mineral Processing Plants;
- 58. 40 C.F.R. Part 60 Subpart MM: Standards of Performance for Automobile and Light Duty Truck Surface Coating Operations;
- 59. Reserved;
- 60. 40 C.F.R. Part 60 Subpart NN: Standards of Performance for Phosphate Rock Plants;
- 61. 40 C.F.R. Part 60 Subpart PP: Standards of Performance for Ammonium Sulfate Manufacture;
- 62. 40 C.F.R. Part 60 Subpart QQ: Standards of Performance for the Graphic Arts Industry: Publication Rotogravure Printing;
- 63. 40 C.F.R. Part 60 Subpart RR: Standards of Performance for Pressure Sensitive Tape and Label Surface Coating Operations;
- 64. 40 C.F.R. Part 60 Subpart SS: Standards of Performance for Industrial Surface Coating: Large Appliances;
- 65. 40 C.F.R. Part 60 Subpart TT: Standards of Performance for Metal Coil Surface Coating;
- 66. 40 C.F.R. Part 60 Subpart UU: Standards of Performance for Asphalt Processing and Asphalt Roofing Manufacture;
- 67. 40 C.F.R. Part 60 Subpart VV: Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for which Construction, Reconstruction, or Modification Commenced After January 5, 1981, and on or Before November 7, 2006;
- 68. 40 C.F.R. Part 60 Subpart VVa: Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006;
- 69. 40 C.F.R. Part 60 Subpart WW: Standards of Performance for the Beverage Can Surface Coating Industry;
- 70. 40 C.F.R. Part 60 Subpart XX: Standards of Performance for Bulk Gasoline Terminals;
- 71. Reserved;
- 72. 40 C.F.R. Part 60 Subpart AAA: Standards of Performance for New Residential Wood Heaters;
- 73. 40 C.F.R. Part 60 Subpart BBB: Standards of Performance for the Rubber Tire Manufacturing Industry;
- 74. Reserved;
- 75. 40 C.F.R. Part 60 Subpart DDD: Standards of Performance for Volatile Organic Compound

(VOC) Emissions from the Polymer Manufacturing Industry;

- 76. Reserved;
- 77. 40 C.F.R. Part 60 Subpart FFF: Standards of Performance for Flexible Vinyl and Urethane Coating and Printing;
- 78. 40 C.F.R. Part 60 Subpart GGG: Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced After January 4, 1983, and on or Before November 7, 2006;
- 79. 40 C.F.R. Part 60 Subpart GGGa: Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006;
- 80. 40 C.F.R. Part 60 Subpart HHH: Standards of Performance for Synthetic Fiber Production Facilities;
- 81. 40 C.F.R. Part 60 Subpart III: Standards of Performance for Volatile Organic Compound (VOC) Emissions From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes;
- 82. 40 C.F.R. Part 60 Subpart JJJ: Standards of Performance for Petroleum Dry Cleaners;
- 83. 40 C.F.R. Part 60 Subpart KKK: Standards of Performance for Equipment Leaks of VOC From Onshore Natural Gas Processing Plants for Which Construction, Reconstruction, or Modification Commenced After January 20, 1984, and on or Before August 23, 2011;
- 84. 40 C.F.R. Part 60 Subpart LLL: Standards of Performance for SO<sub>2</sub> Emissions From Onshore Natural Gas Processing for Which Construction, Reconstruction, or Modification Commenced After January 20, 1984, and on or Before August 23, 2011;
- 85. Reserved;
- 86. 40 C.F.R. Part 60 Subpart NNN: Standards of Performance for Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations;
- 87. 40 C.F.R. Part 60 Subpart OOO: Standards of Performance for Nonmetallic Mineral Processing Plants;
- 88. 40 C.F.R. Part 60 Subpart PPP: Standard of Performance for Wool Fiberglass Insulation Manufacturing Plants;
- 89. 40 C.F.R. Part 60 Subpart QQQ: Standards of Performance for VOC Emissions From Petroleum Refinery Wastewater Systems;
- 90. 40 C.F.R. Part 60 Subpart RRR: Standards of Performance for Volatile Organic Compound Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes;
- 91. 40 C.F.R. Part 60 Subpart SSS: Standards of Performance for Magnetic Tape Coating Facilities;
- 92. 40 C.F.R. Part 60 Subpart TTT: Standards of Performance for Industrial Surface Coating: Surface Coating of Plastic Parts for Business Machines;
- 93. Reserved;
- 94. 40 C.F.R. Part 60 Subpart UUU: Standards of Performance for Calciners and Dryers in Mineral Industries;

- 95. 40 C.F.R. Part 60 Subpart VVV: Standards of Performance for Polymeric Coating of Supporting Substrates Facilities;
- 96. 40 C.F.R. Part 60 Subpart WWW: Standards of Performance for Municipal Solid Waste Landfills That Commenced Construction, Reconstruction, or Modification on or After May 30, 1991, but Before July 18, 2014;
- 97. 40 C.F.R. Part 60 Subpart XXX: Standards of Performance for Municipal Solid Waste Landfills That Commenced Construction, Reconstruction, or Modification After July 17, 2014;
- 98. Reserved;
- 99. Reserved;
- 100. 40 C.F.R. Part 60 Subpart AAAA: Standards of Performance for Small Municipal Waste Combustion Units for Which Construction is Commenced After August 30, 1999 or for Which Modification or Reconstruction is Commenced After June 6, 2001;
- 101. Reserved;
- 102. 40 C.F.R. Part 60 Subpart CCCC: Standards of Performance for Commercial and Industrial Solid Waste Incineration Units;
- 103. Reserved;
- 104. 40 C.F.R. Part 60 Subpart EEEE: Standards of Performance for Other Solid Waste Incineration Units for Which Construction is Commenced After December 9, 2004, or for Which Modification or Reconstruction is Commenced on or After June 16, 2006;
- 105. Reserved;
- 106. Reserved;
- 107. Reserved;
- 108. 40 C.F.R. Part 60 Subpart IIII: Standards of Performance for Stationary Compression Ignition Internal Combustion Engines;
- 109. 40 C.F.R. Part 60 Subpart JJJJ: Standards of Performance for Stationary Spark Ignition Internal Combustion Engines;
- 110. 40 C.F.R. Part 60 Subpart KKKK: Standards of Performance for Stationary Combustion Turbines;
- 111. 40 C.F.R. Part 60 Subpart LLLL: Standards of Performance for New Sewage Sludge Incineration Units;
- 112. Reserved;
- 113. Reserved;
- 114. 40 C.F.R. Part 60 Subpart OOOO: Standards of Performance for Crude Oil and Natural Gas Facilities for Which Construction, Modification, or Reconstruction Commenced After August 23, 2011, and on or Before September 18, 2015;
- 115. 40 C.F.R. Part 60 Subpart OOOOa: Standards of Performance for Crude Oil and Natural Gas Facilities for Which Construction, Modification or Reconstruction Commenced After September 18, 2015;



- 116. Reserved;
- 117. 40 C.F.R. Part 60 Subpart QQQQ: Standards of Performance for New Residential Hydronic Heaters and Forced-Air Furnaces;
- 118. 40 C.F.R. Part 60 Subpart TTTT: Standards of Performance for Greenhouse Gas Emissions for Electric Generating Units;
- 119. Reserved;
- 120. 40 C.F.R. Part 60 Appendix A-1: Test Methods 1 through 2F;
- 121. 40 C.F.R. Part 60 Appendix A-2: Test Methods 2G through 3C;
- 122. 40 C.F.R. Part 60 Appendix A-3: Test Methods 4 through 5I;
- 123. 40 C.F.R. Part 60 Appendix A-4: Test Methods 6 through 10B;
- 124. 40 C.F.R. Part 60 Appendix A-5: Test Methods 11 through 15A;
- 125. 40 C.F.R. Part 60 Appendix A-6: Test Methods 16 through 18;
- 126. 40 C.F.R. Part 60 Appendix A-7: Test Methods 19 through 25E;
- 127. 40 C.F.R. Part 60 Appendix A-8: Test Methods 26 through 30B;
- 128. 40 C.F.R. Part 60 Appendix B: Performance Specifications;
- 129. 40 C.F.R. Part 60 Appendix C: Determination of Emission Rate Change;
- 130. 40 C.F.R. Part 60 Appendix D: Required Emission Inventory Information;
- 131. Reserved;
- 132. 40 C.F.R. Part 60 Appendix F: Quality Assurance Procedures;
- 133. 40 C.F.R. Part 60 Appendix G: Provisions for an Alternative Method of Demonstrating Compliance With 40 C.F.R. 60.43 for the Newton Power Station of Central Illinois Public Service Company;
- 134. Reserved; and
- 135. 40 C.F.R. Part 60 Appendix I: Owner's Manuals and Temporary Labels for Wood Heaters Subject to Subparts AAA and QQQQ of Part 60.

(2) ~~Reserved. The provisions of 40 CFR 60 Subpart IIII (Standards of Performance for Stationary Compression Ignition Internal Combustion Engines) are hereby adopted by reference as published in the July 1, 2017, edition of the Code of Federal Regulations (CFR), except as provided in subparagraph (a) of this paragraph.~~

~~(a) Any reference contained in 40 CFR 60 Subpart IIII to the:~~

- ~~1. Administrator shall instead be a reference to the Technical Secretary; and~~
- ~~2. Applicable EPA regional office for the State of Tennessee shall instead be a reference to the EPA Region IV office.~~

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Rule 0400-30-39-.02 Stationary Spark Ignition Internal Combustion Engines is amended by deleting it in its entirety and substituting instead the following:

- ~~(1) Emergency stationary spark ignition internal combustion engines subject to the provisions of this rule may qualify for a permit-by-rule as specified in Rule 1200-03-09-.07.~~
- ~~(2) The provisions of 40 CFR 60 Subpart JJJJ (Standards of Performance for Stationary Spark Ignition Internal Combustion Engines) are hereby adopted by reference as published in the July 1, 2017, edition of the Code of Federal Regulations (CFR), except as provided in subparagraph (a) of this paragraph.~~
- ~~(a) Any reference contained in 40 CFR 60 Subpart JJJJ to the:~~
- ~~1. Administrator shall instead be a reference to the Technical Secretary; and~~
  - ~~2. Applicable EPA regional office for the State of Tennessee shall instead be a reference to the EPA Region IV office.~~

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Chapter 1200-03-02  
Definitions

Amendments

Subparagraph (g) of paragraph (1) of Rule 1200-03-02-.01 General Definitions is amended by deleting it in its entirety and substituting instead the following:

- (g) “Best available control technology (BACT)” means an emission limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to regulation under these rules which would be emitted from any proposed new or modified air contaminant source ~~which that~~ the Technical Secretary, on a case-by-case bases, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant. In no event shall application of best available control technology result in emissions of any pollutant ~~which that~~ would exceed the emissions allowed by any applicable standard under Chapters 0400-30-38 ~~and 1200-03-16 or 0400-30-39~~ of these rules. If the Technical Secretary determines that technological or economic limitations on the application of measurement methodology to a particular class of sources would make the imposition of an emission standard infeasible, a design, equipment, work practice, or operational standard, or combination thereof, may be prescribed instead to require the application of best available control technology. Such standard ~~shall must~~, to the degree possible, set forth the emission reduction achievable by implementation of such design, equipment, work practice, or operation, and ~~shall must~~ provide for compliance by means ~~which that~~ achieve equivalent results.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Chapter 1200-03-05  
Visible Emission Regulations

Amendments

Paragraph (2) of Rule 1200-03-05-.04 Exemption is amended by deleting it in its entirety and substituting instead the following:

- (2) Unless the visible emission standard was set under the authority of paragraph (2), (3), or (4) of Rule 1200-03-05-.01 ~~(2), (3), or (4)~~, the visible emission standards of this chapter shall not apply where a source has an applicable visible emissions standard under ~~chapter 1200-03-16~~ Chapter 0400-30-39.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Paragraph (3) of Rule 1200-03-05-.04 Exemption is amended by deleting it in its entirety and substituting instead the following:

- (3) If the installation of an in-stack opacity monitor is required by a standard contained in ~~chapter 1200-03-16~~ Chapter 0400-30-39, then for an identical existing source to obtain the less restrictive opacity standard contained in ~~chapter 1200-03-16~~ Chapter 0400-30-39, the installation of an in-stack opacity monitor meeting the specifications contained in rule part (1)(d)1 of Rule 1200-03-10-.02 ~~(1)(d)1~~ shall be required. For situations where the installation of an in-stack opacity monitor would be required to obtain an opacity standard for an existing source equivalent to that set forth for an identical new source subject to ~~chapter 1200-03-16~~ Chapter 0400-30-39, it is the responsibility of the source owner or operator to notify the Technical Secretary in writing that this revision to the source's existing opacity standard is requested and that the required in-stack opacity monitor will be installed in accordance with ~~rule~~ Rule 1200-03-10-.02.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Subparagraph (b) of Paragraph (2) of Rule 1200-03-05-.05 Standard for Certain Existing Sources is amended by deleting it in its entirety and substituting instead the following:

- (b) The air contaminant source is not regulated under ~~the rules contained in Chapter Chapters~~ 0400-30-38, ~~Chapter 1200-03-16~~ 0400-30-39, ~~Chapter~~ 1200-03-25, or paragraph (4) of Rule 1200-03-09-.01.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Chapter 1200-03-06  
Non-Process Emission Standards

Amendments

The table of contents to Chapter 1200-03-06 Non-Process Emission Standards is amended by deleting the current title of Rule 1200-03-06-.06 "Commercial and Industrial Solid Waste Incineration Units That Commenced Construction On Or Before November 30, 1999" and substituting instead "Reserved."

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Rule 1200-03-06-.06 Commercial and Industrial Solid Waste Incineration Units That Commenced Construction On Or Before November 30, 1999 is amended by deleting it in its entirety and substituting instead the following:

~~1200-03-06-.06 Reserved. Commercial and Industrial Solid Waste Incineration Units That Commenced Construction On Or Before November 30, 1999~~

- ~~(1) The owner or operator of each commercial and industrial solid waste incineration (CISWI) unit, as specified in 40 CFR 60.2550 for addressing in a state plan, must satisfy for that unit the standards and requirements specified for such units in 40 CFR 60 subpart DDDD. This includes, but is not necessarily limited to, compliance with the following:
  - ~~(a) The increments of progress as specified in sections 60.2575 through 60.2615, with dates in Table 1 as follow:
    - ~~1. Increment 1-Submit final control plan (One year after rule-effective date)~~
    - ~~2. Increment 2-Final compliance December 1, 2005.~~~~
  - ~~(b) The requirements for preparation and submittal to the technical secretary of a waste management plan as specified in sections 60.2620 through 60.2630.~~
  - ~~(c) The requirements for insuring operator training and qualification as specified in sections 60.2635 through 60.2665.~~
  - ~~(d) The emission limitations and operating limits specified in sections 60.2670 through 60.2685.~~
  - ~~(e) The performance testing specified in sections 60.2690 and 60.2695.~~
  - ~~(f) The initial and continuous compliance demonstration requirements specified in sections 60.2700 through 60.2725.~~
  - ~~(g) The monitoring requirements specified in sections 60.2730 and 2735.~~
  - ~~(h) The requirements for recordkeeping and reporting specified in sections 60.2740 through 60.2800.~~
  - ~~(i) The requirement specified in section 60.2805 to apply for a major stationary source operating permit (according to the requirements of Paragraph 1200-03-09-.02(11)).~~~~
- ~~(2) Notwithstanding any provisions in subpart DDDD specifying applicability, the provisions of this Rule 1200-03-06-.06 shall not apply to the burning of wood or wood waste, as defined in Paragraph 1200-03-06-.05(3) and Rule 1200-03-04-.02, respectively, solely for the disposition of such wood waste.~~
- ~~(3) For the purpose of this rule, the term "Administrator" means the technical secretary. Other terms shall have the meanings specified in section 60.2875 except with respect to the applicability statement in Paragraph (2) above. Remaining terms shall have the meanings specified in this Division 1200-3.~~
- ~~(4) Subpart DDDD-Emission Guidelines and Compliance Times for Commercial and Industrial Solid Waste Incinerations Units that Commenced Construction on or Before November 30, 1999, published in the Federal Register/Vol. 65, No. 232/ Friday, December 1, 2000, as an addition to 40 CFR 60, is incorporated verbatim into Tennessee regulations as follows:~~

~~Subpart DDDD--Emissions Guidelines and Compliance Times for Commercial and Industrial Solid Waste Incineration Units that Commenced Construction On or Before November 30, 1999~~

~~Sec.~~

~~Introduction~~

~~60.2500—What is the purpose of this subpart?~~

~~60.2505—Am I affected by this subpart?~~

~~60.2510—Is a State plan required for all States?~~

~~60.2515—What must I include in my State plan?~~

~~60.2520—Is there an approval process for my State plan?~~

~~60.2525—What if my State plan is not approvable?~~

~~60.2530—Is there an approval process for a negative declaration letter?~~

~~60.2535—What compliance schedule must I include in my State plan?~~

~~60.2540—Are there any State plan requirements for this subpart that apply instead of the requirements specified in subpart B?~~

~~60.2545—Does this subpart directly affect CISWI unit owners and operators in my State?~~

~~Applicability of State Plans~~

~~60.2550—What CISWI units must I address in my State plan?~~

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~~60.2558—What if a chemical recovery unit is not listed in Sec. 60.2555(n)?~~

~~Use of Model Rule~~

~~60.2560—What is the “model rule” in this subpart?~~

~~60.2565—How does the model rule relate to the required elements of my State plan?~~

~~60.2570—What are the principal components of the model rule?~~

~~Model Rule--Increments of Progress~~

~~60.2575—What are my requirements for meeting increments of progress and achieving final compliance?~~

~~60.2580—When must I complete each increment of progress?~~

~~60.2585—What must I include in the notifications of achievement of increments of progress?~~

~~60.2590—When must I submit the notifications of achievement of increments of progress?~~

~~60.2595—What if I do not meet an increment of progress?~~

~~60.2600—How do I comply with the increment of progress for submittal of a control plan?~~

~~60.2605—How do I comply with the increment of progress for achieving final compliance?~~

~~60.2610—What must I do if I close my CISWI unit and then restart it?~~

~~60.2615—What must I do if I plan to permanently close my CISWI unit and not restart it?~~

~~Model Rule--Waste Management Plan~~

~~60.2620—What is a waste management plan?~~

~~60.2625—When must I submit my waste management plan?~~

~~60.2630—What should I include in my waste management plan?~~

~~Model Rule--Operator Training and Qualification~~

~~60.2635—What are the operator training and qualification requirements?~~

~~60.2640—When must the operator training course be completed?~~

~~60.2645—How do I obtain my operator qualification?~~

~~60.2650—How do I maintain my operator qualification?~~

~~60.2655—How do I renew my lapsed operator qualification?~~

~~60.2660—What site-specific documentation is required?~~

~~60.2665—What if all the qualified operators are temporarily not accessible?~~

~~Model Rule--Emission Limitations and Operating Limits~~

- ~~60.2670—What emission limitations must I meet and by when?~~
- ~~60.2675—What operating limits must I meet and by when?~~
- ~~60.2680—What if I do not use a wet scrubber to comply with the emission limitations?~~
- ~~60.2685—What happens during periods of startup, shutdown, and malfunction?~~

#### ~~Model Rule—Performance Testing~~

- ~~60.2690—How do I conduct the initial and annual performance test?~~
- ~~60.2695—How are the performance test data used?~~

#### ~~Model Rule—Initial Compliance Requirements~~

- ~~60.2700—How do I demonstrate initial compliance with the emission limitations and establish the operating limits?~~
- ~~60.2705—By what date must I conduct the initial performance test?~~

#### ~~Model Rule—Continuous Compliance Requirements~~

- ~~60.2710—How do I demonstrate continuous compliance with the emission limitations and the operating limits?~~
- ~~60.2715—By what date must I conduct the annual performance test?~~
- ~~60.2720—May I conduct performance testing less often?~~
- ~~60.2725—May I conduct a repeat performance test to establish new operating limits?~~

#### ~~Model Rule—Monitoring~~

- ~~60.2730—What monitoring equipment must I install and what parameters must I monitor?~~
- ~~60.2735—Is there a minimum amount of monitoring data I must obtain?~~

#### ~~Model Rule—Recordkeeping and Reporting~~

- ~~60.2740—What records must I keep?~~
- ~~60.2745—Where and in what format must I keep my records?~~
- ~~60.2750—What reports must I submit?~~
- ~~60.2755—When must I submit my waste management plan?~~
- ~~60.2760—What information must I submit following my initial performance test?~~
- ~~60.2765—When must I submit my annual report?~~
- ~~60.2770—What information must I include in my annual report?~~
- ~~60.2775—What else must I report if I have a deviation from the operating limits or the emission limitations?~~
- ~~60.2780—What must I include in the deviation report?~~
- ~~60.2785—What else must I report if I have a deviation from the requirement to have a qualified operator accessible?~~
- ~~60.2790—Are there any other notifications or reports that I must submit?~~
- ~~60.2795—In what form can I submit my reports?~~
- ~~60.2800—Can reporting dates be changed?~~

#### ~~Model Rule—Title V Operating Permits~~

- ~~60.2805—Am I required to apply for and obtain a title V operating permit for my unit?~~

#### ~~Model Rule—Air Curtain Incinerators~~

- ~~60.2810—What is an air curtain incinerator?~~
- ~~60.2815—What are my requirements for meeting increments of progress and achieving final compliance?~~
- ~~60.2820—When must I complete each increment of progress?~~
- ~~60.2825—What must I include in the notifications of achievement of increments of progress?~~
- ~~60.2830—When must I submit the notifications of achievement of increments of progress?~~
- ~~60.2835—What if I do not meet an increment of progress?~~
- ~~60.2840—How do I comply with the increment of progress for submittal of a control plan?~~
- ~~60.2845—How do I comply with the increment of progress for achieving final compliance?~~
- ~~60.2850—What must I do if I close my air curtain incinerator and then restart it?~~
- ~~60.2855—What must I do if I plan to permanently close my air curtain incinerator and not restart it?~~

- ~~60.2860—What are the emission limitations for air curtain incinerators?~~
- ~~60.2865—How must I monitor opacity for air curtain incinerators?~~
- ~~60.2870—What are the recordkeeping and reporting requirements for air curtain incinerators?~~

~~Model Rule—Definitions~~

- ~~60.2875—What definitions must I know?~~

~~Tables to Subpart DDDD~~

- ~~Table 1 to Subpart DDDD—Model Rule—Increments of Progress and Compliance Schedules~~
- ~~Table 2 to Subpart DDDD—Model Rule—Emission Limitations~~
- ~~Table 3 to Subpart DDDD—Model Rule—Operating Limits for Wet Scrubbers~~
- ~~Table 4 to Subpart DDDD—Model Rule—Toxic Equivalency Factors~~
- ~~Table 5 to Subpart DDDD—Model Rule—Summary of Reporting Requirements~~

~~Introduction~~

- ~~Sec. 60.2500—What is the purpose of this subpart?~~

~~This subpart establishes emission guidelines and compliance schedules for the control of emissions from commercial and industrial solid waste incineration (CISWI) units. The pollutants addressed by these emission guidelines are listed in Table 2 of this subpart. These emission guidelines are developed in accordance with sections 111(d) and 129 of the Clean Air Act and subpart B of this part.~~

- ~~Sec. 60.2505—Am I affected by this subpart?~~

- ~~(a) —If you are the Administrator of an air quality program in a State or United States protectorate with one or more existing CISWI units that commenced construction on or before November 30, 1999, you must submit a State plan to U.S. Environmental Protection Agency (EPA) that implements the emission guidelines contained in this subpart.~~
- ~~(b) —You must submit the State plan to EPA by December 3, 2001.~~

- ~~Sec. 60.2510—Is a State plan required for all States?~~

~~No. You are not required to submit a State plan if there are no existing CISWI units in your State, and you submit a negative declaration letter in place of the State plan.~~

- ~~Sec. 60.2515—What must I include in my State plan?~~

- ~~(a) —You must include the nine items described in paragraphs (a)(1) through (9) of this section in your State plan.~~
  - ~~(1) —Inventory of affected CISWI units, including those that have ceased operation but have not been dismantled.~~
  - ~~(2) —Inventory of emissions from affected CISWI units in your State.~~
  - ~~(3) —Compliance schedules for each affected CISWI unit.~~
  - ~~(4) —Emission limitations, operator training and qualification requirements, a waste management plan, and operating limits for affected CISWI units that are at least as protective as the emission guidelines contained in this subpart.~~
  - ~~(5) —Performance testing, recordkeeping, and reporting requirements.~~
  - ~~(6) —Certification that the hearing on the State plan was held, a list of witnesses and their organizational affiliations, if any, appearing at the hearing, and a brief written summary of each presentation or written submission.~~



- ~~(7) Provision for State progress reports to EPA.~~
- ~~(8) Identification of enforceable State mechanisms that you selected for implementing the emission guidelines of this subpart.~~
- ~~(9) Demonstration of your State's legal authority to carry out the sections 111(d) and 129 State plan.~~
- ~~(b) Your State plan may deviate from the format and content of the emission guidelines contained in this subpart. However, if your State plan does deviate in content, you must demonstrate that your State plan is at least as protective as the emission guidelines contained in this subpart. Your State plan must address regulatory applicability, increments of progress for retrofit, operator training and qualification, a waste management plan, emission limitations, performance testing, operating limits, monitoring, recordkeeping and reporting, and air curtain incinerator requirements.~~
- ~~(c) You must follow the requirements of subpart B of this part (Adoption and Submittal of State Plans for Designated Facilities) in your State plan.~~

~~Sec. 60.2520 Is there an approval process for my State plan?~~

~~Yes. The EPA will review your State plan according to Sec. 60.27.~~

~~Sec. 60.2525 What if my State plan is not approvable?~~

~~If you do not submit an approvable State plan (or a negative declaration letter) by December 2, 2002, EPA will develop a Federal plan according to Sec. 60.27 to implement the emission guidelines contained in this subpart. Owners and operators of CISWI units not covered by an approved State plan must comply with the Federal plan. The Federal plan is an interim action and will be automatically withdrawn when your State plan is approved.~~

~~Sec. 60.2530 Is there an approval process for a negative declaration letter?~~

~~No. The EPA has no formal review process for negative declaration letters. Once your negative declaration letter has been received, EPA will place a copy in the public docket and publish a notice in the Federal Register. If, at a later date, an existing CISWI unit is found in your State, the Federal plan implementing the emission guidelines contained in this subpart would automatically apply to that CISWI unit until your State plan is approved.~~

~~Sec. 60.2535 What compliance schedule must I include in my State plan?~~

~~(a) Your State plan must include compliance schedules that require CISWI units to achieve final compliance as expeditiously as practicable after approval of the State plan but not later than the earlier of the two dates specified in paragraphs (a)(1) and (2) of this section.~~

~~(1) December 1, 2005.~~

~~(2) Three years after the effective date of State plan approval.~~

~~(b) For compliance schedules more than 1 year following the effective date of State plan approval, State plans must include dates for enforceable increments of progress as specified in Sec. 60.2580.~~

~~Sec. 60.2540 Are there any State plan requirements for this subpart that apply instead of the requirements specified in subpart B?~~

~~Yes. Subpart B establishes general requirements for developing and processing section 111(d) plans. This subpart applies instead of the requirements in subpart B of this part for paragraphs (a) and (b) of this section:~~

~~(a) State plans developed to implement this subpart must be as protective as the emission guidelines contained in this subpart. State plans must require all CISWI units to comply by December 1, 2005 or 3 years after the effective date of State plan approval, whichever is sooner. This applies instead of the option for case-by-case less stringent emission standards and longer compliance schedules in Sec. 60.24(f).~~

~~(b) State plans developed to implement this subpart are required to include two increments of progress for the affected CISWI units. These two minimum increments are the final control plan submittal date and final~~

~~compliance date in Sec. 60.21(h)(1) and (5). This applies instead of the requirement of Sec. 60.24(e)(1) that would require a State plan to include all five increments of progress for all CISWI units.~~

~~Sec. 60.2545 Does this subpart directly affect CISWI unit owners and operators in my State?~~

- ~~(a) No. This subpart does not directly affect CISWI unit owners and operators in your State. However, CISWI unit owners and operators must comply with the State plan you develop to implement the emission guidelines contained in this subpart. States may choose to incorporate the model rule text directly in their State plan.~~
- ~~(b) If you do not submit an approvable plan to implement and enforce the guidelines contained in this subpart by December 2, 2002, the EPA will implement and enforce a Federal plan, as provided in Sec. 60.2525, to ensure that each unit within your State reaches compliance with all the provisions of this subpart by December 1, 2005.~~

#### ~~Applicability of State Plans~~

~~Sec. 60.2550 What CISWI units must I address in my State plan?~~

- ~~(a) Your State plan must address incineration units that meet all three criteria described in paragraphs (a)(1) through (3) of this section.
  - ~~(1) Incineration units in your State that commenced construction on or before November 30, 1999.~~
  - ~~(2) Incineration units that meet the definition of a CISWI unit as defined in Sec. 60.2875.~~
  - ~~(3) Incineration units not exempt under Sec. 60.2555.~~~~
- ~~(b) If the owner or operator of a CISWI unit makes changes that meet the definition of modification or reconstruction on or after June 1, 2001, the CISWI unit becomes subject to subpart CCCC of this part and the State plan no longer applies to that unit.~~
- ~~(c) If the owner or operator of a CISWI unit makes physical or operational changes to an existing CISWI unit primarily to comply with your State plan, subpart CCCC of this part does not apply to that unit. Such changes do not qualify as modifications or reconstructions under subpart CCCC of this part.~~

~~Sec. 60.2555 What combustion units are exempt from my State plan?~~

~~This subpart exempts fifteen types of units described in paragraphs (a) through (e) of this section.~~

- ~~(a) Pathological waste incineration units. Incineration units burning 90 percent or more by weight (on a calendar quarter basis and excluding the weight of auxiliary fuel and combustion air) of pathological waste, low-level radioactive waste, and/or chemotherapeutic waste as defined in Sec. 60.2875 are not subject to this subpart if you meet the two requirements specified in paragraphs (a)(1) and (2) of this section.
  - ~~(1) Notify the Administrator that the unit meets these criteria.~~
  - ~~(2) Keep records on a calendar quarter basis of the weight of pathological waste, low-level radioactive waste, and/or chemotherapeutic waste burned, and the weight of all other fuels and wastes burned in the unit.~~~~
- ~~(b) Agricultural waste incineration units. Incineration units burning 90 percent or more by weight (on a calendar quarter basis and excluding the weight of auxiliary fuel and combustion air) of agricultural wastes as defined in Sec. 60.2875 are not subject to this subpart if you meet the two requirements specified in paragraphs (b)(1) and (2) of this section.
  - ~~(1) Notify the Administrator that the unit meets these criteria.~~
  - ~~(2) Keep records on a calendar quarter basis of the weight of agricultural waste burned, and the weight of all other fuels and wastes burned in the unit.~~~~

- ~~(c) Municipal waste combustion units. Incineration units that meet either of the two criteria specified in paragraphs (c)(1) or (2) of this section.~~
- ~~(1) Are regulated under subpart Ea of this part (Standards of Performance for Municipal Waste Combustors); subpart Eb of this part (Standards of Performance for Municipal Waste Combustors for Which Construction is Commenced After September 20, 1994); subpart Cb of this part (Emission Guidelines and Compliance Time for Large Municipal Combustors that are Constructed on or Before September 20, 1994); subpart AAAA of this part (Standards of Performance for New Stationary Sources: Small Municipal Waste Combustion Units); or subpart BBBB of this part (Emission Guidelines for Existing Stationary Sources: Small Municipal Waste Combustion Units).~~
- ~~(2) Burn greater than 30 percent municipal solid waste or refuse-derived fuel, as defined in subpart Ea, subpart Eb, subpart AAAA, and subpart BBBB, and that have the capacity to burn less than 35 tons (32 megagrams) per day of municipal solid waste or refuse-derived fuel, if you meet the two requirements in paragraphs (c)(2)(i) and (ii) of this section.~~
- ~~(i) Notify the Administrator that the unit meets these criteria.~~
- ~~(ii) Keep records on a calendar quarter basis of the weight of municipal solid waste burned, and the weight of all other fuels and wastes burned in the unit.~~
- ~~(d) Medical waste incineration units. Incineration units regulated under subpart Ec of this part (Standards of Performance for Hospital/ Medical/Infectious Waste Incinerators for Which Construction is Commenced After June 20, 1996) or subpart Ca of this part (Emission Guidelines and Compliance Times for Hospital/Medical/Infectious Waste Incinerators).~~
- ~~(e) Small power production facilities. Units that meet the three requirements specified in paragraphs (e)(1) through (3) of this section.~~
- ~~(1) The unit qualifies as a small power production facility under section 3(17)(C) of the Federal Power Act (16 U.S.C. 796(17)(C)).~~
- ~~(2) The unit burns homogeneous waste (not including refuse-derived fuel) to produce electricity.~~
- ~~(3) You notify the Administrator that the unit meets all of these criteria.~~
- ~~(f) Cogeneration facilities. Units that meet the three requirements specified in paragraphs (f)(1) through (3) of this section.~~
- ~~(1) The unit qualifies as a cogeneration facility under section 3(18)(B) of the Federal Power Act (16 U.S.C. 796(18)(B)).~~
- ~~(2) The unit burns homogeneous waste (not including refuse-derived fuel) to produce electricity and steam or other forms of energy used for industrial, commercial, heating, or cooling purposes.~~
- ~~(3) You notify the Administrator that the unit meets all of these criteria.~~
- ~~(g) Hazardous waste combustion units. Units that meet either of the two criteria specified in paragraph (g)(1) or (2) of this section.~~
- ~~(1) Units for which you are required to get a permit under section 3005 of the Solid Waste Disposal Act.~~
- ~~(2) Units regulated under subpart EEE of 40 CFR part 63 (National Emission Standards for Hazardous Air Pollutants from Hazardous Waste Combustors).~~
- ~~(h) Materials recovery units. Units that combust waste for the primary purpose of recovering metals, such as primary and secondary smelters.~~

- ~~(i) Air curtain incinerators. Air curtain incinerators that burn only the materials listed in paragraphs (i)(1) through (3) of this section are only required to meet the requirements under "Air Curtain Incinerators" (Secs. 60.2810 through 60.2870).~~
- ~~(1) 100 percent wood waste.~~
- ~~(2) 100 percent clean lumber.~~
- ~~(3) 100 percent mixture of only wood waste, clean lumber, and/or yard waste.~~
- ~~(j) Cyclonic barrel burners. (See Sec. 60.2875)~~
- ~~(k) Rack, part, and drum reclamation units. (See Sec. 60.2875)~~
- ~~(l) Cement kilns. Kilns regulated under subpart LLL of part 63 of this chapter (National Emission Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry).~~
- ~~(m) Sewage sludge incinerators. Incineration units regulated under subpart O of this part (Standards of Performance for Sewage Treatment Plants).~~
- ~~(n) Chemical recovery units. Combustion units burning materials to recover chemical constituents or to produce chemical compounds where there is an existing commercial market for such recovered chemical constituents or compounds. The seven types of units described in paragraphs (n)(1) through (7) of this section are considered chemical recovery units.~~
- ~~(1) Units burning only pulping liquors (i.e., black liquor) that are reclaimed in a pulping liquor recovery process and reused in the pulping process.~~
- ~~(2) Units burning only spent sulfuric acid used to produce virgin sulfuric acid.~~
- ~~(3) Units burning only wood or coal feedstock for the production of charcoal.~~
- ~~(4) Units burning only manufacturing byproduct streams/residues containing catalyst metals which are reclaimed and reused as catalysts or used to produce commercial grade catalysts.~~
- ~~(5) Units burning only coke to produce purified carbon monoxide that is used as an intermediate in the production of other chemical compounds.~~
- ~~(6) Units burning only hydrocarbon liquids or solids to produce hydrogen, carbon monoxide, synthesis gas, or other gases for use in other manufacturing processes.~~
- ~~(7) Units burning only photographic film to recover silver.~~
- ~~(o) Laboratory analysis units. Units that burn samples of materials for the purpose of chemical or physical analysis.~~

~~Sec. 60.2558 What if a chemical recovery unit is not listed in Sec. 60.2555(n)?~~

- ~~(a) If a chemical recovery unit is not listed in Sec. 60.2555(n), the owner or operator of the unit can petition the Administrator to add the unit to the list. The petition must contain the six items in paragraphs (a)(1) through (6) of this section.~~
- ~~(1) A description of the source of the materials being burned.~~
- ~~(2) A description of the composition of the materials being burned, highlighting the chemical constituents in these materials that are recovered.~~
- ~~(3) A description (including a process flow diagram) of the process in which the materials are burned, highlighting the type, design, and operation of the equipment used in this process.~~

~~(4) — A description (including a process flow diagram) of the chemical constituent recovery process, highlighting the type, design, and operation of the equipment used in this process.~~

~~(5) — A description of the commercial markets for the recovered chemical constituents and their use.~~

~~(6) — The composition of the recovered chemical constituents and the composition of these chemical constituents as they are bought and sold in commercial markets.~~

~~(b) — Until the Administrator approves the petition, the incineration unit is covered by this subpart.~~

~~(c) — If a petition is approved, the Administrator will amend Sec. 60.2555(n) to add the unit to the list of chemical recovery units.~~

#### Use of Model Rule

~~Sec. 60.2560 What is the "model rule" in this subpart?~~

~~(a) — The model rule is the portion of these emission guidelines (Secs. 60.2575 through 60.2875) that addresses the regulatory requirements applicable to CISWI units. The model rule provides these requirements in regulation format. You must develop a State plan that is at least as protective as the model rule. You may use the model rule language as part of your State plan. Alternative language may be used in your State plan if you demonstrate that the alternative language is at least as protective as the model rule contained in this subpart.~~

~~(b) — In the model rule of Secs. 60.2575 to 60.2875, "you" means the owner or operator of a CISWI unit.~~

~~Sec. 60.2565 How does the model rule relate to the required elements of my State plan?~~

~~Use the model rule to satisfy the State plan requirements specified in Sec. 60.2515(a)(4) and (5).~~

~~Sec. 60.2570 What are the principal components of the model rule?~~

~~The model rule contains the eleven major components listed in paragraphs (a) through (k) of this section.~~

~~(a) — Increments of progress toward compliance.~~

~~(b) — Waste management plan.~~

~~(c) — Operator training and qualification.~~

~~(d) — Emission limitations and operating limits.~~

~~(e) — Performance testing.~~

~~(f) — Initial compliance requirements.~~

~~(g) — Continuous compliance requirements.~~

~~(h) — Monitoring.~~

~~(i) — Recordkeeping and reporting.~~

~~(j) — Definitions.~~

~~(k) — Tables.~~

#### ~~Model Rule—Increments of Progress~~

~~Sec. 60.2575 What are my requirements for meeting increments of progress and achieving final compliance?~~

~~If you plan to achieve compliance more than 1 year following the effective date of State plan approval, you must meet the two increments of progress specified in paragraphs (a) and (b) of this section.~~

~~(a) — Submit a final control plan.~~

~~(b) — Achieve final compliance.~~

~~Sec. 60.2580 When must I complete each increment of progress?~~

~~Table 1 of this subpart specifies compliance dates for each of the increments of progress.~~

~~Sec. 60.2585 What must I include in the notifications of achievement of increments of progress?~~

~~Your notification of achievement of increments of progress must include the three items specified in paragraphs (a) through (c) of this section.~~

~~(a) — Notification that the increment of progress has been achieved.~~

~~(b) — Any items required to be submitted with each increment of progress.~~

~~(c) — Signature of the owner or operator of the CISWI unit.~~

~~Sec. 60.2590 When must I submit the notifications of achievement of increments of progress?~~

~~Notifications for achieving increments of progress must be postmarked no later than 10 business days after the compliance date for the increment.~~

~~Sec. 60.2595 What if I do not meet an increment of progress?~~

~~If you fail to meet an increment of progress, you must submit a notification to the Administrator postmarked within 10 business days after the date for that increment of progress in Table 1 of this subpart. You must inform the Administrator that you did not meet the increment, and you must continue to submit reports each subsequent calendar month until the increment of progress is met.~~

~~Sec. 60.2600 How do I comply with the increment of progress for submittal of a control plan?~~

~~For your control plan increment of progress, you must satisfy the two requirements specified in paragraphs (a) and (b) of this section.~~

~~(a) — Submit the final control plan that includes the five items described in paragraphs (a)(1) through (5) of this section.~~

~~(1) — A description of the devices for air pollution control and process changes that you will use to comply with the emission limitations and other requirements of this subpart.~~

~~(2) — The type(s) of waste to be burned.~~

~~(3) — The maximum design waste burning capacity.~~

~~(4) — The anticipated maximum charge rate.~~

~~(5) — If applicable, the petition for site-specific operating limits under Sec. 60.2680.~~

~~(b) — Maintain an onsite copy of the final control plan.~~

~~Sec. 60.2605 How do I comply with the increment of progress for achieving final compliance?~~

~~For the final compliance increment of progress, you must complete all process changes and retrofit construction of control devices, as specified in the final control plan, so that, if the affected CISWI unit is brought online, all necessary process changes and air pollution control devices would operate as designed.~~

~~Sec. 60.2610 What must I do if I close my CISWI unit and then restart it?~~

- ~~(a) If you close your CISWI unit but will restart it prior to the final compliance date in your State plan, you must meet the increments of progress specified in Sec. 60.2575.~~
- ~~(b) If you close your CISWI unit but will restart it after your final compliance date, you must complete emission control retrofits and meet the emission limitations and operating limits on the date your unit restarts operation.~~

~~Sec. 60.2615 What must I do if I plan to permanently close my CISWI unit and not restart it?~~

~~If you plan to close your CISWI unit rather than comply with the State plan, submit a closure notification, including the date of closure, to the Administrator by the date your final control plan is due.~~

#### ~~Model Rule--Waste Management Plan~~

~~Sec. 60.2620 What is a waste management plan?~~

~~A waste management plan is a written plan that identifies both the feasibility and the methods used to reduce or separate certain components of solid waste from the waste stream in order to reduce or eliminate toxic emissions from incinerated waste.~~

~~Sec. 60.2625 When must I submit my waste management plan?~~

~~You must submit a waste management plan no later than the date specified in Table 1 of this subpart for submittal of the final control plan.~~

~~Sec. 60.2630 What should I include in my waste management plan?~~

~~A waste management plan must include consideration of the reduction or separation of waste stream elements such as paper, cardboard, plastics, glass, batteries, or metals; or the use of recyclable materials. The plan must identify any additional waste management measures, and the source must implement those measures considered practical and feasible, based on the effectiveness of waste management measures already in place, the costs of additional measures, the emissions reductions expected to be achieved, and any other environmental or energy impacts they might have.~~

#### ~~Model Rule--Operator Training and Qualification~~

~~Sec. 60.2635 What are the operator training and qualification requirements?~~

- ~~(a) No CISWI unit can be operated unless a fully trained and qualified CISWI unit operator is accessible, either at the facility or can be at the facility within 1 hour. The trained and qualified CISWI unit operator may operate the CISWI unit directly or be the direct supervisor of one or more other plant personnel who operate the unit. If all qualified CISWI unit operators are temporarily not accessible, you must follow the procedures in Sec. 60.2665.~~
- ~~(b) Operator training and qualification must be obtained through a State-approved program or by completing the requirements included in paragraph (c) of this section.~~
- ~~(c) Training must be obtained by completing an incinerator operator training course that includes, at a minimum, the three elements described in paragraphs (c)(1) through (3) of this section.
  - ~~(1) Training on the eleven subjects listed in paragraphs (c)(1)(i) through (xi) of this section.
    - ~~(i) Environmental concerns, including types of emissions.~~
    - ~~(ii) Basic combustion principles, including products of combustion.~~
    - ~~(iii) Operation of the specific type of incinerator to be used by the operator, including proper startup, waste charging, and shutdown procedures.~~~~~~

- ~~(iv) — Combustion controls and monitoring.~~
  - ~~(v) — Operation of air pollution control equipment and factors affecting performance (if applicable).~~
  - ~~(vi) — Inspection and maintenance of the incinerator and air pollution control devices.~~
  - ~~(vii) — Actions to correct malfunctions or conditions that may lead to malfunction.~~
  - ~~(viii) — Bottom and fly ash characteristics and handling procedures.~~
  - ~~(ix) — Applicable Federal, State, and local regulations, including Occupational Safety and Health Administration workplace standards.~~
  - ~~(x) — Pollution prevention.~~
  - ~~(xi) — Waste management practices.~~
- ~~(2) — An examination designed and administered by the instructor.~~
  - ~~(3) — Written material covering the training course topics that can serve as reference material following completion of the course.~~

~~Sec. 60.2640 When must the operator training course be completed?~~

~~The operator training course must be completed by the later of the three dates specified in paragraphs (a) through (c) of this section.~~

- ~~(a) — The final compliance date (Increment 2).~~
- ~~(b) — Six months after CISWI unit startup.~~
- ~~(c) — Six months after an employee assumes responsibility for operating the CISWI unit or assumes responsibility for supervising the operation of the CISWI unit.~~

~~Sec. 60.2645 How do I obtain my operator qualification?~~

- ~~(a) — You must obtain operator qualification by completing a training course that satisfies the criteria under Sec. 60.2635(b).~~
- ~~(b) — Qualification is valid from the date on which the training course is completed and the operator successfully passes the examination required under Sec. 60.2635(c)(2).~~

~~Sec. 60.2650 How do I maintain my operator qualification?~~

~~To maintain qualification, you must complete an annual review or refresher course covering, at a minimum, the five topics described in paragraphs (a) through (e) of this section.~~

- ~~(a) — Update of regulations.~~
- ~~(b) — Incinerator operation, including startup and shutdown procedures, waste charging and ash handling.~~
- ~~(c) — Inspection and maintenance.~~
- ~~(d) — Responses to malfunctions or conditions that may lead to malfunction.~~
- ~~(e) — Discussion of operating problems encountered by attendees.~~

~~Sec. 60.2655 How do I renew my lapsed operator qualification?~~



~~You must renew a lapsed operator qualification by one of the two methods specified in paragraphs (a) and (b) of this section.~~

~~(a) For a lapse of less than 3 years, you must complete a standard annual refresher course described in Sec. 60.2650.~~

~~(b) For a lapse of 3 years or more, you must repeat the initial qualification requirements in Sec. 60.2645(a).~~

~~Sec. 60.2660 What site-specific documentation is required?~~

~~(a) Documentation must be available at the facility and readily accessible for all CISWI unit operators that addresses the ten topics described in paragraphs (a)(1) through (10) of this section. You must maintain this information and the training records required by paragraph (c) of this section in a manner that they can be readily accessed and are suitable for inspection upon request.~~

~~(1) Summary of the applicable standards under this subpart.~~

~~(2) Procedures for receiving, handling, and charging waste.~~

~~(3) Incinerator startup, shutdown, and malfunction procedures.~~

~~(4) Procedures for maintaining proper combustion air supply levels.~~

~~(5) Procedures for operating the incinerator and associated air pollution control systems within the standards established under this subpart.~~

~~(6) Monitoring procedures for demonstrating compliance with the incinerator operating limits.~~

~~(7) Reporting and recordkeeping procedures.~~

~~(8) The waste management plan required under Secs. 60.2620 through 60.2630.~~

~~(9) Procedures for handling ash.~~

~~(10) A list of the wastes burned during the performance test.~~

~~(b) You must establish a program for reviewing the information listed in paragraph (a) of this section with each incinerator operator.~~

~~(1) The initial review of the information listed in paragraph (a) of this section must be conducted by the later of the three dates specified in paragraphs (b)(1)(i) through (iii) of this section.~~

~~(i) The final compliance date (Increment 2).~~

~~(ii) Six months after CISWI unit startup.~~

~~(iii) Six months after being assigned to operate the CISWI unit.~~

~~(2) Subsequent annual reviews of the information listed in paragraph (a) of this section must be conducted no later than 12 months following the previous review.~~

~~(c) You must also maintain the information specified in paragraphs (c)(1) through (3) of this section.~~

~~(1) Records showing the names of CISWI unit operators who have completed review of the information in Sec. 60.2660(a) as required by Sec. 60.2660(b), including the date of the initial review and all subsequent annual reviews.~~

~~(2) Records showing the names of the CISWI operators who have completed the operator training requirements under Sec. 60.2635, met the criteria for qualification under Sec. 60.2645, and maintained or renewed their qualification under Sec. 60.2650 or Sec. 60.2655. Records must~~

~~include documentation of training, the dates of the initial refresher training, and the dates of their qualification and all subsequent renewals of such qualifications.~~

- ~~(3) For each qualified operator, the phone and/or pager number at which they can be reached during operating hours.~~

#### ~~Sec. 60.2665 What if all the qualified operators are temporarily not accessible?~~

~~If all qualified operators are temporarily not accessible (i.e., not at the facility and not able to be at the facility within 1 hour), you must meet one of the two criteria specified in paragraphs (a) and (b) of this section, depending on the length of time that a qualified operator is not accessible.~~

~~(a) When all qualified operators are not accessible for more than 8 hours, but less than 2 weeks, the CISWI unit may be operated by other plant personnel familiar with the operation of the CISWI unit who have completed a review of the information specified in Sec. 60.2660(a) within the past 12 months. However, you must record the period when all qualified operators were not accessible and include this deviation in the annual report as specified under Sec. 60.2770.~~

~~(b) When all qualified operators are not accessible for 2 weeks or more, you must take the two actions that are described in paragraphs (b)(1) and (2) of this section.~~

~~(1) Notify the Administrator of this deviation in writing within 10 days. In the notice, state what caused this deviation, what you are doing to ensure that a qualified operator is accessible, and when you anticipate that a qualified operator will be accessible.~~

~~(2) Submit a status report to the Administrator every 4 weeks outlining what you are doing to ensure that a qualified operator is accessible, stating when you anticipate that a qualified operator will be accessible and requesting approval from the Administrator to continue operation of the CISWI unit. You must submit the first status report 4 weeks after you notify the Administrator of the deviation under paragraph (b)(1) of this section. If the Administrator notifies you that your request to continue operation of the CISWI unit is disapproved, the CISWI unit may continue operation for 90 days, then must cease operation. Operation of the unit may resume if you meet the two requirements in paragraphs (b)(2)(i) and (ii) of this section.~~

~~(i) A qualified operator is accessible as required under Sec. 60.2635(a).~~

~~(ii) You notify the Administrator that a qualified operator is accessible and that you are resuming operation.~~

#### ~~Model Rule--Emission Limitations and Operating Limits~~

##### ~~Sec. 60.2670 What emission limitations must I meet and by when?~~

~~You must meet the emission limitations specified in Table 2 of this subpart on the date the initial performance test is required or completed (whichever is earlier).~~

##### ~~Sec. 60.2675 What operating limits must I meet and by when?~~

~~(a) If you use a wet scrubber to comply with the emission limitations, you must establish operating limits for four operating parameters (as specified in Table 3 of this subpart) as described in paragraphs (a)(1) through (4) of this section during the initial performance test.~~

~~(1) Maximum charge rate, calculated using one of the two different procedures in paragraph (a)(1)(i) or (ii), as appropriate.~~

~~(i) For continuous and intermittent units, maximum charge rate is 110 percent of the average charge rate measured during the most recent performance test demonstrating compliance with all applicable emission limitations.~~

- (ii) ~~For batch units, maximum charge rate is 110 percent of the daily charge rate measured during the most recent performance test demonstrating compliance with all applicable emission limitations.~~
- (2) ~~Minimum pressure drop across the wet scrubber, which is calculated as 90 percent of the average pressure drop across the wet scrubber measured during the most recent performance test demonstrating compliance with the particulate matter emission limitations; or minimum amperage to the wet scrubber, which is calculated as 90 percent of the average amperage to the wet scrubber measured during the most recent performance test demonstrating compliance with the particulate matter emission limitations.~~
- (3) ~~Minimum scrubber liquor flow rate, which is calculated as 90 percent of the average liquor flow rate at the inlet to the wet scrubber measured during the most recent performance test demonstrating compliance with all applicable emission limitations.~~
- (4) ~~Minimum scrubber liquor pH, which is calculated as 90 percent of the average liquor pH at the inlet to the wet scrubber measured during the most recent performance test demonstrating compliance with the HCl emission limitation.~~
- (b) ~~You must meet the operating limits established during the initial performance test on the date the initial performance test is required or completed (whichever is earlier).~~
- (c) ~~If you use a fabric filter to comply with the emission limitations, you must operate each fabric filter system such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during a 6-month period. In calculating this operating time percentage, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted. If corrective action is required, each alarm shall be counted as a minimum of 1 hour. If you take longer than 1 hour to initiate corrective action, the alarm time shall be counted as the actual amount of time taken by you to initiate corrective action.~~

~~Sec. 60.2680 What if I do not use a wet scrubber to comply with the emission limitations?~~

~~If you use an air pollution control device other than a wet scrubber, or limit emissions in some other manner, to comply with the emission limitations under Sec. 60.2670, you must petition the Administrator for specific operating limits to be established during the initial performance test and continuously monitored thereafter. You must not conduct the initial performance test until after the petition has been approved by the Administrator. Your petition must include the five items listed in paragraphs (a) through (e) of this section.~~

- (a) ~~Identification of the specific parameters you propose to use as additional operating limits.~~
- (b) ~~A discussion of the relationship between these parameters and regulated pollutants change with changes in these parameters, and how limits on these parameters will serve to limit emissions of regulated pollutants.~~
- (c) ~~A discussion of how you will establish the upper and/or lower values for these parameters which will establish the operating limits on these parameters.~~
- (d) ~~A discussion identifying the methods you will use to measure and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments.~~
- (e) ~~A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.~~

~~Sec. 60.2685 What happens during periods of startup, shutdown, and malfunction?~~

- (a) ~~The emission limitations and operating limits apply at all times except during CISWI unit startups, shutdowns, or malfunctions.~~
- (b) ~~Each malfunction must last no longer than 3 hours.~~

~~Model Rule--Performance Testing~~

~~Sec. 60.2690 How do I conduct the initial and annual performance test?~~

- ~~(a) All performance tests must consist of a minimum of three test runs conducted under conditions representative of normal operations.~~
- ~~(b) You must document that the waste burned during the performance test is representative of the waste burned under normal operating conditions by maintaining a log of the quantity of waste burned (as required in Sec. 60.2740(b)(1)) and the types of waste burned during the performance test.~~
- ~~(c) All performance tests must be conducted using the minimum run duration specified in Table 2 of this subpart.~~
- ~~(d) Method 1 of appendix A of this part must be used to select the sampling location and number of traverse points.~~
- ~~(e) Method 3A or 3B of appendix A of this part must be used for gas composition analysis, including measurement of oxygen concentration. Method 3A or 3B of appendix A of this part must be used simultaneously with each method.~~
- ~~(f) All pollutant concentrations, except for opacity, must be adjusted to 7 percent oxygen using Equation 1 of this section:~~

$$\text{C}_{\text{adj}} = \text{C}_{\text{meas}} (20.9 - 7) / (20.9 - \%O_2) \quad (\text{Eq. 1})$$

~~Where:~~

~~C<sub>adj</sub> = pollutant concentration adjusted to 7 percent oxygen;~~

~~C<sub>meas</sub> = pollutant concentration measured on a dry basis;~~

~~(20.9 - 7) = 20.9 percent oxygen - 7 percent oxygen (defined oxygen correction basis);~~

~~20.9 = oxygen concentration in air, percent; and~~

~~%O<sub>2</sub> = oxygen concentration measured on a dry basis, percent.~~

- ~~(g) You must determine dioxins/furans toxic equivalency by following the procedures in paragraphs (g)(1) through (3) of this section.~~
  - ~~(1) Measure the concentration of each dioxin/furan tetra- through octa-congener emitted using EPA Method 23.~~
  - ~~(2) For each dioxin/furan congener measured in accordance with paragraph (g)(1) of this section, multiply the congener concentration by its corresponding toxic equivalency factor specified in Table 4 of this subpart.~~
  - ~~(3) Sum the products calculated in accordance with paragraph (g)(2) of this section to obtain the total concentration of dioxins/furans emitted in terms of toxic equivalency.~~

~~Sec. 60.2695 How are the performance test data used?~~

~~You use results of performance tests to demonstrate compliance with the emission limitations in Table 2 of this subpart.~~

~~Model Rule--Initial Compliance Requirements~~

~~Sec. 60.2700 How do I demonstrate initial compliance with the emission limitations and establish the operating limits?~~

~~You must conduct an initial performance test, as required under Sec. 60.8, to determine compliance with the emission limitations in Table 2 of this subpart and to establish operating limits using the procedure in Sec. 60.2675~~

~~or Sec. 60.2680. The initial performance test must be conducted using the test methods listed in Table 2 of this subpart and the procedures in Sec. 60.2690.~~

~~Sec. 60.2705 By what date must I conduct the initial performance test?~~

~~The initial performance test must be conducted no later than 180 days after your final compliance date. Your final compliance date is specified in Table 1 of this subpart.~~

#### ~~Model Rule—Continuous Compliance Requirements~~

~~Sec. 60.2710 How do I demonstrate continuous compliance with the emission limitations and the operating limits?~~

~~(a) You must conduct an annual performance test for particulate matter, hydrogen chloride, and opacity for each CISWI unit as required under Sec. 60.8 to determine compliance with the emission limitations. The annual performance test must be conducted using the test methods listed in Table 2 of this subpart and the procedures in Sec. 60.2690.~~

~~(b) You must continuously monitor the operating parameters specified in Sec. 60.2675 or established under Sec. 60.2680. Operation above the established maximum or below the established minimum operating limits constitutes a deviation from the established operating limits. Three-hour rolling average values are used to determine compliance (except for baghouse leak detection system alarms) unless a different averaging period is established under Sec. 60.2680. Operating limits do not apply during performance tests.~~

~~(c) You must only burn the same types of waste used to establish operating limits during the performance test.~~

~~Sec. 60.2715 By what date must I conduct the annual performance test?~~

~~You must conduct annual performance tests for particulate matter, hydrogen chloride, and opacity within 12 months following the initial performance test. Conduct subsequent annual performance tests within 12 months following the previous one.~~

~~Sec. 60.2720 May I conduct performance testing less often?~~

~~(a) You can test less often for a given pollutant if you have test data for at least 3 years, and all performance tests for the pollutant (particulate matter, hydrogen chloride, or opacity) over 3 consecutive years show that you comply with the emission limitation. In this case, you do not have to conduct a performance test for that pollutant for the next 2 years. You must conduct a performance test during the third year and no more than 36 months following the previous performance test.~~

~~(b) If your CISWI unit continues to meet the emission limitation for particulate matter, hydrogen chloride, or opacity, you may choose to conduct performance tests for these pollutants every third year, but each test must be within 36 months of the previous performance test.~~

~~(c) If a performance test shows a deviation from an emission limitation for particulate matter, hydrogen chloride, or opacity, you must conduct annual performance tests for that pollutant until all performance tests over a 3-year period show compliance.~~

~~Sec. 60.2725 May I conduct a repeat performance test to establish new operating limits?~~

~~(a) Yes. You may conduct a repeat performance test at any time to establish new values for the operating limits. The Administrator may request a repeat performance test at any time.~~

~~(b) You must repeat the performance test if your feed stream is different than the feed streams used during any performance test used to demonstrate compliance.~~

#### ~~Model Rule—Monitoring~~

~~Sec. 60.2730 What monitoring equipment must I install and what parameters must I monitor?~~

~~(a) If you are using a wet scrubber to comply with the emission limitation under Sec. 60.2670, you must install, calibrate (to manufacturers' specifications), maintain, and operate devices (or establish methods) for~~

~~monitoring the value of the operating parameters used to determine compliance with the operating limits listed in Table 3 of this subpart. These devices (or methods) must measure and record the values for these operating parameters at the frequencies indicated in Table 3 of this subpart at all times except as specified in Sec. 60.2735(a).~~

- ~~(b) If you use a fabric filter to comply with the requirements of this subpart, you must install, calibrate, maintain, and continuously operate a bag leak detection system as specified in paragraphs (b)(1) through (8) of this section.
  - ~~(1) You must install and operate a bag leak detection system for each exhaust stack of the fabric filter.~~
  - ~~(2) Each bag leak detection system must be installed, operated, calibrated, and maintained in a manner consistent with the manufacturer's written specifications and recommendations.~~
  - ~~(3) The bag leak detection system must be certified by the manufacturer to be capable of detecting particulate matter emissions at concentrations of 10 milligrams per actual cubic meter or less.~~
  - ~~(4) The bag leak detection system sensor must provide output of relative or absolute particulate matter loadings.~~
  - ~~(5) The bag leak detection system must be equipped with a device to continuously record the output signal from the sensor.~~
  - ~~(6) The bag leak detection system must be equipped with an alarm system that will sound automatically when an increase in relative particulate matter emissions over a preset level is detected. The alarm must be located where it is easily heard by plant operating personnel.~~
  - ~~(7) For positive pressure fabric filter systems, a bag leak detection system must be installed in each baghouse compartment or cell. For negative pressure or induced air fabric filters, the bag leak detector must be installed downstream of the fabric filter.~~
  - ~~(8) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.~~~~
- ~~(c) If you are using something other than a wet scrubber to comply with the emission limitations under Sec. 60.2670, you must install, calibrate (to the manufacturers' specifications), maintain, and operate the equipment necessary to monitor compliance with the site-specific operating limits established using the procedures in Sec. 60.2680.~~

~~Sec. 60.2735 Is there a minimum amount of monitoring data I must obtain?~~

- ~~(a) Except for monitoring malfunctions, associated repairs, and required quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments of the monitoring system), you must conduct monitoring at all times the CISWI unit is operating.~~
- ~~(b) Do not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or quality control activities for meeting the requirements of this subpart, including data averages and calculations. You must use all the data collected during all other periods in assessing compliance with the operating limits.~~

#### ~~Model Rule--Recordkeeping and Reporting~~

~~Sec. 60.2740 What records must I keep?~~

~~You must maintain the 13 items (as applicable) as specified in paragraphs (a) through (m) of this section for a period of at least 5 years:~~

- ~~(a) Calendar date of each record.~~
- ~~(b) Records of the data described in paragraphs (b)(1) through (6) of this section:~~

- ~~(1) The CISWI unit charge dates, times, weights, and hourly charge rates.~~
- ~~(2) Liquor flow rate to the wet scrubber inlet every 15 minutes of operation, as applicable.~~
- ~~(3) Pressure drop across the wet scrubber system every 15 minutes of operation or amperage to the wet scrubber every 15 minutes of operation, as applicable.~~
- ~~(4) Liquor pH as introduced to the wet scrubber every 15 minutes of operation, as applicable.~~
- ~~(5) For affected CISWI units that establish operating limits for controls other than wet scrubbers under Sec. 60.2680, you must maintain data collected for all operating parameters used to determine compliance with the operating limits.~~
- ~~(6) If a fabric filter is used to comply with the emission limitations, you must record the date, time, and duration of each alarm and the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action taken. You must also record the percent of operating time during each 6-month period that the alarm sounds, calculated as specified in Sec. 60.2675(c).~~
- ~~(c) Identification of calendar dates and times for which monitoring systems used to monitor operating limits were inoperative, inactive, malfunctioning, or out of control (except for downtime associated with zero and span and other routine calibration checks). Identify the operating parameters not measured, the duration, reasons for not obtaining the data, and a description of corrective actions taken.~~
- ~~(d) Identification of calendar dates, times, and durations of malfunctions, and a description of the malfunction and the corrective action taken.~~
- ~~(e) Identification of calendar dates and times for which data show a deviation from the operating limits in Table 3 of this subpart or a deviation from other operating limits established under Sec. 60.2680 with a description of the deviations, reasons for such deviations, and a description of corrective actions taken.~~
- ~~(f) The results of the initial, annual, and any subsequent performance tests conducted to determine compliance with the emission limits and/or to establish operating limits, as applicable. Retain a copy of the complete test report including calculations.~~
- ~~(g) Records showing the names of CISWI unit operators who have completed review of the information in Sec. 60.2660(a) as required by Sec. 60.2660(b), including the date of the initial review and all subsequent annual reviews.~~
- ~~(h) Records showing the names of the CISWI operators who have completed the operator training requirements under Sec. 60.2635, met the criteria for qualification under Sec. 60.2645, and maintained or renewed their qualification under Sec. 60.2650 or Sec. 60.2655. Records must include documentation of training, the dates of the initial and refresher training, and the dates of their qualification and all subsequent renewals of such qualifications.~~
- ~~(i) For each qualified operator, the phone and/or pager number at which they can be reached during operating hours.~~
- ~~(j) Records of calibration of any monitoring devices as required under Sec. 60.2730.~~
- ~~(k) Equipment vendor specifications and related operation and maintenance requirements for the incinerator, emission controls, and monitoring equipment.~~
- ~~(l) The information listed in Sec. 60.2660(a).~~
- ~~(m) On a daily basis, keep a log of the quantity of waste burned and the types of waste burned (always required).~~

~~Sec. 60.2745 Where and in what format must I keep my records?~~

~~All records must be available onsite in either paper copy or computer-readable format that can be printed upon request, unless an alternative format is approved by the Administrator.~~

~~Sec. 60.2750 What reports must I submit?~~

~~See Table 5 of this subpart for a summary of the reporting requirements.~~

~~Sec. 60.2755 When must I submit my waste management plan?~~

~~You must submit the waste management plan no later than the date specified in Table 1 of this subpart for submittal of the final control plan.~~

~~Sec. 60.2760 What information must I submit following my initial performance test?~~

~~You must submit the information specified in paragraphs (a) through (c) of this section no later than 60 days following the initial performance test. All reports must be signed by the facilities manager.~~

~~(a) The complete test report for the initial performance test results obtained under Sec. 60.2700, as applicable.~~

~~(b) The values for the site-specific operating limits established in Sec. 60.2675 or Sec. 60.2680.~~

~~(c) If you are using a fabric filter to comply with the emission limitations, documentation that a bag leak detection system has been installed and is being operated, calibrated, and maintained as required by Sec. 60.2730(b).~~

~~Sec. 60.2765 When must I submit my annual report?~~

~~You must submit an annual report no later than 12 months following the submission of the information in Sec. 60.2760. You must submit subsequent reports no more than 12 months following the previous report. (If the unit is subject to permitting requirements under title V of the Clean Air Act, you may be required by the permit to submit these reports more frequently.)~~

~~Sec. 60.2770 What information must I include in my annual report?~~

~~The annual report required under Sec. 60.2765 must include the ten items listed in paragraphs (a) through (j) of this section. If you have a deviation from the operating limits or the emission limitations, you must also submit deviation reports as specified in Secs. 60.2775, 60.2780, and 60.2785.~~

~~(a) Company name and address.~~

~~(b) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.~~

~~(c) Date of report and beginning and ending dates of the reporting period.~~

~~(d) The values for the operating limits established pursuant to Sec. 60.2675 or Sec. 60.2680.~~

~~(e) If no deviation from any emission limitation or operating limit that applies to you has been reported, a statement that there was no deviation from the emission limitations or operating limits during the reporting period, and that no monitoring system used to determine compliance with the operating limits was inoperative, inactive, malfunctioning or out of control.~~

~~(f) The highest recorded 3-hour average and the lowest recorded 3-hour average, as applicable, for each operating parameter recorded for the calendar year being reported.~~

~~(g) Information recorded under Sec. 60.2740(b)(6) and (c) through (e) for the calendar year being reported.~~

~~(h) If a performance test was conducted during the reporting period, the results of that test.~~

~~(i) If you met the requirements of Sec. 60.2720(a) or (b), and did not conduct a performance test during the reporting period, you must state that you met the requirements of Sec. 60.2720(a) or (b), and, therefore, you were not required to conduct a performance test during the reporting period.~~



~~(j) Documentation of periods when all qualified CISWI unit operators were unavailable for more than 8 hours, but less than 2 weeks.~~

~~Sec. 60.2775 What else must I report if I have a deviation from the operating limits or the emission limitations?~~

~~(a) You must submit a deviation report if any recorded 3-hour average parameter level is above the maximum operating limit or below the minimum operating limit established under this subpart, if the bag leak detection system alarm sounds for more than 5 percent of the operating time for the 6-month reporting period, or if a performance test was conducted that deviated from any emission limitation.~~

~~(b) The deviation report must be submitted by August 1 of that year for data collected during the first half of the calendar year (January 1 to June 30), and by February 1 of the following year for data you collected during the second half of the calendar year (July 1 to December 31).~~

~~Sec. 60.2780 What must I include in the deviation report?~~

~~In each report required under Sec. 60.2775, for any pollutant or parameter that deviated from the emission limitations or operating limits specified in this subpart, include the six items described in paragraphs (a) through (f) of this section.~~

~~(a) The calendar dates and times your unit deviated from the emission limitations or operating limit requirements.~~

~~(b) The averaged and recorded data for those dates.~~

~~(c) Duration and causes of each deviation from the emission limitations or operating limits and your corrective actions.~~

~~(d) A copy of the operating limit monitoring data during each deviation and any test report that documents the emission levels.~~

~~(e) The dates, times, number, duration, and causes for monitoring downtime incidents (other than downtime associated with zero, span, and other routine calibration checks).~~

~~(f) Whether each deviation occurred during a period of startup, shutdown, or malfunction, or during another period.~~

~~Sec. 60.2785 What else must I report if I have a deviation from the requirement to have a qualified operator accessible?~~

~~(a) If all qualified operators are not accessible for 2 weeks or more, you must take the two actions in paragraphs (a)(1) and (2) of this section.~~

~~(1) Submit a notification of the deviation within 10 days that includes the three items in paragraphs (a)(1)(i) through (iii) of this section.~~

~~(i) A statement of what caused the deviation.~~

~~(ii) A description of what you are doing to ensure that a qualified operator is accessible.~~

~~(iii) The date when you anticipate that a qualified operator will be available.~~

~~(2) Submit a status report to the Administrator every 4 weeks that includes the three items in paragraphs (a)(2)(i) through (iii) of this section.~~

~~(i) A description of what you are doing to ensure that a qualified operator is accessible.~~

~~(ii) The date when you anticipate that a qualified operator will be accessible.~~

~~(iii) Request approval from the Administrator to continue operation of the CISWI unit.~~

~~(b) — If your unit was shut down by the Administrator, under the provisions of Sec. 60.2665(b)(2), due to a failure to provide an accessible qualified operator, you must notify the Administrator that you are resuming operation once a qualified operator is accessible.~~

~~Sec. 60.2790 — Are there any other notifications or reports that I must submit?~~

~~Yes. You must submit notifications as provided by Sec. 60.7.~~

~~Sec. 60.2795 — In what form can I submit my reports?~~

~~Submit initial, annual, and deviation reports electronically or in paper format, postmarked on or before the submittal due dates.~~

~~Sec. 60.2800 — Can reporting dates be changed?~~

~~If the Administrator agrees, you may change the semiannual or annual reporting dates. See Sec. 60.19(c) for procedures to seek approval to change your reporting date.~~

#### ~~Model Rule—Title V Operating Permits~~

~~Sec. 60.2805 — Am I required to apply for and obtain a title V operating permit for my unit?~~

~~Yes. Each CISWI unit must operate pursuant to a permit issued under section 129(e) and title V of the Clean Air Act by the later of the two dates in paragraphs (a) and (b) of this section.~~

~~(a) — Thirty-six months after December 1, 2000.~~

~~(b) — The effective date of the title V permit program to which your unit is subject. If your unit is subject to title V as a result of some triggering requirement(s) other than this subpart (for example, being a major source), then your unit may be required to apply for and obtain a title V permit prior to the deadlines noted above. If more than one requirement triggers the requirement to apply for a title V permit, the 12-month timeframe for filing a title V application is triggered by the requirement which first causes the source to be subject to title V.~~

#### ~~Model Rule—Air Curtain Incinerators~~

~~Sec. 60.2810 — What is an air curtain incinerator?~~

~~(a) — An air curtain incinerator operates by forcefully projecting a curtain of air across an open chamber or open pit in which combustion occurs. Incinerators of this type can be constructed above or below ground and with or without refractory walls and floor. (Air curtain incinerators are not to be confused with conventional combustion devices with enclosed fireboxes and controlled air technology such as mass burn, modular, and fluidized bed combustors.)~~

~~(b) — Air curtain incinerators that burn only the materials listed in paragraphs (b)(1) through (3) of this section are only required to meet the requirements under "Air Curtain Incinerators" (Secs. 60.2810 through 60.2870).~~

~~(1) — 100 percent wood waste.~~

~~(2) — 100 percent clean lumber.~~

~~(3) — 100 percent mixture of only wood waste, clean lumber, and/or yard waste.~~

~~Sec. 60.2815 — What are my requirements for meeting increments of progress and achieving final compliance?~~

~~If you plan to achieve compliance more than 1 year following the effective date of State plan approval, you must meet the two increments of progress specified in paragraphs (a) and (b) of this section.~~

~~(a) — Submit a final control plan.~~

~~(b) — Achieve final compliance.~~

~~Sec. 60.2820 When must I complete each increment of progress?~~

~~Table 1 of this subpart specifies compliance dates for each of the increments of progress.~~

~~Sec. 60.2825 What must I include in the notifications of achievement of increments of progress?~~

~~Your notification of achievement of increments of progress must include the three items described in paragraphs (a) through (c) of this section.~~

~~(a) Notification that the increment of progress has been achieved.~~

~~(b) Any items required to be submitted with each increment of progress (see Sec. 60.2840).~~

~~(c) Signature of the owner or operator of the incinerator.~~

~~Sec. 60.2830 When must I submit the notifications of achievement of increments of progress?~~

~~Notifications for achieving increments of progress must be postmarked no later than 10 business days after the compliance date for the increment.~~

~~Sec. 60.2835 What if I do not meet an increment of progress?~~

~~If you fail to meet an increment of progress, you must submit a notification to the Administrator postmarked within 10 business days after the date for that increment of progress in Table 1 of this subpart. You must inform the Administrator that you did not meet the increment, and you must continue to submit reports each subsequent calendar month until the increment of progress is met.~~

~~Sec. 60.2840 How do I comply with the increment of progress for submittal of a control plan?~~

~~For your control plan increment of progress, you must satisfy the two requirements specified in paragraphs (a) and (b) of this section.~~

~~(a) Submit the final control plan, including a description of any devices for air pollution control and any process changes that you will use to comply with the emission limitations and other requirements of this subpart.~~

~~(b) Maintain an onsite copy of the final control plan.~~

~~Sec. 60.2845 How do I comply with the increment of progress for achieving final compliance?~~

~~For the final compliance increment of progress, you must complete all process changes and retrofit construction of control devices, as specified in the final control plan, so that, if the affected incinerator is brought online, all necessary process changes and air pollution control devices would operate as designed.~~

~~Sec. 60.2850 What must I do if I close my air curtain incinerator and then restart it?~~

~~(a) If you close your incinerator but will reopen it prior to the final compliance date in your State plan, you must meet the increments of progress specified in Sec. 60.2815.~~

~~(b) If you close your incinerator but will restart it after your final compliance date, you must complete emission control retrofits and meet the emission limitations on the date your incinerator restarts operation.~~

~~Sec. 60.2855 What must I do if I plan to permanently close my air curtain incinerator and not restart it?~~

~~If you plan to close your incinerator rather than comply with the State plan, submit a closure notification, including the date of closure, to the Administrator by the date your final control plan is due.~~

~~Sec. 60.2860 What are the emission limitations for air curtain incinerators?~~

~~(a) After the date the initial stack test is required or completed (whichever is earlier), you must meet the limitations in paragraphs (a)(1) and (2) of this section.~~

~~(1) The opacity limitation is 10 percent (6-minute average), except as described in paragraph (a)(2) of this section.~~

~~(2) The opacity limitation is 35 percent (6-minute average) during the startup period that is within the first 30 minutes of operation.~~

~~(b) Except during malfunctions, the requirements of this subpart apply at all times, and each malfunction must not exceed 3 hours.~~

~~Sec. 60.2865 How must I monitor opacity for air curtain incinerators?~~

~~(a) Use Method 9 of appendix A of this part to determine compliance with the opacity limitation.~~

~~(b) Conduct an initial test for opacity as specified in Sec. 60.8 no later than 180 days after your final compliance date.~~

~~(c) After the initial test for opacity, conduct annual tests no more than 12 calendar months following the date of your previous test.~~

~~Sec. 60.2870 What are the recordkeeping and reporting requirements for air curtain incinerators?~~

~~(a) Keep records of results of all initial and annual opacity tests onsite in either paper copy or electronic format, unless the Administrator approves another format, for at least 5 years.~~

~~(b) Make all records available for submittal to the Administrator or for an inspector's onsite review.~~

~~(c) Submit an initial report no later than 60 days following the initial opacity test that includes the information specified in paragraphs (c) (1) and (2) of this section.~~

~~(1) The types of materials you plan to combust in your air curtain incinerator.~~

~~(2) The results (each 6-minute average) of the initial opacity tests.~~

~~(d) Submit annual opacity test results within 12 months following the previous report.~~

~~(e) Submit initial and annual opacity test reports as electronic or paper copy on or before the applicable submittal date and keep a copy onsite for a period of 5 years.~~

#### ~~Model Rule—Definitions~~

~~Sec. 60.2875 What definitions must I know?~~

~~Terms used but not defined in this subpart are defined in the Clean Air Act and subparts A and B of this part.~~

~~Administrator means the Administrator of the U.S. Environmental Protection Agency or his/her authorized representative or Administrator of a State Air Pollution Control Agency.~~

~~Agricultural waste means vegetative agricultural materials such as nut and grain hulls and chaff (e.g., almond, walnut, peanut, rice, and wheat), bagasse, orchard prunings, corn stalks, coffee bean hulls and grounds, and other vegetative waste materials generated as a result of agricultural operations.~~

~~Air curtain incinerator means an incinerator that operates by forcefully projecting a curtain of air across an open chamber or pit in which combustion occurs. Incinerators of this type can be constructed above or below ground and with or without refractory walls and floor. (Air curtain incinerators are not to be confused with conventional combustion devices with enclosed fireboxes and controlled air technology such as mass burn, modular, and fluidized bed combustors.)~~

~~Auxiliary fuel means natural gas, liquified petroleum gas, fuel oil, or diesel fuel.~~

~~Bag leak detection system means an instrument that is capable of monitoring particulate matter loadings in the exhaust of a fabric filter (i.e., baghouse) in order to detect bag failures. A bag leak detection system includes, but is not limited to, an instrument that operates on triboelectric, light scattering, light transmittance, or other principle to monitor relative particulate matter loadings.~~

~~Calendar quarter means three consecutive months (nonoverlapping) beginning on: January 1, April 1, July 1, or October 1.~~

~~Calendar year means 365 consecutive days starting on January 1 and ending on December 31.~~

~~Chemotherapeutic waste means waste material resulting from the production or use of antineoplastic agents used for the purpose of stopping or reversing the growth of malignant cells.~~

~~Clean lumber means wood or wood products that have been cut or shaped and include wet, air-dried, and kiln-dried wood products. Clean lumber does not include wood products that have been painted, pigment-stained, or pressure-treated by compounds such as chromate copper arsenate, pentachlorophenol, and creosote.~~

~~Commercial and industrial solid waste incineration (CISWI) unit means any combustion device that combusts commercial and industrial waste, as defined in this subpart. The boundaries of a CISWI unit are defined as, but not limited to, the commercial or industrial solid waste fuel feed system, grate system, flue gas system, and bottom ash. The CISWI unit does not include air pollution control equipment or the stack. The CISWI unit boundary starts at the commercial and industrial solid waste hopper (if applicable) and extends through two areas:~~

- ~~(1) — The combustion unit flue gas system, which ends immediately after the last combustion chamber.~~
- ~~(2) — The combustion unit bottom ash system, which ends at the truck loading station or similar equipment that transfers the ash to final disposal. It includes all ash handling systems connected to the bottom ash handling system.~~

~~Commercial and industrial waste means solid waste combusted in an enclosed device using controlled flame combustion without energy recovery that is a distinct operating unit of any commercial or industrial facility (including field-erected, modular, and custom-built incineration units operating with starved or excess air), or solid waste combusted in an air curtain incinerator without energy recovery that is a distinct operating unit of any commercial or industrial facility.~~

~~Contained gaseous material means gases that are in a container when that container is combusted.~~

~~Cyclonic barrel burner means a combustion device for waste materials that is attached to a 55-gallon, open-head drum. The device consists of a lid, which fits onto and encloses the drum, and a blower that forces combustion air into the drum in a cyclonic manner to enhance the mixing of waste material and air.~~

~~Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:~~

- ~~(1) — Fails to meet any requirement or obligation established by this subpart, including but not limited to any emission limitation, operating limit, or operator qualification and accessibility requirements;~~
- ~~(2) — Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or~~
- ~~(3) — Fails to meet any emission limitation, operating limit, or operator qualification and accessibility requirement in this subpart during startup, shutdown, or malfunction, regardless of whether or not such failure is permitted by this subpart.~~

~~Dioxins/furans means tetra-through octachlorinated dibenzo-p-dioxins and dibenzofurans.~~

~~Discard means, for purposes of this subpart and 40 CFR part 60, subpart DDDD, only, burned in an incineration unit without energy recovery.~~

~~Drum reclamation unit means a unit that burns residues out of drums (e.g., 55-gallon drums) so that the drums can be reused.~~

~~Energy recovery means the process of recovering thermal energy from combustion for useful purposes such as steam generation or process heating.~~

~~Fabric filter means an add-on air pollution control device used to capture particulate matter by filtering gas streams through filter media, also known as a baghouse.~~

~~Low-level radioactive waste means waste material which contains radioactive nuclides emitting primarily beta or gamma radiation, or both, in concentrations or quantities that exceed applicable Federal or State standards for unrestricted release. Low-level radioactive waste is not high-level radioactive waste, spent nuclear fuel, or by-product material as defined by the Atomic Energy Act of 1954 (42 U.S.C. 2014(e)(2)).~~

~~Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused, in part, by poor maintenance or careless operation are not malfunctions.~~

~~Modification or modified CISWI unit means a CISWI unit you have changed later than June 1, 2001 and that meets one of two criteria:~~

~~(1) The cumulative cost of the changes over the life of the unit exceeds 50 percent of the original cost of building and installing the CISWI unit (not including the cost of land) updated to current costs (current dollars). To determine what systems are within the boundary of the CISWI unit used to calculate these costs, see the definition of CISWI unit.~~

~~(2) Any physical change in the CISWI unit or change in the method of operating it that increases the amount of any air pollutant emitted for which section 129 or section 111 of the Clean Air Act has established standards.~~

~~Part reclamation unit means a unit that burns coatings off parts (e.g., tools, equipment) so that the parts can be reconditioned and reused.~~

~~Particulate matter means total particulate matter emitted from CISWI units as measured by Method 5 or Method 20 of appendix A of this part.~~

~~Pathological waste means waste material consisting of only human or animal remains, anatomical parts, and/or tissue, the bags/containers used to collect and transport the waste material, and animal bedding (if applicable).~~

~~Rack reclamation unit means a unit that burns the coatings off racks used to hold small items for application of a coating. The unit burns the coating overspray off the rack so the rack can be reused.~~

~~Reconstruction means rebuilding a CISWI unit and meeting two criteria:~~

~~(1) The reconstruction begins on or after June 1, 2001.~~

~~(2) The cumulative cost of the construction over the life of the incineration unit exceeds 50 percent of the original cost of building and installing the CISWI unit (not including land) updated to current costs (current dollars). To determine what systems are within the boundary of the CISWI unit used to calculate these costs, see the definition of CISWI unit.~~

~~Refuse-derived fuel means a type of municipal solid waste produced by processing municipal solid waste through shredding and size classification. This includes all classes of refuse-derived fuel including two fuels:~~

~~(1) Low-density fluff refuse-derived fuel through densified refuse-derived fuel.~~

~~(2) Pelletized refuse-derived fuel.~~

~~Shutdown means the period of time after all waste has been combusted in the primary chamber.~~

~~Solid waste means any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, agricultural operations, and from community activities, but~~

does not include solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to permits under section 402 of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1342), or source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954, as amended (42 U.S.C. 2014). For purposes of this subpart and subpart CCGC, only, solid waste does not include the waste burned in the fifteen types of units described in Sec. 60.2555.

Standard conditions, when referring to units of measure, means a temperature of 68 deg.F (20 deg.C) and a pressure of 1 atmosphere (101.3 kilopascals).

Startup period means the period of time between the activation of the system and the first charge to the unit.

Wet scrubber means an add-on air pollution control device that utilizes an aqueous or alkaline scrubbing liquor to collect particulate matter (including nonvaporous metals and condensed organics) and/or to absorb and neutralize acid gases.

Wood waste means untreated wood and untreated wood products, including tree stumps (whole or chipped), trees, tree limbs (whole or chipped), bark, sawdust, chips, scraps, slabs, millings, and shavings. Wood waste does not include:

- (1) Grass, grass clippings, bushes, shrubs, and clippings from bushes and shrubs from residential, commercial/retail, institutional, or industrial sources as part of maintaining yards or other private or public lands.
- (2) Construction, renovation, or demolition wastes.
- (3) Clean lumber.

~~Table 1 to Subpart DDDD--Model Rule--Increments of Progress and Compliance Schedules~~

| <del>Comply with these increments of progress</del> | <del>By these dates</del> \a\                        |
|---|--|
| <del>Increment 1--Submit final control plan</del>   | <del>(Dates to be specified in State plan)</del>     |
| <del>Increment 2--Final compliance</del>            | <del>(Dates to be specified in State plan) \b\</del> |

~~\a\ Site-specific schedules can be used at the discretion of the State.~~

~~\b\ The date can be no later than 3 years after the effective date of State plan approval or December 1, 2005.~~

~~Table 2 to Subpart DDDD--Model Rule--Emission Limitations~~

| <del>For the air pollutant</del>                    | <del>You must meet this emission limitation</del> \a\    | <del>Using this averaging time</del>                          | <del>And determining compliance using this method</del>                          |
|---|--|---|--|
| <del>Cadmium</del>                                  | <del>0.004 milligrams per dry standard cubic meter</del> | <del>3-run average (1 hour minimum sample time per run)</del> | <del>Performance test (Method 29 of appendix A of this part)</del>               |
| <del>Carbon monoxide</del>                          | <del>157 parts per million by dry volume</del>           | <del>3-run average (1 hour minimum sample time per run)</del> | <del>Performance test (Method 10, 10A, or 10B, of appendix A of this part)</del> |
| <del>Dioxins/furans (toxic equivalency basis)</del> | <del>0.41 nanograms per dry standard cubic meter</del>   | <del>3-run average (1 hour minimum sample time per run)</del> | <del>Performance test (Method 23 of appendix A of this part)</del>               |

|                    |  |  |  |
|--------------------|--|--|--|
| Hydrogen chloride  | 62 parts per million by dry volume           | 3-run average (1 hour minimum sample time per run) | Performance test (Method 26A of appendix A of this part)                   |
| Lead               | 0.04 milligrams per dry standard cubic meter | 3-run average (1 hour minimum sample time per run) | Performance test (Method 29 of appendix A of this part)                    |
| Mercury            | 0.47 milligrams per dry standard cubic meter | 3-run average (1 hour minimum sample time per run) | Performance test (Method 29 of appendix A of this part)                    |
| Opacity            | 10 percent                                   | 6-minute averages                                  | Performance test (Method 9 of appendix A of this part)                     |
| Oxides of nitrogen | 388 parts per million by dry volume          | 3-run average (1 hour minimum sample time per run) | Performance test (Methods 7, 7A, 7C, 7D, or 7E of appendix A of this part) |
| Particulate matter | 70 milligrams per dry standard cubic meter   | 3-run average (1 hour minimum sample time per run) | Performance test (Method 5 or 29 of appendix A of this part)               |
| Sulfur dioxide     | 20 parts per million by dry volume           | 3-run average (1 hour minimum sample time per run) | Performance test (Method 6 or 6c of appendix A of this part)               |

All emission limitations (except for opacity) are measured at 7 percent oxygen, dry basis at standard conditions.

Table 3 to Subpart DDDD--Model Rule--Operating Limits for Wet Scrubbers

| For these operating parameters                                    | You must establish these operating limits | And monitor using these minimum frequencies |                  |  |
|---|---|---|------------------|--|
|   |   | Data measurement                            | Data recording   | Averaging time   |
| Charge rate   | Maximum charge rate                       | Continuous                                  | Every hour       | Daily (batch units) 3-hour rolling (continuous and intermittent units) |
| Pressure drop across the wet scrubber or amperage to wet scrubber | Minimum pressure drop or amperage         | Continuous                                  | Every 15 minutes | 3-hour rolling   |
| Scrubber liquor flow rate   | Minimum flow rate                         | Continuous                                  | Every 15 minutes | 3-hour rolling   |
| Scrubber liquor pH  | Minimum pH                                | Continuous                                  | Every 15 minutes | 3-hour rolling   |

Calculated each hour as the average of the previous 3 operating hours.



Table 4 to Subpart DDDD--Model Rule--Toxic Equivalency Factors

| Dioxin/furan congener                           | Toxic equivalency factor |
|---|--------------------------|
| 2,3,7,8-tetrachlorinated dibenzo-p-dioxin       | 1                        |
| 1,2,3,7,8-pentachlorinated dibenzo-p-dioxin     | 0.5                      |
| 1,2,3,4,7,8-hexachlorinated dibenzo-p-dioxin    | 0.1                      |
| 1,2,3,7,8,9-hexachlorinated dibenzo-p-dioxin    | 0.1                      |
| 1,2,3,6,7,8-hexachlorinated dibenzo-p-dioxin    | 0.1                      |
| 1,2,3,4,6,7,8-heptachlorinated dibenzo-p-dioxin | 0.01                     |
| octachlorinated dibenzo-p-dioxin                | 0.001                    |
| 2,3,7,8-tetrachlorinated dibenzofuran           | 0.1                      |
| 2,3,4,7,8-pentachlorinated dibenzofuran         | 0.5                      |
| 1,2,3,7,8-pentachlorinated dibenzofuran         | 0.05                     |
| 1,2,3,4,7,8-hexachlorinated dibenzofuran        | 0.1                      |
| 1,2,3,6,7,8-hexachlorinated dibenzofuran        | 0.1                      |
| 1,2,3,7,8,9-hexachlorinated dibenzofuran        | 0.1                      |
| 2,3,4,6,7,8-hexachlorinated dibenzofuran        | 0.1                      |
| 1,2,3,4,6,7,8-heptachlorinated dibenzofuran     | 0.01                     |
| 1,2,3,4,7,8,9-heptachlorinated dibenzofuran     | 0.01                     |
| octachlorinated dibenzofuran                    | 0.001                    |

Table 5 to Subpart DDDD--Model Rule--Summary of Reporting Requirements-a

| Report                | Due date  | Contents  | Reference                 |
|-----------------------|---|---|---------------------------|
| Waste Management Plan | No later than the date specified in table 1 for submittal of the final control plan.  | Waste management plan.  | Sec. 60.2755.             |
| Initial Test Report   | No later than 60 days following the initial performance test  | Complete test report for the initial performance test. The values for the site-specific operating limits. Installation of bag leak detection systems for fabric filters.  | Sec. 60.2760.             |
| Annual Report         | No later than 12 months following the submission of the initial test report. Subsequent reports are to be submitted no more than 12 months following the previous report. | Name and address. Statement and signature by responsible official. Date of report. Values for the operating limits. If no deviations or malfunctions were reported, a statement that no deviations occurred during the reporting period. Highest recorded 3-hour average and the lowest 3-hour average, as applicable, for each operating parameter recorded for the calendar year being reported. Information for deviations or malfunctions recorded under Sec. 60.2740(b)(6) and (c) through (e). If a performance test was conducted during the reporting period, the results of the test. If a performance test was not conducted during the reporting period, a statement | Secs. 60.2765 and 60.2770 |

that the requirements of Sec. 60.2155(a) or (b) were met. Documentation of periods when all qualified CISWI unit operators were unavailable for more than 8 hours but less than 2 weeks.

~~Emission Limitation or Operating Limit Deviation Report~~ ~~By August 1 of that year for data collected during the first half of the calendar year. By February 1 of the following year for data collected during the second half of the calendar year.~~ ~~Dates and times of deviations. Averaged and recorded data for these dates. Duration and causes for each deviation and the corrective actions taken. Copy of operating limit monitoring data and any test reports. Dates, times, and causes for monitor downtime incidents. Whether each deviation occurred during a period of startup, shutdown, or malfunction.~~ ~~Secs. 60.2775 and 60.2780~~

~~Qualified Operator Deviation Notification~~ ~~Within 10 days of deviation~~ ~~Statement of cause of deviation. Description of efforts to have an accessible qualified operator. The date a qualified operator will be accessible.~~ ~~Sec. 60.2785(a)(1)~~

~~Qualified Operator Deviation Status Report~~ ~~Every 4 weeks following deviation~~ ~~Description of efforts to have an accessible qualified operator. The date a qualified operator will be accessible. Request for approval to continue operation.~~ ~~Sec. 60.2785(a)(2)~~

~~Qualified Operator Deviation And Notification of Resumed Operation~~ ~~Prior to resuming operation~~ ~~Notification that you are resuming operation~~ ~~Sec. 60.2785(b)~~

~~\a\ This table is only a summary, see the referenced sections of the rule for the complete requirements.~~

Authority: §§ 68-201-101 et seq. and 4-5-201 et seq.

Chapter 1200-03-09  
Construction and Operating Permits

Amendments

Subparagraph (d) of paragraph (2) of Rule 1200-03-09-.01 Construction Permits is amended by deleting it in its entirety and substituting instead the following:

- (d) “Best available control technology (BACT)” means an emission limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to regulation under these rules ~~which that~~ would be emitted from any proposed new or modified air contaminant source which the Technical Secretary, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant. In no event shall application of best available control technology result in emissions of any pollutant ~~which that~~ would exceed the emissions allowed by any applicable standard under Chapters 0400-30-38 ~~and 1200-03-16 or 0400-30-39~~ of these rules. If the Technical Secretary determines that technological or economic limitations on the application of measurement methodology to a particular class of sources would make the imposition of an emission standard infeasible, a design, equipment, work practice, or operational standard, or combination thereof, may be prescribed instead to require the application of best available control technology. Such standard ~~shall must~~, to the degree possible, set forth the emission reduction achievable by implementation of such design, equipment, work practice, or operation, and ~~shall must~~ provide for compliance by means ~~which that~~ achieve equivalent results. This definition does not apply to major sources and major modifications, as defined in subparagraph (4)(b) of this rule, which are subject to the provisions of paragraph (4) of this rule.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Subpart (i) of part 1 of subparagraph (d) of paragraph (4) of Rule 1200-03-09-.01 Construction Permits is amended by deleting it in its entirety and substituting instead the following:

- (i) The source or modification would be a major stationary source or major modification only if fugitive emissions, to the extent quantifiable, are considered in calculating the potential to emit of the stationary source or modification and such source does not belong to any of the categories listed under subpart (b)1-(i), or any other stationary source category which, as of the (effective date of this rule) is being regulated under Chapters 0400-30-38 and ~~1200-03-16~~ 0400-30-39.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Subitem XXVII of item (IV) of subpart (iv) of part 1 of subparagraph (b) of paragraph (5) of Rule 1200-03-09-.01 Construction Permits is amended by deleting it in its entirety and substituting instead the following:

- XXVII. Any other stationary source category that ~~is was~~ regulated under Chapter 1200-03-16, New Source Performance Standards (as of August 7, 1980), Chapter 1200-03-11, Hazardous Air Contaminants (as of August 7, 1980), Chapter 1200-03-31, Case-by-Case Determinations of Hazardous Air Pollutant Control Requirements (as of September 18, 1994), ~~or~~ Chapter 0400-30-38, Emission Standards for Hazardous Air Pollutants (as of ~~the most recent effective date of this rule~~ December 28, 2022), ~~or Chapter 0400-30-39, Standards of Performance for New Stationary Sources (as of the most recent effective date of this rule)~~.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Item (XXVII) of subpart (ii) of part 4 of subparagraph (b) of paragraph (8) of Rule 1200-03-09-.01 Construction Permits is amended by deleting it in its entirety and substituting instead the following:

(XXVII) Any other stationary source category that ~~is~~ was regulated under Chapter 1200-03-16, New Source Performance Standards (as of August 7, 1980), Chapter 1200-03-11, Hazardous Air Contaminants (as of August 7, 1980), Chapter 1200-03-31, Case-by-Case Determinations of Hazardous Air Pollutant Control Requirements (as of September 18, 1994), Chapter 0400-30-38, Emission Standards for Hazardous Air Pollutants (as of ~~the most recent effective date of this rule~~ December 28, 2022), Chapter 0400-30-39, Standards of Performance for New Stationary Sources (as of the most recent effective date of this rule), or 40 C.F.R. Part 60 and 61 (as of July 1, 1993).

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Subpart (ii) of part 1 of subparagraph (c) of paragraph (11) of Rule 1200-03-09-.02 Operating Permits is amended by deleting it in its entirety and substituting instead the following:

- (ii) Any source, including an area source, subject to a standard, limitation, or other requirement under section 111 of the Federal Act, ~~part paragraph (4) of Rule 1200-03-07-.07(4), part paragraph (5) of Rule 1200-03-07-.07(5),~~ or Chapter ~~1200-03-16 0400-30-39~~;

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Subpart (i) of part 2 of subparagraph (c) of paragraph (11) of Rule 1200-03-09-.02 Operating Permits is amended by deleting it in its entirety and substituting instead the following:

- (i) All non-major sources including those subject to Section 112 of the Federal Clean Air Act, Chapter 0400-30-38, Chapter 1200-03-31, section 111 of the Federal Clean Air Act, or Chapter ~~1200-03-16 0400-30-39~~. If the Administrator promulgates future regulations ~~which that~~ prohibit the exemption of a non-major source from the requirements of this paragraph, such source will be so permitted by the Technical Secretary. Upon the Administrator's written notification to the Technical Secretary that such sources must be permitted according to the provisions of this paragraph, the Technical Secretary ~~shall~~ must notify the sources that the applications are due within 180 days of ~~his~~ the Technical Secretary's written notice. The Technical Secretary shall have up to 90 days to accomplish the notification commencing upon his notification from the Administrator.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Section A of subitem IV of item (I) of subpart (ii) of part 5 of subparagraph (f) of paragraph (11) of Rule 1200-03-09-.02 Operating Permits is amended by deleting it in its entirety and substituting instead the following:

- A. A federally enforceable emissions cap assumed to avoid classification as a modification under any provision of Title I of the Federal Clean Air Act. Further, federally enforceable emission caps assumed to avoid classification as a modification under Chapter 0400-30-38, Chapter ~~1200-03-16 0400-30-39~~, Chapter 1200-03-31, paragraph (4) of Rule 1200-03-09-.01, or paragraph (5) of Rule 1200-03-09-.01 are included in the criteria of this section.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Subitem V of Item (I) of Subpart (ii) of Part 5 of Subparagraph (f) of Paragraph (11) of Rule 1200-03-09-.02 Operating Permits is amended by deleting it in its entirety and substituting instead the following:

- V. Are not modifications under Title I of the Federal Clean Air Act or the federal regulations promulgated pursuant thereto. Further, the

minor permit modification process may be used only for changes that are not modifications under Chapter 0400-30-38, [Chapter 0400-30-39](#), Chapter 1200-03-31, ~~Chapter 1200-03-16~~, paragraph (4) of Rule 1200-03-09-.01, or paragraph (5) of Rule 1200-03-09-.01; and

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 1 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

1. Unpaved roadways and parking areas unless permits have specific conditions limiting fugitive emissions. This activity is not insignificant if it is subject to new source performance standards for nonmetallic mineral processing plants under Chapter ~~1200-03-16~~ [0400-30-39](#) or under 40 ~~CFR part~~ [C.F.R. Part](#) 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 2 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

2. Paved roadways and parking areas unless permits have specific conditions limiting fugitive emissions. This activity is not insignificant if it is subject to new source performance standards for nonmetallic mineral processing plants under Chapter ~~1200-03-16~~ [0400-30-39](#) or under 40 ~~CFR part~~ [C.F.R. Part](#) 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 3 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

3. Equipment used on farms for soil preparation, tending or harvesting of crops, or for preparation of feed to be used on the farm where prepared. This activity is not insignificant if it is subject to new source performance standards under Chapter ~~1200-03-16~~ [0400-30-39](#) or under 40 ~~CFR part~~ [C.F.R. Part](#) 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 8 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

8. Sewer vents. This activity is not insignificant if it is subject to the new source performance standards for petroleum refinery wastewater systems under Chapter ~~1200-03-16~~ [0400-30-39](#) or under 40 ~~CFR part~~ [C.F.R. Part](#) 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 9 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

9. Natural gas mixing and treatment operations including sampling and testing. This activity is not insignificant if it is subject to the new source performance standards for onshore natural gas processing plants under Chapter ~~1200-03-16~~ [0400-30-39](#) or under 40 ~~CFR part~~ [C.F.R. Part](#) 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 16 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

16. Equipment used exclusively to store, hold, or distribute natural gas. This activity is not

insignificant if it is subject to the new source performance standards for onshore natural gas processing plants under Chapter ~~1200-03-16~~ [0400-30-39](#) or under 40 ~~CFR part~~ [C.F.R. Part](#) 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 17 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

17. Gasoline, diesel fuel, and fuel oil handling facilities, equipment, and storage tanks, except those subject to new source performance standards and those subject to standards in Chapter 1200-03-18. However, facilities, equipment, and storage tanks which are subject only to Chapter 1200-03-18 requirements for submerged fill and for maintenance of records documenting quantities of gasoline, diesel fuel, and fuel oil dispensed are entitled to the exemption provided by this paragraph, despite the qualification of exemption specified in the first sentence of this subparagraph. This activity is not insignificant if it is subject to the new source performance standards for bulk gasoline terminals under Chapter ~~1200-03-16~~ [0400-30-39](#) or under 40 ~~CFR part~~ [C.F.R. Part](#) 60 and the Stage I gasoline distribution MACT standard under Chapter 1200-03-31.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 29 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

29. Sewage treatment facilities (excluding combustion or incineration equipment, land farms, storage silos for dry material, or grease trap waste handling or treatment facilities). This activity is not insignificant if it is subject to new source performance standards for volatile organic compounds emissions under Chapter ~~1200-03-16~~ [0400-30-39](#) or under 40 ~~CFR part~~ [C.F.R. Part](#) 60, MACT standard under Chapter 1200-03-31, and hazardous organic NESHAP under 40 ~~CFR part~~ [C.F.R. Part](#) 63.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 43 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

43. Pressurized vessels designed to operate in excess of 30 psig storing a petroleum fuel. This activity is not insignificant if it is subject to new source performance standards for petroleum liquid storage vessels under Chapter ~~1200-03-16~~ [0400-30-39](#) or under 40 ~~CFR part~~ [C.F.R. Part](#) 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 52 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

52. Grain, metal or mineral extrusion process. This activity is not insignificant if it is subject to new source performance standards for metallic mineral processing plants under Chapter ~~1200-03-16~~ [0400-30-39](#) or under 40 ~~CFR part~~ [C.F.R. Part](#) 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 55 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

55. Equipment used exclusively for sintering of ceramics, glass or metals, but not exempting equipment used for sintering metal-bearing ores, metal scale, clay, fly ash, or metal compounds. This activity is not insignificant if it is subject to new source performance standards for primary zinc smelters and glass manufacturing operations under Chapter ~~1200-03-16~~ [0400-30-39](#) or under 40 ~~CFR part~~ [C.F.R. Part](#) 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 56 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

56. Equipment for the mining and screening of uncrushed native sand and gravel. This activity is not insignificant if it is subject to new source performance standards for nonmetallic mineral processing plants under Chapter ~~1200-03-16~~ [0400-30-39](#) or under 40 ~~CFR part~~ [C.F.R. Part](#) 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 58 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

58. Pulp and paper industry, and cellulosic fiber industry insignificant activities: Any of the following activities is not insignificant if it is subject to new source performance standards for kraft pulp mills under Chapter ~~1200-03-16~~ [0400-30-39](#) or under 40 ~~CFR part~~ [C.F.R. Part](#) 60, and MACT standard under Chapter 1200-03-31.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 69 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

69. Equipment used to transport or store process wastewater streams to a wastewater treatment facility (i.e. floor drains, sumps, drain headers, manhole covers). This activity is not insignificant if it is subject to the new source performance standards for petroleum refinery wastewater systems under Chapter ~~1200-03-16~~ [0400-30-39](#) or under 40 ~~CFR part~~ [C.F.R. Part](#) 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 70 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

70. Drum melter operations for low-volatility solid and semi-solid materials using steam or electrical heating. This activity is not insignificant if it is subject to the new source performance standards for electric arc furnaces under Chapter ~~1200-03-16~~ [0400-30-39](#) or under 40 ~~CFR part~~ [C.F.R. Part](#) 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 86 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

86. Industrial-Commercial-Institutional Steam Generating Facility exemptions are as follows: Any of the following activities is not insignificant if it is subject to new source performance standards for steam-generating facilities under Chapter ~~1200-03-16~~ [0400-30-39](#) or under 40 ~~CFR part~~ [C.F.R. Part](#) 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 87 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

87. Sulfuric acid tanks. This activity is not insignificant if it is subject to new source performance standards for sulfuric acid plants under Chapter ~~1200-03-16~~ [0400-30-39](#) or under 40 ~~CFR part~~ [C.F.R. Part](#) 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 88 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

88. Soil “borrow” pits. This activity is not insignificant if it is subject to new source performance standards for nonmetallic mineral processing plants under Chapter ~~1200-03-16~~ 0400-30-39 or under 40 ~~CFR part~~ C.F.R. Part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 89 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

89. Phosphoric acid tanks. This activity is not insignificant if it is subject to new source performance standards for phosphate fertilizer industry under Chapter ~~1200-03-16~~ 0400-30-39 or under 40 ~~CFR part~~ C.F.R. Part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Subparagraph (c) of paragraph (5) of Rule 1200-03-09-.07 Permits-By-Rule is amended by deleting it in its entirety and substituting instead the following:

- (c) Emergency stationary compression ignition internal combustion engines subject to the provisions of part (1)(b)108 of Rule 0400-30-39-.01.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Subparagraph (d) of paragraph (5) of Rule 1200-03-09-.07 Permits-By-Rule is amended by deleting it in its entirety and substituting instead the following:

- (d) Emergency stationary spark ignition internal combustion engines subject to the provisions of part (1)(b)109 of Rule ~~0400-30-39-.02~~ 0400-30-39-.01.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.



Chapter 1200-03-16  
New Source Performance Standards

Repeal

Chapter 1200-03-16 New Source Performance Standards is Repealed.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

~~Chapter 1200-03-16  
New Source Performance Standards~~

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~~1200-03-16-.01 General Provisions~~

- ~~(1) — When a standard for visible emissions, particulate matter, sulfur oxides, or any other pollutant is specified for an affected facility in this chapter, it will supersede the standards in any other rule of the regulations. Otherwise, all the provisions of the other regulations, concerning those pollutants shall remain in full effect for all sources regulated under this chapter.~~
- ~~(2) — No person shall cause, suffer, allow, or permit emissions in excess of the standards in this chapter.~~
- ~~(3) — Applicability~~

~~Unless specifically defined in subsequent rules, the provisions of this chapter shall apply to the owner or operator of any source which contains any new or modified affected facility commenced after the date specified in each rule. Regardless of the specific emission standards contained in this chapter, new and/or modified sources in or significantly impacting upon a nonattainment area must comply with the provisions of paragraph 1200-3-9-.01 (5). Regardless of the specific emission standards contained in this chapter, all sources identified in paragraph 1200-3-9-.01 (4) of these regulations shall comply with the standards set pursuant to chapter 1200-3-9.~~

~~(4) — (a) — Definitions~~

~~As used in this chapter, all terms not defined herein shall have the meaning given them in chapter 1200-3-2.~~

- ~~1. — “Affected facility” means, with reference to a stationary source, any apparatus to which a standard is applicable.~~
- ~~2. — “Capital expenditure” means an expenditure for a physical or operational change to an existing facility which exceeds the product of the applicable “annual asset guidelines repair allowance percentage” specified in the latest edition of Internal Revenue Service Publication 534 and the existing facility’s basis, as defined by section 1012 of the Internal Revenue Code.~~
- ~~3. — “Continuous monitoring system” means the total equipment, required under the emission monitoring paragraphs in applicable rules, used to sample and condition (if applicable), to analyze, and to provide a permanent record of emissions or process parameters.~~

4. ~~“Existing facility” means, with reference to a stationary source, any apparatus of the type for which a standard is promulgated in this chapter, and the construction or modification of which was commenced before the date specified in a given rule; or any apparatus which could be altered in such a way as to be of that type.~~
  5. ~~“One-Hour-Period” means any 60 minute period commencing on the hour.~~
  6. ~~“Modification” means any physical change in, or change in the method of operation of, an existing facility which increases the amount of any air pollutant (to which a standard applies) emitted into the atmosphere by that facility or which results in the emission of any pollutant (to which a standard applies) into the atmosphere not previously emitted. The application of this definition is further defined in paragraph (9) of this rule.~~
  7. ~~“Monitoring device” means the total equipment required under the monitoring paragraphs in applicable rules, used to measure and record (if applicable) process parameters.~~
  8. ~~“Nitrogen oxides” means all oxides of nitrogen except nitrous oxide measured by the reference method.~~
  9. ~~“Particulate matter” means any finely divided solid or liquid material, other than uncombined water, as measured by the reference method or an equivalent or alternate method.~~
  10. ~~“Run” means the net period of time during which an emission sample is collected. Unless otherwise specified, a run may be either intermittent or continuous within the limits of good engineering practice.~~
  11. ~~“Six-minute period” means any one of ten equal parts of a one-hour period.~~
  12. ~~“Standard conditions” means a temperature of 20° C (68° F) and a pressure of 760mm of Hg (29.92 in. of Hg).~~
- (b) ~~Each rule in this chapter may contain additional definitions that apply just in that rule only unless specifically referred to in other rules of these regulations.~~
- (5) ~~Performance test~~
- (a) ~~Within sixty (60) days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility and at such other times as may be required by the Technical Secretary, the owner or operator of such facility shall conduct performance test(s) and furnish the Technical Secretary a written report of the results of such performance test(s).~~
  - (b) ~~Performance tests shall be conducted and data reduced in accordance with the test methods and procedures specified in subparagraph (g) of this paragraph or in the latter rules of this chapter, unless the Technical Secretary:~~
    1. ~~Specifies or approves the use of a reference method with minor changes in methodology.~~
    2. ~~Approves the use of an equivalent method.~~
    3. ~~Approves the use of an alternative method the results of which it has determined to be adequate for indicating whether a specific source is in compliance.~~
  - (c) ~~Performance tests shall be conducted under such conditions as the Technical Secretary shall specify to the plant operator based on representative performance of the affected facility. The owner or operator shall make available to the Technical Secretary such records as may be necessary to determine the conditions of the performance tests. Operations during periods of startups, shutdown, and malfunctions shall not constitute representative conditions of performance tests unless otherwise specified in the applicable standard.~~

- ~~(d) The owner or operator of an affected facility shall provide the Technical Secretary ten (10) days prior notice of the performance test to afford the Technical Secretary the opportunity to have an observer present.~~
- ~~(e) The owner or operator of an affected facility shall provide, or cause to be provided, performance testing facilities as follows:~~
- ~~1. Sampling ports adequate for test methods applicable to such facility.~~
  - ~~2. Safe sampling platform(s).~~
  - ~~3. Safe access to sampling platform(s).~~
  - ~~4. Utilities for sampling and testing equipment.~~
- ~~(f) Each performance test shall consist of three (3) separate runs using the applicable test method. Each run shall be conducted for such time and under such conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic means of results of the three (3) runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one (1) of the three (3) runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances, beyond the owner or operator's control, compliance may, upon the Technical Secretary's approval, be determined using the arithmetic mean of the results of the two (2) other runs.~~
- ~~(g) The reference methods and procedures to be used for any tests required in this chapter, except as provided in subparagraph (b) of this paragraph, are as follows:~~

~~(Note: All references to ASTM in this chapter refers to the American Society for Testing Materials. Copies of methods are available for purchase by writing to ASTM, 1916 Race Street, Philadelphia, PA 19103 or by writing to the Tennessee Division of Air Pollution Control, 701 Broadway, 4th Floor Customs House, Nashville, TN 37219. Be sure and specify which method is desired).~~

~~1. Sample and Velocity Traverses for Stationary Sources~~

~~Sample and velocity traverses shall be determined by Method 1 outlined in the Federal Register, Vol. 42, No. 160, August 18, 1977, beginning on page 41755, as amended in the Federal Register, Vol. 43, No. 57, March 23, 1978, on page 11984, and as amended in the Federal Register, Vol. 48, No. 191, September 30, 1983, beginning on page 45035, and as amended in the Federal Register, Vol. 51, No. 107, June 4, 1986, beginning on page 20288, and as amended in the Federal Register, Vol. 51, No. 157, August 14, 1986, on page 29104.~~

~~2. Determination of Stack Gas Velocity and Volumetric Flow Rate (Type S Pitot Tube)~~

~~Stack gas velocity and volumetric flow rate shall be determined with a type S pitot tube by Method 2 outlined in the Federal Register, Vol. 42, No. 160, August 18, 1977, beginning on page 41758, and as amended in the Federal Register, Vol. 43, No. 57, March 23, 1978, on page 11984, or by one of the following alternative methods:~~

~~(i) Direct Measurement of Gas Volume through Pipes and Small Ducts~~

~~Gas volume through pipes and small ducts shall be determined by direct measurement by Method 2A outlined in the Federal Register, Vol. 48, No. 161, August 18, 1983, beginning on page 37592.~~

~~(ii) Determination of Exhaust Gas Volume Flow Rate From Gasoline Vapor Incinerators~~

~~Exhaust gas volume flow rate from gasoline vapor incinerators shall be determined by Method 2B outlined in the Federal Register, Vol. 48, No. 161, August 18, 1983,~~

~~beginning on page 37594.~~

~~(iii) — Reserved~~

~~(iv) — Reserved~~

~~3. — Gas Analysis for Carbon Dioxide, Oxygen, Excess Air, and Dry Molecular Weight Carbon dioxide, oxygen, excess air, and dry molecular weight shall be determined by gas analysis by Method 3 outlined in the Federal Register, Vol. 42, No. 160, August 18, 1977, beginning on page 41768, as amended in the Federal Register, Vol. 43, No. 57, March 23, 1978, on page 11984, and as amended in the Federal Register, Vol. 48, No. 207, October 25, 1983, beginning on page 49459, or by the following alternative method:~~

~~(i) — Determination of Oxygen and Carbon Dioxide Concentrations in Emissions From Stationary Sources (Instrument Analyzer Procedure)~~

~~Oxygen and carbon dioxide concentrations in emissions from stationary sources shall be determined by an instrument analyzer procedure by Method 3A outlined in the Federal Register, Vol. 49, No. 248, December 24, 1984, beginning on page 49964, as amended in the Federal Register, Vol. 51, No. 112, June 11, 1986, beginning on page 21166.~~

~~4. — Determination of Moisture Content in Stack Gases~~

~~Moisture content in stack gases shall be determined by Method 4 outlined in the Federal Register, Vol. 42, No. 160, August 18, 1977, beginning on page 41771, as amended in the Federal Register, Vol. 43, No. 57, March 23, 1978, beginning on page 11984, and as amended in the Federal Register, Vol. 48, No. 241, December 14, 1983, on page 55671.~~

~~5. — Determination of Particulate Emissions from Stationary Sources~~

~~Particulate emissions from stationary sources shall be determined by Method 5 outlined in the Federal Register, Vol. 42, No. 160, August 18, 1977, beginning on page 41776, as amended in the Federal Register, Vol. 43, No. 57, March 23, 1978, on page 11985, as amended in the Federal Register, Vol. 45, No. 196, October 7, 1980, on page 66752, as amended in the Federal Register, Vol. 48, No. 167, August 26, 1983, beginning on page 39011, as amended in the Federal Register, Vol. 48, No. 241, December 14, 1983, on page 55671, and as amended in the Federal Register, Vol. 50, No. 6, January 9, 1985, beginning on page 1165; or by one of the following alternative methods:~~

~~(i) — Determination of Particulate Emissions from the Asphalt Processing and Asphalt Roofing Industry~~

~~Particulate Emissions from the asphalt processing and asphalt roofing industry shall be determined by Method 5A outlined in the Federal Register, Vol. 47, No. 153, August 6, 1982, beginning on page 34145, and as amended in the Federal Register, Vol. 51, No. 177, September 12, 1986 on page 32455.~~

~~(ii) — Determination of Nonsulfuric Acid Particulate Matter from Stationary Sources.~~

~~Particulate matter emissions from Nonsulfuric Acid from stationary sources shall be determined by Method 5B outlined in the Federal Register, Vol. 51, No. 228, November 26, 1986, beginning on page 42842.~~

~~(iii) — Reserved~~

~~(iv) — Determination of Particulate Matter Emissions from Positive Pressure Fabric Filters~~

~~Particulate matter emissions from positive pressure fabric filters shall be determined by Method 5D outlined in the Federal Register, Vol. 49, No. 212,~~

~~October 31, 1984, beginning on page 43847, and as amended in the Federal Register, Vol. 51, No. 177, September 12, 1986, on page 32455.~~

~~(v) Determination of Particulate Emission from the Wool Fiberglass Insulation Manufacturing Industry~~

~~Particulate emission from the wool fiberglass insulation manufacturing industry shall be determined by Method 5E outlined in the Federal Register, Vol. 50, No. 37, February 25, 1985, beginning on page 7701.~~

~~(vi) Determination of Nonsulfate Particulate Matter from Stationary Sources.~~

~~Non-sulfate particulate matter from stationary sources shall be determined by Method 5F outlined in the Federal Register, Vol. 51, No. 228, November 26, 1986, on page 42842.~~

~~6. Determination of Sulfur Dioxide Emissions from Stationary Sources~~

~~Sulfur dioxide emissions from stationary sources shall be determined by Method 6 outlined in the Federal Register, Vol. 42, No. 160, August 18, 1977, beginning on page 41783, as amended in the Federal Register, Vol. 43, No. 57, March 23, 1978, on page 11985, as amended in the Federal Register, Vol. 48, No. 167, August 26, 1983, on page 39013, and as amended in the Federal Register, Vol. 49, No. 125, June 27, 1984, on page 26524, or by one of the following alternative methods:~~

~~(i) Determination of Sulfur Dioxide, Moisture, and Carbon Dioxide Emissions from Fossil Fuel Combustion Sources~~

~~Sulfur dioxide, moisture, and carbon dioxide emissions from fossil fuel combustion sources shall be determined by Method 6A outlined in the Federal Register, Vol. 47, No. 231, December 1, 1982, beginning on page 54079, and as amended in the Federal Register, Vol. 49, No. 51, March 14, 1984, beginning on page 9684, and as amended in the Federal Register, Vol. 51, No. 177, September 12, 1986, on page 32455.~~

~~(ii) Determination of Sulfur Dioxide and Carbon Dioxide Daily Average Emissions from Fossil Fuel Combustion Sources~~

~~Sulfur dioxide and carbon dioxide daily average emissions from fossil fuel combustion sources shall be determined by Method 6B outlined in the Federal Register, Vol. 47, No. 231, December 1, 1982, beginning on page 54079, and as amended in the Federal Register, Vol. 49, No. 51, March 14, 1984, beginning on page 9685, and as amended in the Federal Register, Vol. 51, No. 177, September 12, 1986, beginning on page 32455.~~

~~(iii) Determination of Sulfur Dioxide Emissions from Stationary Sources (Instrumental Analyzer Procedure)~~

~~Sulfur dioxide emissions from stationary source shall be determined by an instrumental analyzer procedure by Method 6C outlined in the Federal Register, Vol. 49, No. 248, December 24, 1984, beginning on page 49965, and as amended in the Federal Register, Vol. 51, No. 112, June 11, 1986, beginning on page 21467.~~

~~7. Determination of Nitrogen Oxide Emissions from Stationary Sources~~

~~Nitrogen oxide emissions from stationary sources shall be determined by Method 7 outline in the Federal Register, Vol. 42, No. 160, August 18, 1977, as amended in the Federal Register, Vol. 43, No. 57, March 23, 1978, beginning on page 11985, and as amended in the Federal Register, Vol. 49, No. 125, June 27, 1984, beginning on page 26524, or by one of the following alternative methods:~~

~~(i) Determination of Nitrogen Oxide Emissions from Stationary Sources (Ion Chromatographic Method)~~

~~Nitrogen oxide emissions from stationary sources shall be determined by an ion chromatographic method by Method 7A outlined in the Federal Register, Vol. 48, No. 237, December 8, 1983, beginning on page 55073.~~

~~(ii) Determination of Nitrogen Oxide Emissions from Stationary Sources (Ultraviolet Spectrophotometric Method)~~

~~Nitrogen oxide emissions from stationary sources shall be determined by an ultraviolet spectrophotometric method by Method 7B outlined in the Federal Register, Vol. 50, No. 78, April 23, 1985, beginning on page 15894.~~

~~(iii) Determination of Nitrogen Oxide Emissions from Stationary Sources (Alkaline-Permanganate/Colorimetric Method)~~

~~Nitrogen oxide emissions from stationary sources shall be determined by an alkaline-permanganate/colorimetric method by Method 7C outlined in the Federal Register, Vol. 49, No. 189, September 27, 1984, beginning on page 38234.~~

~~(iv) Determination of Nitrogen Oxide Emissions from Stationary Sources (Alkaline-Permanganate/Ion Chromatographic Method)~~

~~Nitrogen oxide emissions from stationary sources shall be determined by alkaline-permanganate/ion chromatographic method by Method 7D outlined in the Federal Register, Vol. 49, No. 189, September 27, 1984, beginning on page 38237.~~

~~(v) Determination of Nitrogen Oxides Emissions from Stationary Sources (Instrumental Analyzer Procedure)~~

~~Nitrogen oxides emissions from stationary sources shall be determined by an instrumental analyzer procedure by Method 7E outlined in the Federal Register, Vol. 49, No. 248, December 24, 1984, beginning on page 49971, and as amended in the Federal Register, Vol. 51, No. 112, June 11, 1986, beginning on page 21171.~~

~~8. Determination of Sulfuric Acid Mist and Sulfur Dioxide Emissions from Stationary Sources.~~

~~Sulfuric acid mist and sulfur dioxide emissions from stationary sources shall be determined by Method 8 outlined in the Federal Register, Vol. 42, No. 160, August 18, 1977, beginning on page 41786, and as amended in the Federal Register, Vol. 43, No. 57, March 25, 1978, on page 11986.~~

~~9. Visual Determination of the Opacity of Emissions from Stationary Sources~~

~~The opacity of emissions from stationary sources shall be determined either visually by Method 9 outlined in the Federal Register, Vol. 39, No. 219, November 12, 1974, beginning on page 39874, or by the following alternative methods:~~

~~(i) Determination of the Opacity of Emissions from Stationary Sources Remotely by Lidar.~~

~~The opacity of emissions from stationary sources shall be determined remotely by a mobile lidar system (laser radar; Light Detection and Ranging) by Alternate Method 1 to Method 9 outlined in the Federal Register, Vol. 46, No. 208, October 28, 1981, beginning on page 53144, and as amended in the Federal Register, Vol. 47, No. 127, July 1, 1982, beginning on page 28624.~~

~~10. Determination of Carbon Monoxide Emissions from Stationary Sources~~

~~Carbon monoxide emissions from stationary sources shall be determined by Method 10~~

~~outlined in the Federal Register, Vol. 39, No. 47, March 8, 1974, beginning on page 9319.~~

- ~~11. Determination of Hydrogen Sulfide Content of Fuel Gas Streams in Petroleum Refineries~~
- ~~Hydrogen sulfide content of fuel gas streams in petroleum refineries shall be determined by Method 11 outlined in the Federal Register, Vol. 43, No. 6, January 10, 1978, beginning on page 1494.~~
- ~~12. Determination of Inorganic Lead Emissions from Stationary Sources~~
- ~~Inorganic lead emissions from stationary sources shall be determined by Method 12 outlined in the Federal Register, Vol. 47, No. 74, April 16, 1982, beginning on page 16564, as amended in the Federal Register, Vol. 49, No. 166, August 24, 1984, beginning on page 33842, and as amended in the Federal Register, Vol. 49, No. 186, September 24, 1984, on page 37384.~~
- ~~13. Determination of Total Fluoride Emissions from Stationary Sources~~
- ~~Total fluoride emissions from stationary sources shall be determined by either one of the following methods:~~
- ~~(i) Determination of Total Fluoride Emissions from Stationary Sources, SPADNS Zirconium Lake Method~~
- ~~Total fluoride emissions from stationary sources shall be determined by the SPADNS Zirconium Lake method by Method 13A outlined in the Federal Register, Vol. 45, No. 121, June 20, 1980, beginning on page 41852, and as amended in the Federal Register, Vol. 45, No. 249, December 24, 1980, on page 85016, or~~
- ~~(ii) Determination of Total Fluoride Emissions from Stationary Sources; Specific Ion Electrode Method~~
- ~~Total Fluoride emissions from stationary sources shall be determined by the specific ion electrode method by Method 13B outlined in the Federal Register, Vol. 45, No. 121, June 20, 1980, beginning on page 41852, and as amended in the Federal Register, Vol. 45, No. 249, December 24, 1980, on page 85016.~~
- ~~14. Determination of Fluoride Emissions from Potroom Roof Monitors for Primary Aluminum Plants~~
- ~~Fluoride emissions from potroom roof monitors for primary aluminum plants shall be determined by Method 14 outlined in the Federal Register, Vol. 45, No. 127, June 30, 1980, beginning on page 44202.~~
- ~~15. Determination of Hydrogen Sulfide, Carbonyl Sulfide, and Carbon Disulfide Emissions from Stationary Sources~~
- ~~Hydrogen sulfide, carbonyl sulfide, and carbon disulfide emissions from stationary sources shall be determined by either Method 15 outlined in the Federal Register, Vol. 43, No. 51, March 15, 1978, beginning on page 10866, or by the following alternative method:~~
- ~~(i) Determination of Total Reduced Sulfur emissions from sulfur recovery plants in petroleum refineries shall be determined by Method 15A outlined in the Federal Register, Vol. 52, No. 104, June 1, 1987, beginning on page 20391.~~
- ~~Nonsulfate particulate matter emissions from stationary sources shall be determined by Method 5F outlined in the Federal Register, Vol. 51, No. 228, November 26, 1986, beginning on page 42842.~~
- ~~16. Semicontinuous Determination of Sulfur Emissions from Stationary Sources~~



~~Sulfur emissions from stationary sources shall be determined by either a semicontinuous procedure by Method 16 outlined in the Federal Register, Vol. 43, No. 37, February 23, 1978 beginning on page 7575, as amended in the Federal Register, Vol. 43, No. 152, August 7, 1978, beginning on page 34785, and as amended in the Federal Register, Vol. 44, No. 9, January 12, 1979, beginning on page 2579, or by the following alternative method:~~

~~(i) Determination of Total Reduced Sulfur Emissions from Stationary Sources (Impinger Technique)~~

~~Total reduced sulfur emissions from stationary sources shall be determined by an impinger technique by Method 16A outlined in the Federal Register, Vol. 50, No. 46, March 8, 1985, beginning on page 9597.~~

~~17. Determination of Particulate Emissions from Stationary Sources (In-Stack Filtration Method)~~

~~Particulate emissions from stationary sources shall be determined by an in-stack filtration method by Method 17 outlined in the Federal Register, Vol. 43, No. 37, February 23, 1978, beginning on page 7568.~~

~~18. Measurement of Gaseous Organic Compound Emissions by Gas Chromatography~~

~~Gaseous organic compound emissions shall be determined by gas chromatography by Method 18 outlined in the Federal Register, Vol. 48, No. 202, October 18, 1983, beginning on page 48344, and as amended in the Federal Register, Vol. 49, No. 105, May 30, 1984, on page 22608, and as amended in the Federal Register, Vol. 52, No. 33, February 19, 1987 beginning on page 5105.~~

~~19. Determination of Sulfur Dioxide Removal Efficiency and Particulate, Sulfur Dioxide and Nitrogen Oxides Emissions Rates from Electric Utility Steam Generators~~

~~Sulfur dioxide removal efficiency and particulate, sulfur dioxide, and nitrogen oxides emission rates from electric utility steam generators shall be determined by Method 19 outlined in the Federal Register, Vol. 44, No. 113, June 11, 1979, beginning on page 33580, and as amended in the Federal Register, Vol. 48, No. 207, October 25, 1983, on page 49460.~~

~~20. Determination of Nitrogen Oxides, Sulfur Dioxide, and Oxygen Emissions From Stationary Gas Turbines~~

~~Nitrogen oxides, sulfur dioxide, and oxygen emissions from stationary gas turbines shall be determined by Method 20 outlined in the Federal Register, Vol. 44, No. 176, September 10, 1979, beginning on page 52792, and as amended in the Federal Register, Vol. 47, No. 135, July 14, 1982, beginning on page 30480, and as amended in the Federal Register, Vol. 51, No. 177, September 12, 1986, beginning on page 32456.~~

~~21. Determination of Volatile Organic Compound Leaks~~

~~Volatile organic compound leaks shall be determined by Method 21 outlined in the Federal Register, Vol. 48, No. 161, August 18, 1983, beginning on page 37600, and as amended in the Federal Register, Vol. 48, No. 247, December 22, 1983, beginning on page 56580.~~

~~22. Visual Determination of Fugitive Emissions from Material Sources and Smoke Emissions from Flares~~

~~Fugitive emissions from material sources and smoke emissions from flares shall be determined by Method 22 outlined in the Federal Register, vol. 47, No. 152, August 5, 1982, beginning on page 84146, and as amended in the Federal Register, Vol. 48, No. 202, October 18, 1983, beginning on page 48360.~~

~~23. Reserved~~

~~24. Determination of Volatile Matter Content, Water Content, Density, Volume Solids, and Weight Solids of Surface Coatings~~

~~Volatile matter content, water content, density, volume solids, and weight solids of surface coatings shall be determined by either Method 24 outlined in the Federal Register, Vol. 45, No. 194, October 3, 1980, beginning on page 65958, or by the following alternative method:~~

~~(i) Determination of Volatile Matter Content and Density of Printing Inks and Related Coatings~~

~~Volatile matter content and density of printing inks and related coatings shall be determined by Method 24A outlined in the Federal Register, Vol. 47, No. 216, November 8, 1982, on page 50655, and as amended in the Federal Register, Vol. 48, No. 6, January 10, 1983, on page 1056.~~

~~25. Determination of Total Gaseous Nonmethane Organic Emissions as Carbon~~

~~Total gaseous nonmethane organic emissions shall be determined as carbon by Method 25 outlined in the Federal Register, Vol. 45, No. 194, October 3, 1980, beginning on page 65959, or by one of the following alternative methods:~~

~~(i) Determination of Total Gaseous Organic Concentration Using a Flame Ionization Analyzer~~

~~Total gaseous organic concentration shall be determined using a flame ionization analyzer by Method 25A outlined in the Federal Register, Vol. 48, No. 161, August 18, 1983, beginning on page 37595.~~

~~(ii) Determination of Total Gaseous Organic Concentration Using a Nondispersive Infrared Analyzer~~

~~Total gaseous organic concentration shall be determined using a nondispersive infrared analyzer by Method 25B outlined in the Federal Register, Vol. 48, No. 161, August 18, 1983, on page 37597.~~

~~26. Reserved~~

~~27. Determination of Vapor Vapor tightness of gasoline delivery tank shall be determined using a pressure-vacuum test by Method 27 as outlined in the Federal Register, Vol. 48, No. 161, August 18, 1983, beginning on page 37597. Tightness of Gasoline Delivery Tank Using Pressure-Vacuum Test.~~

~~(6) Compliance with standards and maintenance requirements~~

~~(a) Compliance with standards in this chapter, other than opacity standards, shall be determined only by performance tests established by paragraph (5) of this rule unless otherwise specified in the applicable standard. Noncompliance may be established by these tests, or by the results of the monitoring (including fuel data) required in accordance with the provisions of these regulations.~~

~~(b) Compliance with opacity standards in this chapter shall be determined by conducting observations in accordance with the reference method or by equivalent or alternate methods specified by the Technical Secretary. Noncompliance may be demonstrated by these methods or by monitoring with transmissometers. Opacity readings of portions of plumes which contained condensed, uncombined water vapor shall not be used for purposes of determining compliance with opacity standards. The results of continuous monitoring by transmissometers which indicate that the opacity at the time visual observations were made was not in excess of the standard are probative but not conclusive evidence of the actual opacity of an emission, provided that the source shall meet the burden of proving that the instrument used meets (at the time of the alleged violation), performance specification as required by the Technical Secretary, has been properly maintained~~

~~and (at the time of the alleged violation) calibrated, and that the resulting data have not been tampered with in any way.~~

~~(c) The opacity standards set forth in this chapter shall apply at all times except during periods of startup, shutdown, malfunction, and as otherwise provided in the applicable standard.~~

~~(d) At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Technical Secretary which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.~~

~~(e) 1. An owner or operator of an affected facility may request the Technical Secretary to determine opacity of emissions from the affected facility during the initial performance tests required by paragraph 1200-3-16-.01(5).~~

~~2. Upon receipt from such owner or operator of the written report of the results of the performance test required by paragraph 1200-3-16-.01(5), the Technical Secretary will make a finding concerning compliance with opacity and other applicable standards. If the Technical Secretary finds that an affected facility is in compliance with all applicable standards for which performance tests are conducted in accordance with paragraph 1200-3-16-.01(5) but during the time such performance tests are being conducted fails to meet any applicable opacity standards, he shall notify the owner or operator and advise him that he may petition the Technical Secretary within 10 days of receipt of notification to make appropriate adjustment to the opacity standard for the affected facility.~~

~~3. The Technical Secretary will grant such a petition upon a demonstration by the owner or operator that the affected facility and associated air pollution control equipment was operated and maintained in a manner to minimize the opacity of emissions during the performance tests; that the performance tests were performed under conditions established by the Technical Secretary; and that the affected facility and associated air pollution control equipment were incapable of being adjusted or operated to meet the applicable opacity standard.~~

~~4. The Technical Secretary will establish an opacity standard for the affected facility meeting the above requirements at a level at which the source will be able, as indicated by the performance and opacity tests, to meet the opacity standard at all times during which the source is meeting the mass or concentration emission standard.~~

#### ~~(7) Notification and Record Keeping~~

~~(a) Any owner or operator subject to the provisions of this chapter shall furnish the Technical Secretary written notification as follows:~~

~~1. A notification of the date construction (or reconstruction as defined under subparagraph (9)(b) of this rule) of an affected facility is commenced postmarked no later than 30 days after such date. This requirement shall not apply in the case of mass-produced facilities which are purchased in completed form.~~

~~2. A notification of the anticipated date of initial startup of an affected facility postmarked not more than 60 days nor less than 30 days prior to such date.~~

~~3. A notification of the actual date of initial startup of an affected facility postmarked within 15 days after such date.~~

~~4. A notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless the change is specifically exempted under an applicable rule or in part (9)(a)6 of this rule and the exemption is not denied under subpart (9)(a)5(v) of this rule. This notice shall be~~

~~postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The Technical Secretary may request additional relevant information subsequent to this notice.~~

~~5. A notification of the date upon which demonstration of the continuous monitoring system performance commences in accordance with subparagraph (8)(c). Notification shall be postmarked not less than 30 days prior to such date.~~

~~(b) Any owner or operator subject to the provisions of this chapter shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative.~~

~~(c) Reserved~~

~~(d) Any owner or operator subject to the provisions of this chapter shall maintain a file on all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this chapter recorded in a permanent form suitable for inspection. The file shall be retained for at least two years following the date of such measurements, maintenance, reports, and records.~~

#### ~~(8) Monitoring Requirements~~

~~(a) All in-stack monitoring systems shall meet the performance specifications referenced by the various parts of this subparagraph unless otherwise specified in the specific rule that required the in-stack monitoring system to be installed.~~

~~1. Continuous in-stack monitoring systems for the measurement of opacity shall meet the requirements of Performance Specification 1 outlined in the Federal Register, Volume 48, Number 62, Wednesday, March 30, 1983, beginning on page 13327.~~

~~2. Continuous in-stack monitoring systems for the measurements of either sulfur dioxide or nitrogen oxides shall meet the requirements of Performance Specification 2 outlined in the Federal Register, Volume 48, Number 102, Wednesday, May 25, 1983, beginning on page 23611.~~

~~3. Continuous in-stack monitoring systems for the measurement of either oxygen or carbon dioxide shall meet the requirements of Performance Specification 3 outlined in the Federal Register, Volume 48, Number 102, Wednesday, May 25, 1983, on page 23616.~~

~~4. Continuous in-stack monitoring systems for the measurement of carbon monoxide shall meet the requirements of Performance Specification 4 outlined in the Federal Register, Volume 50, Number 150, Monday, August 5, 1985, beginning on page 31701.~~

~~5. Continuous in-stack monitoring systems for the measurement of total reduced sulfur compounds shall meet the requirements of Performance Specification 5 outlined in the Federal Register, Volume 48, Number 140, Wednesday, July 20, 1983, on page 32986.~~

~~(b) All continuous monitoring systems and monitoring devices shall be installed and operational prior to conducting performance tests required by paragraph (5) of this rule. Verification of operational status shall, as a minimum, consist of the following:~~

~~1. For continuous monitoring systems referenced in part (d)1 of this paragraph, completion of the conditioning period specified by the applicable performance specification referenced in subparagraph (a) above.~~

~~2. For continuous monitoring systems referenced in part (d)2 of this paragraph, completion of~~

~~seven days of operation.~~

~~3. For monitoring devices referenced in applicable rules, completion of the manufacturer's written requirements or recommendations for checking the operation or calibration of the device.~~

~~(c) It shall be demonstrated that the continuous in-stack opacity monitoring system meets the specifications in Performance Specification 1 as referenced in subparagraph (a) above, before the performance test required under paragraph (5) of this rule is conducted. Other continuous emission monitoring systems shall be evaluated during any performance tests required under paragraph (5) of this rule or within 30 days thereafter. The owner or operator of an affected facility shall conduct continuous emission monitoring system performance evaluations at such other times as may be required by the Technical Secretary and shall furnish the Technical Secretary within 60 days thereof two or, upon request, more copies of a written report of the results of all tests referenced in this subparagraph. These continuous monitoring system performance evaluations shall be conducted in accordance with the requirements and procedures contained in the applicable performance specification as referenced in subparagraph (a) above.~~

~~(d) Owners or operators of all continuous emission monitoring systems installed in accordance with the provisions of this chapter shall check the zero and span calibration drifts at least once daily in accordance with the method prescribed by the manufacturer of such systems unless the manufacturer recommends adjustments at shorter intervals, in which case such recommendations shall be followed. The zero and span shall, as a minimum, be adjusted whenever the 24-hour zero drift or 24-hour span drift limits of the applicable performance specifications as referenced in subparagraph (a) above are exceeded. For continuous monitoring systems measuring opacity of emissions, the optical surfaces exposed to the effluent gases shall be cleaned prior to performing the zero or span drift adjustments except that for systems using automatic zero adjustments, the optical surfaces shall be cleaned when the cumulative automatic zero compensation exceeds four percent opacity. Unless otherwise approved by the Technical Secretary, the following procedures, as applicable, shall be followed.~~

~~1. For extractive continuous monitoring systems measuring gases, minimum procedures shall include introducing applicable zero and span gas mixtures into the measurement system as near the probe as is practical. Span and zero gases certified by their manufacturer to be traceable to National Bureau of Standards reference gases shall be used whenever these reference gases are available. The span and zero gas mixtures shall be the same composition as specified in the applicable performance specification as referenced in subparagraph (a) above. Every six months from date of manufacture, span and zero gases shall be reanalyzed by conducting triplicate analyses with Reference Method 6, as referenced by Part 1200-3-16-.01(5)(g)6, for sulfur dioxide; Reference Method 7, as referenced by Part 1200-3-16-.01(5)(g)7, for nitrogen oxides; and Reference Method 3, as referenced by Part 1200-3-16-.01(5)(g)3, for oxygen and carbon dioxide.~~

~~The gases may be analyzed at less frequent intervals if longer shelf lives are guaranteed by the manufacturer.~~

~~2. For non-extractive continuous monitoring systems measuring gases, minimum procedures shall include upscale check(s) using a certified calibration gas cell or test cell which is functionally equivalent to a known gas concentration. The zero check may be performed by computing the zero value from upscale measurements or by mechanically producing a zero condition.~~

~~3. For continuous monitoring systems measuring opacity of emissions, minimum procedures shall include a method for producing a simulated zero opacity condition and an upscale (span) opacity condition using a certified neutral density filter or other related technique to produce a known obscuration of the light beam. Such procedures shall provide a system check of the analyzer internal optical surfaces and all electronic circuitry including the lamp and photodetector assembly.~~

~~(e) Except for zero and span adjustments required under subparagraph (d) of this paragraph and system breakdowns, repairs, and calibration checks, all continuous monitoring systems shall be in~~

~~continuous operation and shall meet minimum frequency of operation requirements as follows:~~

- ~~1. All continuous monitoring systems referenced by subparagraph (8)(c) for measuring opacity of emissions shall complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.~~
  - ~~2. All continuous monitoring systems referenced by subparagraph (c) of this paragraph for measuring emissions, except opacity, shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.~~
- ~~(f) All continuous monitoring systems or monitoring devices shall be installed in such a manner that representative measurements of emissions or process parameters from the affected facility are obtained. Additional procedures for location of continuous monitoring systems contained in the applicable performance specifications are referenced in subparagraph (8)(a) of this rule.~~
- ~~(g) When the effluents from a single affected facility or two or more affected facilities subject to the same emission standards are combined before being released to the atmosphere, the owner or operator may install applicable continuous monitoring systems on each effluent or on the combined effluent. When the affected facilities are not subject to the same emission standards, separate continuous monitoring systems shall be installed on each effluent. When the effluent from one affected facility is released to the atmosphere through more than one point, the owner or operator shall install applicable continuous monitoring systems on each separate effluent unless the installation of fewer systems is approved by the Technical Secretary.~~
- ~~(h) 1. Owners or operators of all continuous monitoring systems for measurement of opacity shall reduce all data to six-minute averages and for systems other than opacity to one-hour averages for time periods as defined in paragraph (4) of this Rule. Six minute opacity averages shall be calculated from 24 or more data points equally spaced over each six-minute period. For systems other than opacity, one-hour averages shall be computed from four or more data points equally spaced over each one-hour period. Data recorded during periods of system breakdowns, repairs, calibration checks, and zero and span adjustments shall not be included in the data averages computed under this subparagraph. An arithmetic or integrated average of all data may be used. The data output of all continuous monitoring systems may be recorded in reduced or nonreduced form (e.g., ppm pollutant and percent O<sup>2</sup> or ng/J (lb/million Btu) of pollutant). All excess emissions shall be converted into units of the standard using the applicable conversion procedures specified in the rules of this chapter. After conversion into units of the standard, the data may be rounded to the same number of significant digits used in the following rules in this chapter to specify the applicable standard (e.g., rounded to the nearest one percent opacity).~~
- ~~2. Upon written application by an owner or operator, the Technical Secretary may approve alternatives to any monitoring procedures or requirements of this chapter including, but not limited to the following:~~
    - ~~(i) Alternative monitoring requirements when installation of a continuous monitoring system or monitoring device specified by this chapter would not provide accurate measurements due to liquid water or other interferences caused by substances with the effluent gases.~~
    - ~~(ii) Alternative monitoring requirements when the affected facility is infrequently operated.~~
    - ~~(iii) Alternative monitoring requirements to accommodate continuous monitoring systems that require additional measurements to correct for stack moisture conditions.~~
    - ~~(iv) Alternative locations for installing continuous monitoring systems or monitoring devices when the owner or operator can demonstrate that installation at alternative locations will enable accurate and representative measurements.~~

- ~~(v) — Alternative methods of converting pollutant concentration measurements to units of the standards.~~
  - ~~(vi) — Alternative procedures for performing daily checks of zero and span drift that do not involve use of span gases or test cells.~~
  - ~~(vii) — Alternative to the A.S.T.M. test methods or sampling procedures specified by any rule. (Note: All references to ASTM in this rule refers to the American Society for Testing Materials. Copies of methods are available for purchase by writing to ASTM, 1916 Race Street, Philadelphia, PA 19103 or by writing to the Tennessee Division of Air Pollution Control, 701 Broadway, 4th Floor Customs House, Nashville, TN 37219. Be sure and specify which method is desired).~~
  - ~~(viii) — Alternative continuous monitoring systems that do not meet the design or performance requirements in Performance Specification 1, as referenced in subparagraph (a) above, but adequately demonstrate a definite and consistent relationship between its measurements and the measurements of opacity by a system complying with the requirements in Performance Specification 1. The Technical Secretary may require that such demonstration be performed for each affected facility.~~
  - ~~(ix) — Alternative monitoring requirements when the effluent from a single affected facility or the combined effluent from two or more affected facilities are released to the atmosphere through more than one point.~~
  - ~~(i) — The reference methods for continuous monitoring systems for opacity, sulfur dioxide, nitrogen oxides, oxygen, and carbon dioxide are found in the Federal Register, Vol. 40, No. 194, of October 6, 1975.~~
- ~~(9) — (a) — Modification~~
- ~~1. — Modification as defined and used in this chapter shall have a less inclusive meaning than in the other chapters of these regulations. Therefore, an action not considered a modification for inclusion under the requirements of this chapter may be a modification as regards the permit requirements in chapter 1200-3-9 and other requirements for new and/or modified sources in other than this chapter 1200-3-16 of the regulations.~~
  - ~~2. — Except as provided under parts 5 and 6 of this subparagraph and subparagraph (b) of this paragraph, any physical or operational change to an existing facility which results in an increase in the emission rate to the atmosphere of any pollutant to which a standard applies shall be considered a modification within the meaning of this chapter. Upon modification, an existing facility shall become an affected facility for each pollutant to which a standard applies and for which there is an increase in the emission rate to the atmosphere.~~
  - ~~3. — Emission rate shall be expressed as kg/hr of any pollutant discharged into the atmosphere for which a standard is applicable. The Technical Secretary shall use the following to determine emission rate:
    - ~~(i) — Emission factors are specified in the latest issue of "Compilation of Air Pollution Emission Factors," EPA Publication No. AP-42, or other emission factors determined by the Technical Secretary to be superior to AP-42 emission factors, in cases where utilization of emission factors demonstrate that the emission level resulting from the physical or operational change will either clearly increase or not increase.~~
    - ~~(ii) — Material balances, continuous monitor data, or manual emission tests in cases where utilization of emission factors as referenced in subpart (i) of this part does not demonstrate to the Technical Secretary's satisfaction whether the emission level resulting from the physical or operational change will either clearly increase or clearly not increase, or where an owner or operator demonstrates to the Technical Secretary's satisfaction that there are reasonable grounds to dispute the~~~~

~~results obtained by the Technical Secretary utilizing emission factors as referenced in subpart (i) of this part. When the emission rate is based on results from manual emission tests or continuous monitoring systems, the procedures specified in Appendix C as listed in the Federal Register (40 FR 58420, December 16, 1975) shall be used to determine whether an increase in emission rate has occurred. Tests shall be conducted under such conditions as the Technical Secretary shall specify to the owner or operator based on representative performance of the facility. At least three valid test runs must be conducted before and at least three after the physical or operational change. All operating parameters which may affect emissions must be held constant to the maximum feasible degree for all test runs.~~

~~4. The addition of an affected facility to a stationary source as an expansion to that source or as a replacement for an existing facility shall not by itself bring within the applicability of this chapter any other facility within that source.~~

~~5. (i) A modification shall not be deemed to occur if an existing facility undergoes a physical or operational change where the owner or operator demonstrates to the Technical Secretary's satisfaction (by any of the procedures prescribed under part 3 of this subparagraph) that the total emission rate of any pollutant has not increased from all facilities within the stationary source to which appropriate reference, equivalent, or alternative methods can be applied. An owner or operator may completely and permanently close any facility within a stationary source to prevent an increase in the total emission rate regardless of whether such reference, equivalent or alternative method can be applied, if the decrease in emission rate from such closure can be adequately determined by any of the procedures prescribed under part 3 of this subparagraph. The owner or operator of the source shall have the burden of demonstrating compliance with this paragraph.~~

~~(ii) Such demonstration shall be in writing and shall include:~~

~~(I) The name and address of the owner or operator.~~

~~(II) The location of the stationary source.~~

~~(III) A complete description of the existing facility undergoing the physical or operational change resulting in an increase in emission rate, any applicable control system, and the physical or operational change to such facility.~~

~~(IV) The emission rates into the atmosphere from the existing facility of each pollutant to which a standard applies physical or operational change takes place, to the extent such information is known or can be predicted.~~

~~(V) A complete description of each facility and the control systems, if any, for those facilities within the stationary source where the emission rate of each pollutant in question will be decreased to compensate for the increase in emission rate from the existing facility undergoing the physical or operational change.~~

~~(VI) The emission rates into the atmosphere of the pollutants in question from each facility described under item (V) of this subpart both before and after the improvement or installation of any applicable control system or any physical or operational changes to such facilities to reduce emission rate.~~

~~(VII) A complete description of the procedures and methods used to determine the emission rates.~~

~~(iii) Compliance with part 5 of this subparagraph may be demonstrated by the methods listed in part 3 of this subparagraph where appropriate. Decreases in emissions resulting from requirements of rules in other chapters of Tennessee Air Pollution~~



~~Control Regulations will not be acceptable. The required reduction in emission rate may be accomplished through the installation or improvement of a control system or through physical or operational changes to facilities including reducing the production of a facility or closing a facility.~~

~~(iv) Emission rates established for the existing facility which is undergoing a physical or operational change resulting in an increase in the emission rate, and established for the facilities described under item 5(ii)(V) of this subparagraph shall become the baseline for determining whether such facilities undergo a modification or are in compliance with standards.~~

~~(v) Any emission rate in excess of that rate established under subpart (iv) of this part shall be a violation of these regulations except as otherwise provided in part 6 of this subparagraph. However, any owner or operator electing to demonstrate compliance under this part 5 must apply to the Technical Secretary to obtain the use of any exemptions under subparts 6(i), 6(ii), and 6.(iv) of this subparagraph. The Technical Secretary will grant such under this paragraph will not be circumvented or nullified by the utilization of the exemption.~~

~~(vi) The Technical Secretary may require the use of continuous monitoring devices and compliance with necessary reporting procedures for each facility described in items 5(ii)(III) and 5(ii)(V) of this subparagraph.~~

~~6. The following shall not, by themselves, be considered modifications under this chapter:~~

~~(i) Maintenance, repair, and replacement which the Technical Secretary determines to be routine for a source category, subject to the provisions of part 4 of this subparagraph and subparagraph (b) of this paragraph.~~

~~(ii) An increase in production rate of an existing facility, if that increase can be accomplished without a capital expenditure on the stationary source containing that facility.~~

~~(iii) An increase in the hours of operation.~~

~~(iv) Use of an alternative fuel or raw material if, prior to the date any standard under this part becomes applicable to that source type, provided the existing facility was designed to accommodate that alternative use. A facility shall be considered to be designed to accommodate an alternative fuel or raw material if that use could be accomplished under the facility's construction specifications, as amended, prior to the change. Conversion to coal required for energy considerations, shall not be considered a modification.~~

~~(v) The addition or use of any system or device whose primary function is the reduction of air pollutants, except when an emission control system is removed or is replaced by a system which the Technical Secretary determines to be less environmentally beneficial.~~

~~(vi) The relocation or change in ownership of an existing facility.~~

~~7. Special provisions set forth under an applicable rule of this chapter shall supersede any conflicting provisions of this paragraph.~~

~~8. Within 180 days of the completion of any physical or operational change subject to the control measures specified in parts 2 or 5 of this subparagraph, compliance with all applicable standards must be achieved.~~

~~(b) Reconstruction~~

~~1. An existing facility, upon reconstruction, becomes an affected facility, irrespective of any change in emission rate.~~

- ~~2. "Reconstruction" means the replacement of components of an existing facility to such an extent that:
  - ~~(i) The fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new facility, and~~
  - ~~(ii) It is technologically and economically feasible to meet the applicable standards set forth in this chapter.~~~~
- ~~3. "Fixed capital cost" means the capital needed to provide all the depreciable components.~~
- ~~4. If an owner or operator of an existing facility proposes to replace components, and the fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new facility, he shall notify the Technical Secretary of the proposed replacements. The notice must be postmarked 60 days (or as soon as practicable) before construction of the replacements is commenced and must include the following information:
  - ~~(i) Name and address of the owner or operator.~~
  - ~~(ii) The location of the existing facility.~~
  - ~~(iii) A brief description of the existing facility and the components which are to be replaced.~~
  - ~~(iv) A description of the existing air pollution control equipment and the proposed air pollution control equipment.~~
  - ~~(v) An estimate of the fixed capital cost of the replacements and of constructing a comparable entirely new facility.~~
  - ~~(vi) The estimated life of the existing facility after the replacements.~~
  - ~~(vii) A discussion of any economic or technical limitations the facility may have in complying with the applicable standards of performance after the proposed replacements.~~~~
- ~~5. The Technical Secretary will determine, within a reasonable time after receipt of the notice required by part 4 of this subparagraph and any additional information he may reasonably require, whether the proposed replacement constitutes reconstruction.~~
- ~~6. The Technical Secretary's determination under part 5 of this subparagraph shall be based on:
  - ~~(i) The fixed capital cost of the replacements in comparison to the fixed capital cost that would be required to construct a comparable entirely new facility;~~
  - ~~(ii) The estimated life of the facility after the replacements compared to the life of a comparable entirely new facility;~~
  - ~~(iii) The extent to which the components being replaced cause or contribute to the emissions from the facility; and~~
  - ~~(iv) Any economic or technical limitations on compliance with applicable standards of performance which are inherent in the proposed replacements.~~~~
- ~~7. Individual rules of this chapter may include specific provisions which refine and delimit the concept of reconstruction set forth in this subparagraph.~~

~~(10) Upon mutual agreement of the owner or operator of any air contaminant source and the Technical Secretary, an emission limit more restrictive than that otherwise specified in this Chapter may be established. This emission limit shall be stated as a special condition for any permit or order issued concerning the source. Violation of this agreed to, more stringent emission standard is grounds for revocation of the issued permit and/or other enforcement measures provided for in the Tennessee Air Quality Act.~~

~~(11) General Control Device Requirements~~

~~(a) Introduction~~

~~This paragraph contains requirements for control devices used to comply with applicable rules of Chapter 0400-30-38 and this chapter. The requirements are placed here for administrative convenience and only apply to facilities covered by rules referring to this paragraph.~~

~~(b) Flares~~

~~Subparagraphs (c) through (f) of this paragraph apply to flares.~~

~~(c) 1. Flares shall be designed for and operated with no visible emissions as determined by the methods specified in subparagraph (f) of this paragraph, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.~~

~~2. Flares shall be operated with a flame present at all times, as determined by the methods specified in subparagraph (f) of this paragraph.~~

~~3. Flares shall be used only with the net heating value of the gas being combusted being 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or with the net heating value of the gas being combusted being 7.45 MJ/scm (200 Btu/scf) or greater if the flare is nonassisted. The net heating value of the gas being combusted shall be determined by the methods specified in subparagraph (f) of this paragraph.~~

~~4. (i) Steam-assisted and nonassisted flares shall be designed for and operated with an exit velocity, as determined by the methods specified in part (f)4 of this paragraph less than 18.3 m/sec (60 ft/sec), except as provided in subpart (c)4(ii) and (iii) of this paragraph.~~

~~(ii) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the methods specified in part (f)4 of this paragraph equal to or greater than 18.3 m/sec (60 ft/sec) but less than 122 m/sec (400 ft/sec) are allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf).~~

~~(iii) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the methods specified in part (f)4 of this paragraph less than velocity,  $V_{max}$ , as determined by the method specified in part (f)5 of this paragraph and less than 122 m/sec (400 ft/sec) are allowed.~~

~~5. Air-assisted flares shall be designed and operated with an exit velocity less than the velocity,  $V_{max}$ , as determined by the method specified in part (f)6 of this paragraph.~~

~~6. Flares used to comply with this section shall be steam-assisted, air-assisted, or nonassisted.~~

~~(d) Owners or operators of flares used to comply with the provisions of this rule shall monitor these control devices to ensure that they are operated and maintained in conformance with their designs. Applicable rules will provide provisions stating how owners or operators of flares shall monitor these control devices.~~

~~(e) Flares used to comply with provisions of this rule shall be operated at all times when emissions may be vented to them.~~

- (f) ~~1. Reference Method 22 as specified in 1200-3-16-.01(5)(g)22 shall be used to determine the compliance of flares with the visible emission provisions of this rule. The observation period is 2 hours and shall be used according to Method 22.~~
- ~~2. The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.~~
- ~~3. The net heating value of the gas being combusted in a flare shall be calculated using the following equation:~~

$$H_T = K \sum_{i=1}^n C_i H_i$$

~~Where:~~

~~$H_T$  = Net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25°C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20°C;~~

$$K = \frac{\text{Constant, (1)}}{1.740 \times 10^{-7} \text{ ppm}} \frac{\text{(g mole)}}{\text{scm}} \frac{\text{(MJ)}}{\text{kcal(g mole)}}$$

~~where the standard temperature for scm is 20°C;~~

~~$n$  = Number of components in the sample;~~

~~$C_i$  = Concentration of sample component  $i$  in ppm on a wet basis, as measured for organics by Reference Method 18 (as specified in rule 1200-3-16-.01(5)(g)18) and measured for hydrogen and carbon monoxide by ASTM D1946-77; and~~

~~$H_i$  = Net heat of combustion of sample component  $i$ , kcal/g mole at 25°C and 760 mm Hg. The heat of combustion may be determined using ASTM D2382-76 if published values are not available or cannot be calculated.~~

~~(Note: All references to ASTM in this rule refers to the American Society for Testing Materials. Copies of methods are available for purchase by writing to ASTM, 1916 Race Street, Philadelphia, PA 19103 or by writing to the Tennessee Division of Air Pollution Control, 701 Broadway, 4th Floor Customs House, Nashville, TN 37219. Be sure and specify which method is desired).~~

- ~~4. The actual exit velocity of a flare shall be determined by dividing the volumetric flowrate (in units of standard temperature and pressure) as determined either by Reference Method 2 or 2(A) as appropriate (as specified in 1200-3-16-.01(5)(g)2); by the unobstructed (free) cross-sectional area of the flare tip.~~
- ~~5. The maximum permitted velocity,  $V_{max}$ , for flares complying with subpart (c)4(iii) of this paragraph shall be determined by the following equation.~~

$$\text{Log}_{10}(V_{max}) = (H_T + 28.8)/31.7$$

~~$V_{max}$  = Maximum permitted velocity, M/sec~~

~~28.8 = Constant~~

~~31.7 = Constant~~

~~$H_T$  = The net heating value as determined in part (f)3.~~

~~6. The maximum permitted velocity,  $V_{max}$ , for air-assisted flares shall be determined by the following equation.~~

$$\underline{V_{max} = 8.706 + 0.7084(H_T)}$$

~~$V_{max}$  = Maximum permitted velocity, m/sec~~

~~8.706 = Constant~~

~~0.7084 = Constant~~

~~$H_T$  = The net heating value as determined in part (f)3 of his paragraph.~~

~~Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.~~

~~1200-03-16-.02 Fuel Fired Steam Generators for Which Construction is Commenced After April 3, 1972.~~

~~(1) Applicability~~

~~(a) The affected facilities to which the provisions of this rule apply are:~~

- ~~1. Each fossil-fuel-fired steam-generating unit of more than 73 mega-watts heat input rate (250 million Btu per hour) commenced on or after April 3, 1972, and before November 6, 1988.~~
- ~~2. Each fossil-fuel and each fossil-fuel and wood-residue-fired steam-generating unit capable of firing fossil fuel at a heat input rate of more than 73 megawatts (250 million Btu per hour) that commenced construction or modification after November 6, 1988.~~

~~(b) Any change to an existing fossil-fuel-fired steam-generating unit to accommodate the use of combustible materials, other than fossil fuels as defined in this rule, shall not bring that unit under the applicability of this rule.~~

~~(c) Reserved.~~

~~(d) Any facility covered under Rule 1200-03-16-.03 is not covered under this rule.~~

~~(e) Any affected facility meeting the applicability requirements of subparagraph (1)(a) of Rule 1200-03-16-.59 commencing construction, modification, or reconstruction after November 6, 1988 is not subject to this rule.~~

~~(2) Reserved~~

~~Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.~~

~~1200-03-16-.03 Electric Utility Steam Generating Units for Which Construction Commenced After September 18, 1978.~~

~~(1) Applicability.~~

~~(a) The affected facility to which this rule applies is each electric utility steam-generating unit:~~

- ~~1. That is capable of combusting more than 73 megawatts (250 million Btu/hour) heat input of fossil fuel (either alone or in combination with any other fuel); and~~
- ~~2. For which construction or modification is commenced after September 18, 1978.~~

~~(b) This rule applies to electric utility combined cycle gas turbines that are capable of combusting more than 73 megawatts (250 million Btu/hour) heat input of fossil fuel in the steam generator. Only emissions resulting from combustion of fuels in the steam-generating unit are subject to this rule. (The gas turbine emissions are subject to rule 1200-3-16-.31.)~~

~~(c) Any change to an existing fossil fuel fired steam generating unit to accommodate the use of combustible materials, other than fossil fuels, shall not bring that unit under the applicability of this rule.~~

~~(d) Any change to an existing steam generating unit originally designed to fire gaseous or liquid fossil fuels, to accommodate the use of any other fuel (fossil or nonfossil) shall not bring that unit under the applicability of this rule.~~

~~(2) Definitions~~

~~(a) "Steam generating unit" means any furnace, boiler, or other device used for combusting fuel for the purpose of producing steam (including fossil fuel fired steam generators associated with combined cycle gas turbines; nuclear steam generators are not included).~~

~~(b) "Electric utility steam generating unit" means any steam electric generating unit that is constructed for the purpose of supplying more than one-third of its potential electric output capacity and more than 25 MW electrical output to any utility power distribution system for sale. Any steam supplied to a steam distribution system for the purpose of providing steam to a steam electric generator that would produce electrical energy for sale is also considered in determining the electrical energy output capacity of the affected facility.~~

~~(c) "Fossil fuel" means natural gas, petroleum, coal, and any form of solid, liquid, or gaseous fuel derived from such material for the purpose of creating useful heat.~~

~~(d) "Subbituminous coal" means coal that is classified as subbituminous A, B, or C according to the American Society of Testing and Materials' (ASTM) Standard Specification for Classification of Coals by Rank D388-77.~~

~~(e) "Coal refuse" means waste products of coal mining, physical coal cleaning, and coal preparation operations (e.g., culm, gob, etc.) containing coal, matrix material, clay, and other organic and inorganic material.~~

~~(f) "Potential combustion concentration" means the theoretical emissions (ng/J, lb/million Btu heat input) that would result from combustion of a fuel in an uncleaned state without emission control systems and:~~

~~1. For particulate matter is:~~

~~(i) 3,000 ng/J (7.0 lb/million Btu) heat input for solid fuel; and~~

~~(ii) 75 ng/J (0.17 lb/million Btu) heat input for liquid fuels.~~

~~2. For sulfur dioxide is determined under 1200-3-16-.03(9)(b).~~

~~3. For nitrogen oxides is:~~

~~(i) 290 ng/J (0.67 lb/million Btu) heat input for gaseous fuels;~~

~~(ii) 310 ng/J (0.72 lb/million Btu) heat input for liquid fuels; and~~

~~(iii) 990 ng/J (2.30 lb/million Btu) heat input for solid fuels.~~

~~(g) "Combined cycle gas turbine" means a stationary turbine combustion system where heat from the turbine exhaust gases is recovered by a steam generating unit.~~

~~(h) "Interconnected" means that two or more electric generating units are electrically tied together by a network of power transmission lines and other power transmission equipment.~~

~~(i) "Electric utility company" means the largest interconnected organization, business, or governmental entity that generates electric power for sale (e.g., a holding company with operating~~

subsidiary companies).

- ~~(j) “Principal company” means the electric utility company or companies which own the affected facility.~~
- ~~(k) “Neighboring company” means any one of those electric utility companies with one or more electric power interconnections to the principal company and which have geographically adjoining service areas.~~
- ~~(l) “Net system capacity” means the sum of the net electric generating capability (not necessarily equal to rated capacity) of all electric generating equipment owned by an electric utility company (including steam generating units, internal combustion engines, gas turbines, nuclear units, hydroelectric units, and all other electric generating equipment) plus firm contractual purchases that are interconnected to the affected facility that has the malfunctioning flue gas desulfurization system. The electric generating capability of equipment under multiple ownership is prorated based on ownership unless the proportional entitlement to electric output is otherwise established by contractual arrangement.~~
- ~~(m) “System load” means the entire electric demand of an electric utility company’s service area interconnected with the affected facility that has the malfunctioning flue gas desulfurization system plus firm contractual sales to other electric utility companies. Sales to other electric utility companies (e.g., emergency power) not on a firm contractual basis may also be included in the system load when no available system capacity exists in the electric utility company to which the power is supplied for sale.~~
- ~~(n) “System emergency reserves” means an amount of electric generating capacity equivalent to the rated capacity of the single largest electric generating unit in the electric utility company (including steam generating units, internal combustion engines, gas turbines, nuclear units, hydroelectric units, and all other electric generating equipment) which is interconnected with the affected facility that has the malfunctioning flue gas desulfurization system. The electric generating capability of equipment under multiple ownership is prorated based on ownership unless the proportional entitlement to electric output is otherwise established by contractual arrangement.~~
- ~~(o) “Available system capacity” means the capacity determined by subtracting the system load and the system emergency reserves from the net system capacity.~~
- ~~(p) “Spinning reserve” means the sum of the unutilized net generating capability of all units of the electric utility company that are synchronized to the power distribution system and that are capable of immediately accepting additional load. The electric generating capability of equipment under multiple ownership is prorated based on ownership unless the proportional entitlement to electric output is otherwise established by contractual arrangement.~~
- ~~(q) “Available purchase power” means the lesser of the following:~~
- ~~1. The sum of available system capacity in all neighboring companies.~~
  - ~~2. The sum of the rated capacities of the power interconnection devices between the principal company and all neighboring companies, minus the sum of the electric power load on these interconnections.~~
  - ~~3. The rated capacity of the power transmission lines between the power interconnection devices and the electric generating units (the unit in the principal company that has the malfunctioning flue gas desulfurization system and the unit(s) in the neighboring company supplying replacement electrical power) less the electric power load on these transmission lines.~~
- ~~(r) “Spare flue gas desulfurization system module” means a separate system of sulfur dioxide emission control equipment capable of treating an amount of flue gas equal to the total amount of flue gas generated by an affected facility when operated at maximum capacity divided by the total number of nonspare flue gas desulfurization modules in the system.~~

- ~~(s) — “Emergency condition” means that period of time when:~~
- ~~1. — The electric generation output of an affected facility with a malfunctioning flue gas desulfurization system cannot be reduced or electrical output must be increased because:~~
    - ~~(i) — All available system capacity in the principal company interconnected with the affected facility is being operated, and~~
    - ~~(ii) — All available purchase power interconnected with the affected facility is being obtained, or~~
  - ~~2. — The electric generation demand is being shifted as quickly as possible from an affected facility with a malfunctioning flue gas desulfurization system to one or more electrical generating units held in reserve by the principal company or by a neighboring company, or~~
  - ~~3. — An affected facility with a malfunctioning flue gas desulfurization system becomes the only available unit to maintain a part or all of the principal company’s system emergency reserves, and the unit is operated in spinning reserve at the lowest practical electric generation load consistent with not causing significant physical damage to the unit. If the unit is operated at a higher load to meet load demand, an emergency condition would not exist unless the conditions under part 1 of this definition apply.~~
- ~~(t) — “Electric utility combined cycle gas turbine” means any combined cycle gas turbine used for electric generation that is constructed for the purpose of supplying more than one-third of its potential electric output capacity and more than 25 MW electrical output to any utility power distribution system for sale. Any steam distribution system that is constructed for the purpose of providing steam to a steam electric generator that would produce electrical power for sale is also considered in determining the electrical energy output capacity of the affected facility.~~
- ~~(u) — “Potential electrical output capacity” is defined as 33 percent of the maximum design heat input capacity of the steam generating unit (e.g., a steam generating unit with a 100-MW (340 million Btu/hr) fossil fuel heat input capacity would have a 33-MW potential electrical output capacity). For electric utility combined cycle gas turbines, the potential electrical output capacity is determined on the basis of fossil fuel firing capacity of the steam generator exclusive of the heat input and electrical power contribution by the gas turbine.~~
- ~~(v) — “Anthracite” means coal that is classified as anthracite according to the American Society of Testing and Materials’ (ASTM) Standard Specification for Classification of Coals by Rank D388-77.~~
- ~~(w) — “Solid derived fuel” means any solid, liquid, or gaseous fuel derived from solid fuel for the purpose of creating useful heat and includes, but is not limited to, solvent refined coal, liquified coal, and gasified coal.~~
- ~~(x) — “24-hour period” means the period of time between 12:01 a.m. and 12:00 midnight.~~
- ~~(y) — “Resource recovery unit” means a facility that combusts more than 75 percent non-fossil fuel on a quarterly (calendar) heat input basis.~~
- ~~(z) — “Noncontinental area” means the State of Hawaii, the Virgin Islands, Guam, American Samoa, the Commonwealth of Puerto Rico, or the Northern Mariana Islands.~~
- ~~(aa) — “Boiler operating day” means a 24-hour period during which fossil fuel is combusted in a steam generating unit for the entire 24 hours.~~
- ~~(3) — Standard for Particulate Matter~~
- ~~(a) — On and after the date on which the performance test required to be conducted under paragraph 1200-3-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility any gases which contain particulate matter in excess of:~~



- ~~1. 13 ng/J (0.03 lb/million Btu) heat input derived from the combustion of solid, liquid, or gaseous fuel;~~
  - ~~2. 1 percent of the potential combustion concentration (99 percent reduction) when combusting solid fuel; and~~
  - ~~3. 30 percent of potential combustion concentration (70 percent reduction) when combusting liquid fuel.~~
- ~~(b) On and after the date the particulate matter performance test required to be conducted under 1200-3-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility any gases which exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity.~~

~~(4) Standard for Sulfur Dioxide~~

- ~~(a) On and after the date on which the initial performance test required to be conducted under 1200-3-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility which combusts solid fuel or solid-derived fuel, except as provided under subparagraphs (c), (d), (f), or (h) of this paragraph, any gases which contain sulfur dioxide in excess of:~~
- ~~1. 520 ng/J (1.20 lb/million Btu) heat input and 10 percent of the potential combustion concentration (90 percent reduction), or~~
  - ~~2. 30 percent of the potential combustion concentration (70 percent reduction), when emissions are less than 260 ng/J (0.60 lb/million Btu) heat input.~~
- ~~(b) On and after the date on which the initial performance test required to be conducted under 1200-3-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall cause to be from any affected facility which combusts liquid or gaseous fuels (except for liquid or gaseous fuels derived from solid fuels and as provided under subparagraphs (e) or (h) of this paragraph), any gases which contain sulfur dioxide in excess of:~~
- ~~1. 340 ng/J (0.80 lb/million Btu) heat input and 10 percent of the potential combustion concentration (90 percent reduction), or~~
  - ~~2. 100 percent of the potential combustion concentration (zero percent reduction) when emissions are less than 86 ng/J (0.20 lb/million Btu) heat input.~~
- ~~(c) On and after the date on which the initial performance test required to be conducted under 1200-3-16-.01(5) is complete, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility which combusts solid solvent refined coal (SRC-I) any gases which contain sulfur dioxide in excess of 520 ng/J (1.20 lb/million Btu) heat input and 15 percent of the potential combustion concentration (85 percent reduction) except as provided under subparagraph (f) of this paragraph; compliance with the emission limitation is determined on a 30-day rolling average basis and compliance with the percent reduction requirement is determined on a 24-hour basis.~~
- ~~(d) Sulfur dioxide emissions are limited to 520 ng/J (1.20 lb/million Btu) heat input from any affected facility which:~~
- ~~1. Combusts 100 percent anthracite, or~~
  - ~~2. Is classified as a resource recovery facility, or~~
  - ~~3. Is located in a noncontinental area and combusts solid fuel or solid-derived fuel.~~
- ~~(e) Sulfur dioxide emissions are limited to 340 ng/J (0.80 lb/million Btu) heat input from any affected facility which is located in a noncontinental area and combusts liquid or gaseous fuels (excluding~~

solid-derived fuels).

(f) ~~The emission reduction requirements under this paragraph do not apply to any affected facility that is operated under an SO<sub>2</sub> commercial demonstration permit issued in accordance with the provisions of 1200-3-16-.03(6).~~

(g) ~~Compliance with the emission limitation and percent reduction requirements under this paragraph are both determined on a 30-day rolling average basis except as provided under subparagraph (c) of this paragraph.~~

(h) ~~When different fuels are combusted simultaneously, the applicable standard is determined by proration using the following formula:~~

1. ~~If emissions of sulfur dioxide to the atmosphere are greater than 260 ng/J (0.60 lb/million Btu) heat input:~~

~~$E_{SO_2} = (340x + 520y)/100$  and~~

~~$P_{SO_2} = 10$  percent~~

2. ~~If emissions of sulfur dioxide to the atmosphere are equal to or less than 260 ng/J (0.60 lb/million Btu) heat input:~~

~~$E_{SO_2} = (340x + 520y)/100$  and~~

~~$P_{SO_2} = (90x + 70y)/100$~~

~~where:~~

~~$E_{SO_2}$  is the prorated sulfur dioxide emission limit (ng/J heat input).~~

~~$P_{SO_2}$  is the percentage of potential sulfur dioxide emission allowed percent reduction required =  $100 - P_{SO_2}$ .~~

~~$x$  is the percentage of total heat input derived from the combustion of liquid or gaseous fuels (excluding solid-derived fuels)~~

~~$y$  is the percentage of total heat input derived from the combustion of solid fuel (including solid-derived fuels)~~

~~(5) Standard for Nitrogen Oxides~~

~~(a) On and after the date on which the initial performance test required to be conducted under 1200-3-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility, except as provided under subparagraph (b) of this paragraph, any gases which contain nitrogen oxides in excess of the following emission limits, based on a 30-day rolling average.~~

~~1. NO<sub>x</sub> Emission Limits~~

| <del>Fuel type</del>          | <del>Emission limit<br/>ng/J</del> | <del>Heat input<br/>(lb/M Btu)</del> |
|-------------------------------|------------------------------------|--------------------------------------|
| <del>Gaseous Fuels:</del>     |                                    |                                      |
| <del>Coal-derived fuels</del> | <del>210</del>                     | <del>(0.50)</del>                    |
| <del>All other fuels</del>    | <del>86</del>                      | <del>(0.20)</del>                    |
| <del>Liquid Fuels:</del>      |                                    |                                      |
| <del>Coal-derived fuels</del> | <del>210</del>                     | <del>(0.50)</del>                    |
| <del>Shale oil</del>          | <del>210</del>                     | <del>(0.50)</del>                    |

|   |  |                   |
|---|--|-------------------|
| <del>—All other fuels</del>   | <del>130</del>   | <del>(0.30)</del> |
| <del>Solid Fuels:</del>   |  |                   |
| <del>—Coal derived fuels</del>  | <del>210</del>   | <del>(0.50)</del> |
| <del>—Any fuel containing more than 25%, by weight, coal refuse</del>   | <del>Exempt from NOx standards and NOx monitoring requirements</del> |                   |
|   |  |                   |
| <del>Any fuel containing more than 25%, by weight, lignite if the lignite is mined in North Dakota, South Dakota, or Montana and is combusted in a slag tap furnace</del> | <del>340</del>   | <del>(0.80)</del> |
| <del>—Lignite not subject to the ng/J heat input emission limit</del>   | <del>260</del>   | <del>(0.60)</del> |
| <del>—Subbituminous coal</del>  | <del>210</del>   | <del>(0.50)</del> |
| <del>—Bituminous coal</del>   | <del>260</del>   | <del>(0.60)</del> |
| <del>—Anthracite coal</del>   | <del>260</del>   | <del>(0.60)</del> |
| <del>—All other fuels</del>   | <del>260</del>   | <del>(0.60)</del> |

~~2. NOx reduction requirements~~

| <del>Fuel type</del>     | <del>Percent reduction of potential combustion concentration</del> |
|--------------------------|--|
| <del>Gaseous fuels</del> | <del>25%</del>   |
| <del>Liquid fuels</del>  | <del>30%</del>   |
| <del>Solid fuels</del>   | <del>65%</del>   |

~~(b) The emission limitations under subparagraph (a) of this paragraph do not apply to any affected facility which is combusting coal-derived liquid fuel and is operating under a commercial demonstration permit issued in accordance with the provisions of 1200-3-16-.03(6).~~

~~(c) When two or more fuels are combusted simultaneously, the applicable standard is determined by proration using the following formula:~~

$$\text{ENox} = (86w + 130x + 210y + 260z)/100$$

~~where:~~

~~ENox is the applicable standard for nitrogen oxides when multiple fuels are combusted simultaneously (ng/J heat input);~~

~~w is the percentage of total heat input derived from the combustion of fuels subject to the 86 ng/J heat input standard;~~

~~x is the percentage of total heat input derived from the combustion of fuels subject to the 130 ng/J heat input standard;~~

~~y is the percentage of total heat input derived from the combustion of fuels subject to the 210 ng/J heat input standard; and~~

~~z is the percentage of total heat input derived from the combustion of fuels subject to the 260 ng/J heat input standard.~~

~~(6) Commercial demonstration permit.~~

- ~~(a) An owner or operator of an affected facility proposing to demonstrate an emerging technology may apply to the EPA Administrator for a commercial demonstration permit in accordance with section 60.45a, "Commerical demonstration permit," as specified in the Federal Register, Vol. 44, No. 113, June 11, 1979.~~
- ~~(b) An owner or operator of an affected facility that combusts solid solvent refined coal (SRC-I) and who is issued a commercial demonstration permit is not subject to the SO<sub>2</sub> emission reduction requirements under 1200-3-16-.03(4)(c) but must, as a minimum, reduce SO<sub>2</sub> emissions to 20 percent of the potential combustion concentration (80 percent reduction) for each 24-hour period of steam generator operation and to less than 520 ng/J (1.20 lb/million Btu) heat input on a 30-day rolling average basis.~~
- ~~(c) An owner or operator of a fluidized bed combustion electric utility steam generator (atmospheric or pressurized) who is issued a commercial demonstration permit is not subject to the SO<sub>2</sub> emissions reduction requirements under 1200-3-16-.03(4)(a) but must, as a minimum, reduce SO<sub>2</sub> emissions to 15 percent of the potential combustion concentration (85 percent reduction) on a 30-day rolling average basis and to less than 520 ng/J (1.20 lb/million Btu) heat input on a 30-day rolling average basis.~~
- ~~(d) The owner or operator of an affected facility that combusts coal-derived liquid fuel and who is issued a commercial demonstration permit is not subject to the applicable NO<sub>x</sub> emission limitation and percent reduction under 1200-3-16-.03(5)(a) but must, as a minimum, reduce missions to less than 300 ng/J (0.70 lb/million Btu) heat input on a 30-day rolling average basis.~~
- ~~(e) Commerical demonstration permits may not exceed the following equivalent MW electrical generation capacity for any one technology category, and the total equivalent MW electrical generation capacity for all commercial demonstration plants may not exceed 15,000 MW.~~

| Technology                             | Pollutant       | Equivalent electrical capacity (MW electrical output) |
|--|-----------------|---|
| Solid solvent refined coal (SRC-I)     | SO <sub>2</sub> | 6,000-10,000  |
| Fluidized bed combustion (atmospheric) | SO <sub>2</sub> | 400-3,000   |
| Fluidized bed combustion (pressurized) | SO <sub>2</sub> | 400-1,200   |
| Coal liquification                     | NO <sub>x</sub> | 750-10,000  |
| Total allowable for all technologies   |                 | 15,000  |

~~(7) Compliance provisions.~~

- ~~(a) Compliance with the particulate matter emission limitation under 1200-3-16-.03(3)(a)1 constitutes compliance with the percent reduction requirements for particulate matter under 1200-3-16-.03(2) and (3).~~
- ~~(b) Compliance with the nitrogen oxides emission limitation under 1200-3-16-.03(5)(a) constitutes compliance with the percent reduction requirements under 1200-3-16-.03(5)(a)2.~~
- ~~(c) The particulate matter emission standards under 1200-3-16-.03(3) and the nitrogen oxides emission standards under 1200-3-16-.03(5) apply at all times except during periods of startup, shutdown, or malfunction. The sulfur dioxide emission standards under 1200-3-16-.03(4) apply at all times except during periods of start-up, shutdown, or when both emergency conditions exist and~~

~~the procedures under subparagraph (d) of this paragraph are implemented.~~

- ~~(d) During emergency conditions in the principal company, an affected facility with a malfunctioning flue gas desulfurization system may be operated if sulfur dioxide emissions are minimized by:~~
- ~~1. Operating all operable flue gas desulfurization system modules, and bringing back into operation any malfunctioned module as soon as repairs are completed,~~
  - ~~2. Bypassing flue gases around only those flue gas desulfurization system modules that have been taken out of operation because they were incapable of any sulfur dioxide emission reduction or which would have suffered significant physical damage if they had remained in operation, and~~
  - ~~3. Designing, constructing, and operating a spare flue gas desulfurization system module for an affected facility larger than 365 MW (1,250 million Btu/hr) heat input (approximately 125 MW electrical output capacity). The Technical Secretary may at his discretion require the owner or operator within 60 days of notification to demonstrate spare module capability. To demonstrate this capability, the owner or operator must demonstrate compliance with the appropriate requirements under subparagraphs (a), (b), (d), (e), and (i) under 1200-3-16-.03(4) for any period of operation lasting from 24 hours to 30 days when:~~
    - ~~(i) Any one flue gas desulfurization module is not operated,~~
    - ~~(ii) The affected facility is operating at the maximum heat input rate,~~
    - ~~(iii) The fuel fired during the 24-hour to 30-day period is representative of the type and average sulfur content of fuel used over a typical 30-day period, and~~
    - ~~(iv) The owner or operator has given the Technical Secretary at least 30 days notice of the date and period of time over which the demonstration will be performed.~~
- ~~(e) After the initial performance test required under 1200-3-16-.01(5) compliance with the sulfur dioxide emission limitations and percentage reduction requirements under 1200-3-16-.03(4) and the nitrogen oxides emission limitations under 1200-3-16-.03(5) is based on the average emission rate for 30 successive boiler operating days. A separate performance test is completed at the end of each boiler operating day after the initial performance test, and a new 30 day average emission rate for both sulfur dioxide and nitrogen oxides and a new percent reduction for sulfur dioxide are calculated to show compliance with the standards.~~
- ~~(f) For the initial performance test required under 1200-3-16-.01(5), compliance with the sulfur dioxide emission limitations and percent reduction requirements under 1200-3-16-.03(4) and the nitrogen oxides emission limitation under 1200-3-16-.03(5) is based on the average emission rates for sulfur dioxide, nitrogen oxides, and percent reduction for sulfur dioxide for the first 30 successive boiler operating days. The initial performance test is the only test in which at least 30 days prior notice is required unless otherwise specified by the Technical Secretary. The initial performance test is to be scheduled so that the first boiler operating day of the 30 successive boiler operating days is completed within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of the facility.~~
- ~~(g) Compliance is determined by calculating the arithmetic average of all hourly emission rates for SO<sub>2</sub> and NO<sub>x</sub> for the 30 successive boiler operating days, except for data obtained during startup, shutdown, malfunction (NO<sub>x</sub> only), or emergency conditions (SO<sub>2</sub> only). Compliance with the percentage reduction requirement for SO<sub>2</sub> is determined based on the average inlet and average outlet SO<sub>2</sub> emission rates for the 30 successive boiler operating days.~~
- ~~(h) If an owner or operator has not obtained the minimum quantity of emission data as required under 1200-3-16-.03(8) of this rule, compliance of the affected facility with the emission requirements under 1200-3-16-.03(4) and (5) of this rule for the day on which the 30-day period ends may be determined by the Technical Secretary by following the applicable procedures in sections 6.0 and 7.0 of Reference Method 19 as specified in 1200-3-16-.01(5)(g)19.~~

~~(8) Emission monitoring~~

- ~~(a) The owner or operator of an affected facility shall install, calibrate, maintain, and operate a continuous monitoring system, and record the output of the system, for measuring the opacity of emissions discharged to the atmosphere, except where gaseous fuel is the only fuel combusted. If opacity interference due to water droplets exists in the stack (for example, from the use of an FGD system), the opacity is monitored upstream of the interference (at the inlet to the FGD system). If opacity interference is experienced at all locations (both at the inlet and outlet of the sulfur dioxide control system), alternate parameters indicative of the particulate matter control system's performance are monitored (subject to the approval of the Technical Secretary).~~
- ~~(b) The owner or operator of an affected facility shall install, calibrate, maintain, and operate a continuous monitoring system, and record the output of the system, for measuring sulfur dioxide emissions, except where natural gas is the only fuel combusted, as follows:~~
- ~~1. Sulfur dioxide emissions are monitored at both the inlet and outlet of the sulfur dioxide control device.~~
  - ~~2. For a facility which qualifies under the provisions of 1200-3-16-.03(4)(d), sulfur dioxide emissions are only monitored as discharged to the atmosphere.~~
  - ~~3. An "as fired" fuel monitoring system (upstream of coal pulverizers) meeting the requirements of Method 19 may be used to determine potential sulfur dioxide emissions in place of a continuous sulfur dioxide emission monitor at the inlet to the sulfur dioxide control device as required under part (b)1 of this paragraph.~~
- ~~(c) The owner or operator of an affected facility shall install, calibrate, maintain, and operate a continuous monitoring system, and record the output of the system, for measuring nitrogen oxides emissions discharged to the atmosphere.~~
- ~~(d) The owner or operator of an affected facility shall install, calibrate, maintain, and operate a continuous monitoring system, and record the output of the system, for measuring the oxygen or carbon dioxide content of the flue gases at each location where sulfur dioxide or nitrogen oxides emissions are monitored.~~
- ~~(e) The continuous monitoring systems under subparagraphs (b), (c), and (d) of this paragraph are operated and data recorded during all periods of operation of the affected facility including periods of startup, shutdown, malfunction, or emergency conditions, except for continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments.~~
- ~~(f) When emission data are not obtained because of continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments, emission data will be obtained by using other monitoring systems as approved by the Technical Secretary or the reference methods as described in subparagraph (h) of this paragraph to provide emission data for a minimum of 18 hours in at least 22 out of 30 successive boiler operating days.~~
- ~~(g) The 1-hour averages required under 1200-3-16-.01(8)(h) are expressed in ng/J (lbs/million Btu) heat input and used to calculate the average emission rates under 1200-3-16-.03(7). The 1-hour averages are calculated using the data points required under 1200-3-16-.01(8)(b). At least two data points must be used to calculate the 1-hour averages.~~
- ~~(h) Reference methods used to supplement continuous monitoring system data to meet the minimum data requirements in 1200-3-16-.03(8)(f) will be used as specified below or otherwise approved by the Technical Secretary.~~
- ~~1. Reference Methods 3, 6, and 7, as specified in 1200-3-16-.01(5)(g)3, 6, and 7, as applicable are used. The sampling location(s) are the same as those used for the continuous monitoring system.~~
  - ~~2. For Method 6, the minimum sampling time is 20 minutes and the minimum sampling volume is 0.02 dscm (0.71 dscf) for each sample. Samples are taken at approximately 60-minute~~

intervals. Each sample represents a 1-hour average.

- ~~3. For Method 7, samples are taken at approximately 30-minute intervals. The arithmetic average of these two consecutive samples represents a 1-hour average.~~
  - ~~4. For Method 3, the oxygen or carbon dioxide sample is to be taken for each hour when continuous SO<sub>2</sub> and NO<sub>x</sub> data are taken or when Methods 6 and 7 are required. Each sample shall be taken for a minimum of 30 minutes in each hour using the integrated bag method specified in Method 3. Each sample represents a 1-hour average.~~
  - ~~5. For each 1-hour average, the emissions expressed in ng/J (lb/million Btu) heat input are determined and used as needed to achieve the minimum data requirements of subparagraph (f) of this paragraph.~~
- ~~(i) The following procedures are used to conduct monitoring system performance evaluations under 1200-3-16-.01(8)(c) and calibration checks under 1200-3-16-.01(8)(d).~~
- ~~1. Reference Method 6 or 7, as applicable, is used for conducting performance evaluations of sulfur dioxide and nitrogen oxides continuous monitoring systems.~~
  - ~~2. Reserved~~
  - ~~3. For affected facilities burning only fossil fuel, the span value for a continuous monitoring system for measuring opacity is between 60 and 80 percent and for a continuous monitoring system measuring nitrogen oxides is determined as follows:~~

| <del>Fossil fuel</del> | <del>Span value for nitrogen oxides (ppm)</del> |
|------------------------|---|
| <del>Gas</del>         | <del>500</del>                                  |
| <del>Liquid</del>      | <del>500</del>                                  |
| <del>Solid</del>       | <del>1,000</del>                                |
| <del>Combination</del> | <del>500 (x + y) + 1,000z</del>                 |

~~where:~~

~~x is the fraction of total heat input derived from gaseous fossil fuel,~~

~~y is the fraction of total heat input derived from liquid fossil fuel, and~~

~~z is the fraction of total heat input derived from solid fossil fuel.~~

- ~~4. All span values computed under subparagraph (b)3 of this paragraph for burning combinations of fossil fuels are rounded to the nearest 500 ppm.~~
  - ~~5. For affected facilities burning fossil fuel, alone or in combination with non-fossil fuel, the span value of the sulfur monitoring system at the inlet to the sulfur dioxide control device is 125 percent of the maximum estimated hourly potential emissions of the fuel fired, and the outlet of the sulfur dioxide control device is 50 percent of maximum estimated hourly potential emissions of the fuel fired.~~
- ~~(9) Compliance determination procedures and methods.~~

- ~~(a) The following procedures and reference methods are used to determine compliance with the standards for particulate matter under 1200-3-16-.03(3).~~
- ~~1. Method 3 is used for gas analysis when applying Method 5, 5B, or 17.~~
  - ~~2. Method 5, 5B, or 17 is used for determining particulate matter emissions and associated moisture content as follows: Method 5 is to be used at affected facilities without wet FGD~~

~~systems; Method 5B is to be used only after wet FGD systems; and Method 17 may be used at facilities with or without wet FGD systems provided that the stack gas temperature at the sampling location does not exceed a temperature of 160°C (320°F). The procedures of sections 2.1 and 2.3 of Method 5B may be used in Method 17 only if it is used after wet FGD systems. Do not use Method 17 after wet FGD systems if the effluent is saturated or laden with water droplets.~~

- ~~3. For Method 5, 5B, or 17, Method 1 is used to select the sampling site and the number of traverse sampling points. The sampling time for each run is at least 120 minutes and the minimum sampling volume is 1.7 dscm (60 dscf) except that small sampling times or volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.~~
  - ~~4. For Method 5 or 5B the probe and filter holder heating system in the sampling train is set to provide an average gas temperature of 160°C (320°F).~~
  - ~~5. For determination of particulate emissions, the oxygen or carbon dioxide sample is obtained simultaneously with each run of Method 5, 5B, or 17 by traversing the duct at the same sampling location. Method 1 is used for selection of the number of oxygen or carbon dioxide traverse points except that no more than 12 sample points are required.~~
  - ~~6. For each run using Method 5, 5B, or 17, the emission rate expressed in ng/J heat input is determined using the oxygen or carbon dioxide measurement and particulate matter measurements obtained under this section, the dry basis Fc factor and the dry basis emission rate calculation procedure contained in Method 19 (1200-3-16-.01(5)(g)19).~~
  - ~~7. Prior to the Technical Secretary's issuance of a particulate matter reference method that does not experience sulfuric acid mist interference problems, particulate matter emissions may be sampled prior to a wet flue gas desulfurization system.~~
- ~~(b) The following procedures and methods are used to determine compliance with the sulfur dioxide standards under 1200-3-16-.03(4).~~
- ~~1. Determine the percent of potential combustion concentration (percent PCC) emitted to the atmosphere as follows:~~
    - ~~(i) Fuel Pretreatment (%Rf): Determine the percent reduction achieved by any fuel pretreatment using the procedures in Method 19. Calculate the average percent reduction for fuel pretreatment on a quarterly basis using fuel analysis data. The determination of percent Rf to calculate the percent of potential combustion concentration emitted to the atmosphere is optional. For purposes of determining compliance with any percent reduction requirements under 1200-3-16-.03(4), any reduction in potential SO<sub>2</sub> emissions resulting from the following processes may be credited:~~
      - ~~(I) Fuel pretreatment (physical coal cleaning), hydrodesulfurization of fuel oil, etc.;~~
      - ~~(II) Coal pulverizers, and~~
      - ~~(III) Bottom and flyash interactions.~~
    - ~~(ii) Sulfur Dioxide Control System (%Rg): Determine the percent sulfur dioxide reduction achieved by any sulfur dioxide control system using emission rates measured before and after the control system, following the procedures in Method 19 or, a combination of an "as fired" fuel monitor and emission rates measured after the control system, following the procedures in Method 19. When the "as fired" fuel monitor is used, the percent reduction is calculated using the average emission rate from the sulfur dioxide control device and the average SO<sub>2</sub> input rate from the "as fired" fuel analysis for 30 successive boiler operating days.~~



~~(iii) — Overall percent reduction (% Ro): Determine the overall percent reduction using the results obtained in subparts (b)1. (i) and (ii) of this paragraph following the procedures in Method 19. Results are calculated for each 30-day period using the quarterly average percent sulfur reduction determined for fuel pretreatment from the previous quarter and the sulfur dioxide reduction achieved by a sulfur dioxide control system for each 30-day period in the current quarter.~~

~~(iv) — Percent emitted (% PCC): Calculate the percent of potential combustion concentration emitted to the atmosphere using the following equation: Percent PCC = 100 - Percent Ro.~~

~~2. — Determine the sulfur dioxide emission rates following the procedures in Method 19.~~

~~(c) — The procedures and methods outlined in Method 19 are used in conjunction with the 30-day nitrogen oxides emission data collected under 1200-3-16-.03(8) to determine compliance with the applicable nitrogen oxides standard under 1200-3-16-.03(5).~~

~~(d) — Electric utility combined cycle gas turbines are performance tested for particulate matter, sulfur dioxide, and nitrogen oxides using Method 19. The sulfur dioxide and nitrogen oxides emission rates from the gas turbine used in Method 19 calculations are determined when the gas turbine is performance tested under 1200-3-16-.31. The potential uncontrolled particulate matter emission rate from a gas turbine is defined as 17 ng/J (0.04 lb/million Btu) heat input.~~

#### ~~(10) — Reporting Requirements.~~

~~(a) — For sulfur dioxide, nitrogen oxides, and particulate matter emissions, the performance test data from the initial performance test and from the performance evaluation of the continuous monitors (including the transmissometer) are submitted to the Technical Secretary.~~

~~(b) — For sulfur dioxide and nitrogen oxides the following information is reported to the Technical Secretary for each 24-hour period:~~

~~1. — Calendar date.~~

~~2. — The average sulfur dioxide and nitrogen oxide emission rates (ng/J or lb/million Btu) for each 30 successive boiler operating days, ending with the last 30-day period in the quarter; reasons for non-compliance with the emission standards; and description of corrective actions taken.~~

~~3. — Percent reduction of the potential combustion concentration of sulfur dioxide for each 30 successive boiler operating days, ending with the last 30-day period in the quarter; reasons for non-compliance with the standard; and description of corrective actions taken.~~

~~4. — Identification of the boiler operating days for which pollutant or diluent data have not been obtained by an approved method for at least 18 hours of operation of the facility; justification for not obtaining sufficient data; and description of corrective actions taken.~~

~~5. — Identification of the times when emissions data have been excluded from the calculation of average emission rates because of startup, shutdown, malfunction (NO<sub>x</sub> only), emergency conditions (SO<sub>2</sub> only), or other reasons, and justification for excluding data for reasons other than startup, shutdown, malfunction, or emergency conditions.~~

~~6. — Identification of "F" factor used for calculations, method of determination, and type of fuel combusted.~~

~~7. — Identification of times when hourly averages have been obtained based on manual sampling methods.~~

~~8. — Identification of the times when the pollutant concentration exceeded full span of the continuous monitoring system.~~

- ~~9. Description of any modifications to the continuous monitoring system which could affect the ability of the continuous monitoring system to comply with Performance Specifications 2 or 3.~~
- ~~(c) If the minimum quantity of emission data as required by 1200-3-16-.03(8) is not obtained for any 30 successive boiler operating days, the following information obtained under the requirements of 1200-3-16-.03(7)(h) is reported to the Technical Secretary for that 30-day period:~~
- ~~1. The number of hourly averages available for outlet emission rates (no) and inlet emission rates (ni) as applicable.~~
  - ~~2. The standard deviation of hourly averages for outlet emission rates (so) and inlet emission rates (si) as applicable.~~
  - ~~3. The lower confidence limit for the mean outlet emission rate (Eo\*) and the upper confidence limit for the mean inlet emission rate (Ei\*) as applicable.~~
  - ~~4. The applicable potential combustion concentration.~~
  - ~~5. The ratio of the upper confidence limit for the mean outlet emission rate (Eo\*) and the allowable emission rate (Estd) as applicable.~~
- ~~(d) If any standards under 1200-3-16-.03(4) are exceeded during emergency conditions because of control system malfunction, the owner or operator of the affected facility shall submit a signed statement:~~
- ~~1. Indicating if emergency conditions existed and requirements under 1200-3-16-.03(7)(d) were met during each period and~~
  - ~~2. Listing the following information:~~
    - ~~(i) Time periods the emergency condition existed;~~
    - ~~(ii) Electrical output and demand on the owner or operator's electric utility system and the affected facility;~~
    - ~~(iii) Amount of power purchased from interconnected neighboring utility companies during the emergency period;~~
    - ~~(iv) Percent reduction in emissions achieved;~~
    - ~~(v) Atmospheric emission rate (ng/J) of the pollutant discharged; and~~
    - ~~(vi) Actions taken to correct control system malfunction.~~
- ~~(e) If fuel pretreatment credit toward the sulfur dioxide emission standard under 1200-3-16-.03(4) is claimed, the owner or operator of the affected facility shall submit a signed statement:~~
- ~~1. Indicating what percentage cleaning credit was taken for the calendar quarter, and whether the credit was determined in accordance with the provisions of 1200-3-16-.03(9) and Method 19; and~~
  - ~~2. Listing the quantity, heat content, and date each pretreated fuel shipment was received during the previous quarter; the name and location of the fuel pretreatment facility; and the total quantity and total heat content of all fuels received at the affected facility during the previous quarter.~~
- ~~(f) For any periods for which opacity, sulfur dioxide, or nitrogen oxides emissions data are not available, the owner or operator of the affected facility shall submit a signed statement indicating if any changes were made in operation of the emission control system during the period of data unavailability. Operations of the control system and affected facility during periods of data~~

~~unavailability are to be compared with operation of the control system and affected facility before and following the period of data unavailability.~~

- ~~(g) The owner or operator of the affected facility shall submit a signed statement indicating whether:~~
- ~~1. The required continuous monitoring system calibration, span, and drift checks or other periodic audits have or have not been performed as specified.~~
  - ~~2. The data used to show compliance was or was not obtained in accordance with approved methods and procedures of this part and is representative of plant performance.~~
  - ~~3. The minimum data requirements have or have not been met; or the minimum data requirements have not been met for errors that were unavoidable.~~
  - ~~4. Compliance with the standards has or has not been achieved during the reporting period.~~
- ~~(h) For the purposes of the reports required under 1200-3-16-.01(7), periods of excess emissions are defined as all 6-minute periods during which the average opacity exceeds the applicable opacity standards under 1200-3-16-.03(3)(b). Opacity levels in excess of the applicable opacity standard and the date of such excesses are to be submitted to the Technical Secretary each calendar quarter.~~
- ~~(i) The owner or operator of an affected facility shall submit the written reports required under this paragraph and rule 1200-3-16-.01 to the Technical Secretary for every calendar quarter. All quarterly reports shall be postmarked by the 30<sup>th</sup> day following the end of each calendar quarter.~~

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

#### ~~1200-03-16-.04 Incinerators~~

##### ~~(1) Applicability and designation of affected facility~~

~~The provisions of this rule are applicable to each incinerator of more than 50 tons per day charging rate, commenced on or after April 3, 1972, which is the affected facility.~~

##### ~~(2) Definitions~~

- ~~(a) "Incinerator" means any furnace used in the process of burning solid waste for the purpose of reducing the volume of the waste by removing combustible matter.~~
- ~~(b) "Solid waste" means refuse, more than 50 percent of which is municipal type waste consisting of a mixture of paper, wood, yard wastes, food wastes, plastic, leather, rubber, and other combustibles, and noncombustible materials such as glass and rock.~~
- ~~(c) "Day" means 24 hours.~~
- ~~(d) "Particulate matter" means any finely divided liquid or solid material, other than uncombined water, as measured by methods specified by the Technical Secretary.~~

##### ~~(3) Standard for particulate matter~~

~~On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere of particulate matter which is in excess of 0.18 g/dscm (0.08 gr/dscf) corrected to 12 percent CO<sub>2</sub>.~~

##### ~~(4) Monitoring of operations~~

~~The owner or operator of any incinerator of more than forty-five (45) metric tons per day charging rate (50 tons per day) subject to the provisions of this rule shall record the daily charging rates and hours of operation.~~

~~(5) Test methods and procedures~~

~~(a) The sampling time for each particulate run shall be at least sixty (60) minutes and the minimum sample volume shall be 0.85 dscm (30 dscf) except that smaller sampling times or sample volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.~~

~~(b) If a wet scrubber is used, the gas analysis sample shall reflect flue gas conditions after the scrubber, allowing for carbon dioxide absorption by sampling the gas on the scrubber inlet and outlet sides according to either the procedure under parts 1 through 5 of this subparagraph or the procedure under parts 1, 2, and 6 of this subparagraph as follows:~~

~~1. The outlet sampling site shall be the same as for the particulate matter measurement. The inlet site shall be selected according to a method specified by the Technical Secretary.~~

~~2. Randomly select nine (9) sampling points within the cross-section at both the inlet and outlet sampling sites. Use of the first set of three for the first run, the second set for the second run, and the third set for the third run.~~

~~3. Simultaneously with each particulate matter run, extract and analyze for CO<sub>2</sub> an integrated gas sample, traversing the three (3) sample points and sampling at each point for equal increments of time. Conduct the runs at both inlet and outlet sampling sites.~~

~~4. Measure the volumetric flow rate at the inlet during each particulate matter run using the full number of traverse points. For the inlet make two (2) full velocity traverses approximately one (1) hour apart during each run and average the results. The outlet volumetric flow rate may be determined from the particulate matter run.~~

~~5. Calculate the adjusted CO<sub>2</sub> percentage using the following equation:~~

$$\text{(\%CO}_2\text{)}_{\text{adj}} = \text{(\%CO}_2\text{)}_{\text{di}} (Q_{\text{di}}/Q_{\text{do}})$$

~~where:~~

~~(%CO<sub>2</sub>)<sub>adj</sub> is the adjusted CO<sub>2</sub> percentage which removes the effect of CO<sub>2</sub> absorption and dilution air.~~

~~(%CO<sub>2</sub>)<sub>di</sub> is the percentage of CO<sub>2</sub> measured before the scrubber, dry basis.~~

~~Q<sub>di</sub> is the volumetric flow rate before the scrubber, average of two (2) runs, dscf/min, and~~

~~Q<sub>do</sub> is the volumetric flow rate after the scrubber, dscf/min.~~

~~6. Alternatively, the following procedures may be substituted for the procedures under parts 3, 4, and 5 of this subparagraph.~~

~~(i) Simultaneously with each particulate matter run, extract and analyze for CO<sub>2</sub>, O<sub>2</sub>, and N<sub>2</sub> an integrated gas sample, traversing the three (3) sample points and sampling for equal increments of time at each point. Conduct the runs at both the inlet and outlet sampling sites.~~

~~(ii) After completing the analysis of the gas sample, calculate the percentage of excess air (%EA) for both the inlet and outlet sampling stations.~~

$$\text{\% EA} = \left[ \frac{\% O_2 - 0.5\% CO}{0.264\% N_2 - (\% O_2 - 0.5\% CO)} \right] \times 100$$

~~Where:~~

~~%EA = Percent excess air~~

~~%O<sub>2</sub> = Percent oxygen by volume, dry basis~~

~~%CO = Percent carbon monoxide by volume, dry basis~~

~~%N = Percent nitrogen by volume, dry basis~~

~~0.264 = Ratio of oxygen to nitrogen in air by volume.~~

~~(iii) Calculate the adjusted CO<sub>2</sub> percentage using the following equation:~~

$$\frac{(\%CO_2)_{adj} = (\%CO_2)_{di} \frac{100 + (\%EA)_i}{100 + (\%EA)_o}}$$

~~Where:~~

~~(%CO<sub>2</sub>)<sub>adj</sub> is the adjusted outlet CO<sub>2</sub> percentage,~~

~~(%CO<sub>2</sub>)<sub>di</sub> is the percentage of CO<sub>2</sub> measured before the scrubber, dry basis,~~

~~(%EA)<sub>i</sub> is the percentage of excess air at the inlet, and~~

~~(%EA)<sub>o</sub> is the percentage of excess air at the outlet.~~

~~(c) Particulate matter emissions, expressed in g/dscm, shall be corrected to twelve (12) percent CO<sub>2</sub> by using the following formula:~~

$$c_{12} = c \left( \frac{12}{\%CO} \right)$$

~~where:~~

~~c<sub>12</sub> is the concentration of particulate matter corrected to twelve (12) percent CO<sub>2</sub>,~~

~~c is the concentration of particulate matter, and~~

~~%CO<sub>2</sub> is the percentage of measured CO<sub>2</sub> or when applicable, the adjusted outlet CO<sub>2</sub> percentage as determined by Method 3 in subparagraph .01 (5)(g) of this chapter or by subparagraph (b) of this paragraph.~~

~~Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.~~

~~1200-03-16-.05 Portland Cement Plants~~

~~(1) Applicability~~

~~The provisions of this rule shall apply to the affected facilities commenced on or after April 3, 1972, in Portland cement plants as follows: kiln, clinker cooler, raw mill system, finish mill system, raw mill dryer, raw material storage, clinker storage, finished product storage, conveyor transfer points, bagging and bulk loading, and unloading systems.~~

~~(2) "Portland Cement Plant" means any facility manufacturing portland cement by either the wet or dry process.~~

~~(3) Standards for particulate matter and opacity~~

~~(a) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any kiln any gases which:~~

1. ~~Contain particulate matter in excess of 0.15 kg per metric ton of feed (dry basis) to the kiln (0.30 lb. per ton).~~
  2. ~~Exhibit greater than twenty (20) percent opacity.~~
- (b) ~~On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any clinker cooler any gases which:~~
1. ~~Contain particulate matter in excess of 0.050 kg per metric ton of feed (dry basis) to the kiln (0.10 lb. per ton).~~
  2. ~~Exhibit twenty (20) percent opacity, or greater.~~
- (c) ~~On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this part shall cause to be discharged into the atmosphere from any affected facility other than the kiln any gases which exhibit ten (10) percent opacity, or greater.~~
- (4) ~~Monitoring of operations~~
- ~~The owner or operator of any portland cement plant subject to the provisions of this rule shall record the daily production rates and kiln feed rates.~~
- (5) ~~Test methods and procedures~~
- (a) ~~For determination of particulates, the minimum sampling time and minimum sample volume for each run, except when process variables or other factors justify otherwise to the satisfaction of the Technical Secretary shall be as follows:~~
1. ~~Sixty (60) minutes and 0.85 dscm (30.0 dscf) for the kiln.~~
  2. ~~Sixty (60) minutes and 1.15 dscm (40.6 dscf) for the clinker cooler.~~
- (b) ~~Total kiln feed rate (except fuels), expressed in metric tons per hour on a dry basis, shall be determined during each testing period by suitable methods; and shall be confirmed by a material balance over the production system.~~
- (c) ~~For each run, particulate matter emissions expressed in g/metric ton of kiln feed, shall be determined by dividing the emission rate in g/hr by the kiln feed rate. The emission rate shall be determined by the equation, g/hr = Qs x c, where Qs = volumetric flow rate of the total effluent in dscm/hr, and c=particulate concentration in g/dscm.~~

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

#### ~~1200-03-16-.06 Sulfuric Acid Plants~~

##### (1) ~~Applicability~~

~~The provisions of this rule shall apply to each sulfuric acid production unit commenced on or after April 3, 1972, which is the affected facility.~~

##### (2) ~~Definitions~~

(a) ~~“Sulfuric acid production unit” means any facility producing sulfuric acid by the contact process by burning elemental sulfur, alkylation acid, hydrogen sulfide, organic sulfides and mercaptans, or acid sludge, but does not include facilities where conversion to sulfuric acid is utilized primarily as a means of preventing emissions to the atmosphere of sulfur dioxide or other sulfur compounds.~~

(b) ~~“Acid mist” means sulfuric acid mist, as measured by test methods specified in subparagraph .01~~

~~(5)(g) of this chapter.~~

~~(3) Standard for sulfur dioxide~~

~~On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility any gases which contain sulfur dioxide in excess of 2 kg per metric ton of acid produced (4 lbs/ton), the production being expressed as 100 percent H<sub>2</sub>SO<sub>4</sub>.~~

~~(4) Standard for acid mist and opacity~~

~~On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility any gases which:~~

~~(a) Contain acid mist, expressed as H<sub>2</sub>SO<sub>4</sub> in excess of 0.075 kg per metric ton of acid produced (0.15 lb per ton), the production being expressed as 100 percent H<sub>2</sub>SO<sub>4</sub>.~~

~~(b) Exhibit ten (10) percent opacity, or greater.~~

~~(5) Emission Monitoring~~

~~(a) A continuous monitoring system for the measurement of sulfur dioxide shall be installed, calibrated, maintained, and operated by the owner or operator. The pollutant gas used to prepare calibration gas mixtures under paragraph 2.1, Performance Specification 2, Appendix B, Federal Register, Vol. 40, No. 194, and for calibration checks under subparagraph .01(8)(d) of this chapter, shall be sulfur dioxide (SO<sub>2</sub>). The method for sulfuric acid mist and sulfur dioxide specified by paragraph .01(5) of this chapter shall be used for conducting monitoring system performance evaluations under subparagraph .01(8)(c) of this chapter, except that only the sulfur dioxide portion of the specified method results shall be used. The span shall be set at 1000 ppm of sulfur dioxide.~~

~~(b) The owner or operator shall establish a conversion factor for the purpose of converting monitoring data into units of the standard (kg/metric ton, lb/short ton). The conversion factor shall be determined, as a minimum, three times daily by measuring the concentration of sulfur dioxide entering the converter using suitable methods (e.g., the Reich test, National Air Pollution Control Administration Publication No. 999-AP-13) and calculating the appropriate conversion factor for each eight-hour period as follows:~~

$$CF = k \left[ \frac{(1.000 - 0.015r)}{(r - s)} \right]$$

~~where:~~

~~CF = conversion factor (kg/metric ton per ppm, lb/short ton per ppm).~~

~~k = constant derived from material balance. For determining CF in metric units, k = 0.0653. For determining CF in English units, k = 0.1306.~~

~~r = percentage of sulfur dioxide by volume entering the gas converter. Appropriate corrections must be made for air injection plants subject to the Technical Secretary's approval.~~

~~s = percentage of sulfur dioxide by volume in the emissions to the atmosphere determined by the continuous monitoring system required under subparagraph (a) of this paragraph.~~

~~(c) The owner or operator shall record all conversion factors and values under subparagraph (b) of this paragraph from which they were computed (i.e., CF, r, and s).~~

~~(d) For the purpose of reports under subparagraph .01(7)(c) of this chapter, periods of excess~~

~~emissions shall be all three-hour periods (or the arithmetic average of three consecutive one-hour periods) during which the integrated average sulfur dioxide emissions exceed the applicable standards under paragraph (3).~~

~~(6) — Test methods and procedures:~~

- ~~(a) — The moisture content can be considered to be zero. For determination of sulfur dioxide and acid mist the sampling time for each run shall be at least sixty (60) minutes and the minimum sample volume shall be 1.15 dscm (40.6 dscf) except that smaller sampling times or sample volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.~~
- ~~(b) — Acid production rate, expressed in metric tons per hour of 100 percent H<sub>2</sub>SO<sub>4</sub>, shall be determined during each testing period by suitable methods and shall be confirmed by a material balance over the production system.~~
- ~~(c) — Acid mist and sulfur dioxide emissions, expressed in g/metric ton of 100 percent H<sub>2</sub>SO<sub>4</sub>, shall be determined by dividing the emission rate in g/hr by the acid production rate. The emission rate shall be determined by the equation, g/hr = Q<sub>s</sub> x c, where Q<sub>s</sub> = volumetric flow rate of the effluent in dscm/hr as determined in accordance with paragraph .01(5) of this chapter and c = acid mist and SO<sub>2</sub> concentrations in g/dscm as determined in accordance with paragraph .01(5) of this chapter.~~

~~Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.~~

~~1200-03-16-.07 Nitric Acid Plants~~

~~(1) — Applicability~~

~~The provisions of this rule shall apply to each nitric acid production unit commenced on or after April 3, 1972, which is the affected facility.~~

~~(2) — Definitions~~

- ~~(a) — “Nitric acid production unit” means any facility producing weak nitric acid by either the pressure or atmospheric pressure process.~~
- ~~(b) — “Weak acid production unit” means acid which is thirty (30) to seventy (70) percent in strength.~~

~~(3) — Standards for nitrogen oxides and opacity~~

~~On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility any gases which:~~

- ~~(a) — Contain nitrogen oxides, expressed as NO<sub>2</sub>, in excess of 1.5 kg per metric ton of acid produced (3.0 lb. per ton), the production being expressed as 100 percent nitric acid.~~
- ~~(b) — Exhibit ten (10) percent opacity, or greater.~~

~~(4) — Emission Monitoring~~

- ~~(a) — A continuous monitoring system for the measurement of nitrogen oxides shall be installed, calibrated, maintained, and operated by the owner or operator. The pollutant gas used to prepare calibration gas mixtures under paragraph 2.1, Performance Specification 2, Appendix B, Federal Register, Vol. 40, No. 194, and for calibration checks under subparagraph .01(8)(d) of this chapter, shall be nitrogen dioxide (NO<sub>2</sub>). The span shall be set at 500 ppm of nitrogen dioxide. The method for nitrogen oxides specified in accordance with the provisions of paragraph .01(5) of this chapter shall be used for conducting monitoring system performance evaluations under subparagraph .01(8)(c) of this chapter.~~
- ~~(b) — The owner or operator shall establish a conversion factor for the purpose of converting monitoring data into units of the applicable standard (kg/metric ton, lb/short ton). The conversion factor shall~~



~~be established by measuring emissions with the continuous monitoring system concurrent with measuring emissions with the applicable reference method tests. Using only that portion of the continuous monitoring emission data that represents emission measurements concurrent with the reference method test periods, the conversion factor shall be determined by dividing the reference method test data averages by the monitoring data averages to obtain a ratio expressed in units of the applicable standard to units of the monitoring data, i.e., kg/metric ton per ppm (lb/short ton per ppm). The conversion factor shall be re-established during any performance test under paragraph .01(5) of this chapter or any other continuous monitoring system performance evaluation under subparagraph .01(8)(c) of this chapter.~~

~~(c) The owner or operator shall record the daily production rate and hours of operation.~~

~~(d) For the purpose of reports required under subparagraph .01(7)(c) of this chapter, periods of excess emissions that shall be reported are defined as any three-hour period during which the average nitrogen oxides emissions (arithmetic average of three contiguous one-hour periods) as measured by a continuous monitoring system exceed the standard under paragraph (3) of this rule.~~

~~(5) Test methods and procedures~~

~~(a) The sampling point for nitrogen oxides shall be the centroid of the stack or duct if the cross-section area is less than 50 ft<sup>2</sup> or at a point no closer to the walls than 1 m (3.28 ft), if the area is 50 ft<sup>2</sup> or greater. Each run shall consist of at least four (4) grab samples taken at approximately fifteen (15) minute intervals. The arithmetic mean of the samples shall constitute the run value. A velocity traverse shall be performed once per run.~~

~~(b) Acid production rate, expressed in metric tons per hour of 100 percent nitric acid, shall be determined during each testing period by suitable methods and shall be confirmed by a material balance over the production system.~~

~~(c) For each run, nitrogen oxides, expressed in g/metric ton of 100 percent nitric acid, shall be determined by dividing the emission rate in g/hr by the acid production rate. The emission rate shall be determined by the equation:~~

$$\text{g/hr} = Q_s \times c$$

~~Where:~~

~~Q<sub>s</sub> = volumetric flow rate of the effluent in dscm/hr, and~~

~~c = NO<sub>x</sub> concentration in g/dscm.~~

~~Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.~~

~~1200-03-16-.08 Hot Mix Asphalt Facilities~~

~~(1) Applicability~~

~~The provisions of this rule shall apply to each Hot Mix Asphalt facility commenced on or after April 21, 1976, which is the affected facility. For the purpose of this rule, a hot mix asphalt facility is comprised only of any combination of the following: dryers; systems for screening, handling, storing and weighing hot aggregate; systems for loading, transferring, and storing mineral filler; systems for mixing hot mix asphalt; and the loading, transfer and storage systems associated with emission control systems.~~

~~(2) Definitions~~

~~“Hot Mix Asphalt Facility” means any facility, as described in paragraph (1) of this rule, used to manufacture hot mix asphalt by heating and drying aggregate and mixing with asphalt cements.~~

~~(3) Standards for particulate matter and opacity. On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any affected facility~~

any gases which:

- (a) ~~Contain particulate matter in excess of 90 mg/dscm (0.04 gr/dscf).~~
- (b) ~~Exhibit twenty (20) percent opacity, or greater.~~

~~(4) Test methods and procedures.~~

~~For determination of concentration of particulate matter, the sampling time for each run shall be at least sixty (60) minutes and the sampling rate shall be at least 0.9 dscm/hr (0.53 dscf/min) except that shorter sampling time, when necessitated by process variables or other factors, may be approved by the Technical Secretary.~~

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

#### 1200-03-16-.09 Petroleum Refineries

~~(1) Applicability~~

- ~~(a) The provisions of this rule are applicable to the following affected facilities in petroleum refineries: fluid catalytic cracking unit catalyst regenerators, fuel gas combustion devices, and all Claus sulfur recovery plants except Claus plants of 20 long tons per day (LTD) or less. The Claus sulfur recovery plant need not be physically located within the boundaries of a petroleum refinery to be an affected facility, provided it processes gases produced within a petroleum refinery.~~
- ~~(b) Any fluid catalytic cracking unit catalyst regenerator or fuel gas combustion device under subparagraph (a) of this paragraph which commences construction or modification after April 21, 1976 or any Claus sulfur recovery plant under subparagraph (a) of this paragraph which commences construction or modification after November 6, 1988 is subject to the requirements of this rule.~~

~~(2) Definitions~~

- ~~(a) "Petroleum refinery" means any facility engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants, or other products through distillation of petroleum or through redistillation, cracking or reforming of unfinished petroleum derivatives.~~
- ~~(b) "Petroleum" means the crude oil removed from the earth and the oils derived from tar sands, shale, and coal.~~
- ~~(c) "Process gas" means any gas generated by a petroleum refinery process unit, except fuel gas and process upset gas as defined in this paragraph.~~
- ~~(d) "Fuel gas" means any gas which is generated by a petroleum refinery process unit and which is combusted, including any gaseous mixture of natural gas and fuel gas which is combusted.~~
- ~~(e) "Process upset gas" means any gas generated by a petroleum refinery process unit as a result of start-up, shut-down, upset or malfunction.~~
- ~~(f) "Refinery process unit" means any segment of the petroleum refinery in which a specific processing operation is conducted.~~
- ~~(g) "Fuel gas combustion device" means any equipment, such as process heaters, boilers and flares used to combust fuel gas, but does not include fluid coking unit and fluid catalytic cracking unit incinerator waste heat boilers or facilities in which gases are combusted to produce sulfur or sulfuric acid.~~
- ~~(h) "Coke burn-off" means the coke removed from the surface of the fluid catalytic cracking unit catalyst by combustion in the catalyst regenerator. The rate of coke burn-off is calculated by a formula specified in 1200-3-16-.09(7)(a)(4).~~

- ~~(i) "Claus sulfur recovery plant" means a process unit which recovers sulfur from hydrogen sulfide by a vapor-phase catalytic reaction of sulfur dioxide and hydrogen sulfide.~~
- ~~(j) "Oxidation control system" means an emission control system which reduces emissions from sulfur recovery plants by converting these emissions to sulfur dioxide.~~
- ~~(k) "Reduction control system" means an emission control system which reduces emissions from sulfur recovery plants by converting these emissions to hydrogen sulfide.~~
- ~~(l) "Reduced sulfur compounds" means hydrogen sulfide (H<sub>2</sub>S), carbonyl sulfide (COS) and carbon disulfide (CS<sub>2</sub>).~~
- ~~(m) Reserved~~

~~(3) Standards for particulate matter and opacity~~

- ~~(a) On and after the date on which the performance test required to be conducted by 1200-3-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any fluid catalytic cracking unit catalyst regenerator or from any fluid catalytic cracking unit regenerator:~~
  - ~~1. Particulate matter in excess of 1.0 kg/1000 kg (1.0 lb/1000 lb) of coke burn-off in the catalyst regenerator.~~
  - ~~2. Gases exhibiting thirty (30) percent opacity or greater, except for six (6) minutes in any one (1) hour.~~
- ~~(b) Where gases discharged by the fluid catalytic cracking unit catalyst regenerator pass through an incinerator or waste heat boiler in which auxiliary liquid or solid fossil fuel is burned, particulate matter in excess of that permitted by part (a)1 of this paragraph may be emitted to the atmosphere, except that the incremental rate of particulate emissions shall not exceed 0.043 g/MJ (0.10 lb/million Btu) of heat input attributable to such liquid or solid fossil fuel.~~

~~(4) Standard for carbon monoxide~~

~~On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from the fluid catalytic cracking unit catalyst regenerator any gases which contain carbon monoxide in excess of 0.050 percent by volume.~~

~~(5) Standard for sulfur dioxide~~

- ~~(a) On and after the date on which the performance test required to be conducted by 1200-3-16-.01(5) is completed, no owner or operator subject to the provisions of this paragraph shall:~~
  - ~~1. Burn in any fuel gas combustion device any fuel gas which contains hydrogen sulfide in excess of 230 mg/dscm (0.10 gr/dscf), except that the gases resulting from the combustion of fuel gas may be treated to control sulfur dioxide emissions provided the owner or operator demonstrates to the satisfaction of the Technical Secretary that this is as effective in preventing sulfur dioxide emissions to the atmosphere as restricting the H<sub>2</sub>S concentration in the fuel gas to 230 mg/dscm or less. The combustion in a flare of process upset gas, or fuel gas which is released to the flare as a result of relief valve leakage, is exempt from this subparagraph.~~
  - ~~2. Discharge or cause the discharge of any gases into the atmosphere from any Claus sulfur recovery plant containing in excess of:~~
    - ~~(i) 0.025 percent by volume of sulfur dioxide at zero percent oxygen on a dry basis if emissions are controlled by a oxidation control system, or a reduction control system followed by incineration, or~~

~~(ii) 0.030 percent by volume of reduced sulfur compounds and 0.0010 percent by volume of hydrogen sulfide calculated as sulfur dioxide at zero percent oxygen on a dry basis if emissions are controlled by a reduction control system not followed by incineration.~~

~~(b) Reserved~~

~~(6) Emission monitoring~~

~~(a) Continuous monitoring systems shall be installed, calibrated, maintained, and operated by the owner or operator as follows:~~

- ~~1. A continuous monitoring system for the measurement of the opacity of emissions discharged into the atmosphere from the fluid catalytic cracking unit catalyst regenerator. The continuous monitoring system shall be spanned at 60, 70, or 80 percent opacity.~~
- ~~2. An instrument for continuously monitoring and recording the concentration of carbon monoxide in gases discharged into the atmosphere from fluid catalytic cracking unit catalyst regenerators. The span value of this continuous monitoring system shall be 1,000 ppm. Installation of carbon monoxide (CO) continuous monitoring systems is not required if the owner or operator files a written request for exemption to the Technical Secretary and demonstrates, by the exemption performance test described below, that the average CO emissions are less than 10 percent of the applicable standard listed in paragraph (4) of this rule. The exemption performance test shall consist of continuously monitoring CO emissions for 30 days using an instrument that meets the requirements of Performance Specification 4 as specified in the Federal Register, Vol. 50, No. 150, August 5, 1985, pp. 31701-31702, except the span value shall be 100 ppm instead of 1,000 ppm, and if required, the relative accuracy limit shall be 10 percent or 5 ppm, whichever is greater.~~
- ~~3. A continuous monitoring system for the measurement of sulfur dioxide in the gases discharged into the atmosphere from the combustion of fuel gases (except where a continuous monitoring system for the measurement of hydrogen sulfide is installed as specified under part (a)4 of this paragraph). The pollutant gas used to prepare calibration gas mixtures under paragraph 2.1, Performance Specifications 2 and Appendix B, Federal Register, Vol. 40, No. 194, and for calibration checks under subparagraph .01(8)(d) of this chapter, shall be sulfur dioxide (SO<sub>2</sub>). The span shall be set at 100 ppm. For conducting monitoring system performance evaluations under subparagraph .01(8)(c) of this chapter, the method for sulfur dioxide specified in accordance with paragraph .01(5) of this chapter shall be used.~~
- ~~4. An instrument for continuously monitoring and recording concentrations of hydrogen sulfide in fuel gases burned in any fuel gas combustion device if compliance with part 1200-3-16-.09(5)(a)1 is achieved by removing H<sub>2</sub>S from the fuel gas before it is burned; fuel gas combustion devices having a common source of fuel may be monitored at one location, if monitoring at this location accurately represents the concentration of H<sub>2</sub>S in the fuel gas burned. The span of this continuous monitoring system shall be 300 ppm.~~
- ~~5. An instrument for continuously monitoring and recording concentrations of SO<sub>2</sub> in the gases discharged into the atmosphere from any Claus sulfur recovery plant if compliance with part 1200-3-16-.09(5)(a)2 is achieved through the use of an oxidation control system or a reduction control system followed by incineration. The span of this continuous monitoring system shall be set at 500 ppm.~~
- ~~6. An instrument(s) for continuously monitoring and recording the concentration of H<sub>2</sub>S and reduced sulfur compounds in the gases discharged into the atmosphere from any Claus sulfur recovery plant if compliance with part 1200-3-16-.09(5)(a)2 is achieved through the use of a reduction control system not followed by incineration. The span(s) of this continuous monitoring system(s) shall be set at 20 ppm for monitoring and recording the concentration of H<sub>2</sub>S and 600 ppm for monitoring and recording the concentration of reduced sulfur compounds.~~

~~(b) — Reserved~~

~~(c) — The average coke burn-off rate (thousands of kilogram/hr) and hours of operation for any fluid catalytic cracking unit catalyst regenerator subject to paragraphs (3) and (4) of this rule shall be recorded daily.~~

~~(d) — For any fluid catalytic cracking unit catalyst regenerator which is subject to paragraph (3) of this rule and which utilizes an incinerator waste heat boiler to combust the exhaust gases from the catalyst regenerator, the owner or operator shall record daily the rate of combustion of liquid or solid fossil fuels (liters/hr or kilograms/hr) and the hours of operation during which liquid or solid fossil fuels are combusted in the incinerator waste heat boiler.~~

~~(e) — For the purpose of reports under subparagraph .01 (7)(c) of this chapter periods of excess emissions that shall be reported are defined as follows:~~

~~1. — Opacity~~

~~All one-hour periods which contain two or more six-minute periods during which the average opacity as measured by the continuous monitoring system exceeds 30 percent.~~

~~2. — Carbon monoxide~~

~~All hourly periods during which the average carbon monoxide concentration in the gases discharged into the atmosphere from any fluid catalytic cracking unit catalyst regenerator subject to paragraph 1200-3-16-.09(4) exceeds 0.050 percent by volume.~~

~~3. — Sulfur dioxide~~

~~(i) — Any three-hour period during which the average concentration of H<sub>2</sub>S in any fuel gas combusted in any fuel gas combustion device subject to part 1200-3-16-.09(5)(a)1 exceeds 230 mg/dscm (0.10 gr/dscf), if compliance is achieved by removing H<sub>2</sub>S from the fuel gas before it is burned; or any three-hour period during which the average concentration of SO<sub>2</sub> in the gases discharged into the atmosphere from any fuel gas combustion device subject to part 1200-3-16-.09(5)(a)1 exceeds the level specified in part 1200-3-16-.09(5)(a)1, if compliance is achieved by removing SO<sub>2</sub> from the combusted fuel gases.~~

~~(ii) — Any twelve-hour period during which the average concentration of SO<sub>2</sub> in the gases discharged into the atmosphere from any Claus sulfur recovery plant subject to part 1200-3-16-.09(5)(a)2 exceeds 250 ppm at zero percent oxygen on a dry basis if compliance with subparagraph 1200-3-16-.09(5)(a)2 is achieved through the use of an oxidation control system or a reduction control system followed by incineration; or any twelve-hour period during which the average concentration of H<sub>2</sub>S, or reduced sulfur compounds in the gases discharged into the atmosphere of any Claus sulfur plant subject to part 1200-3-16-.09(5)(a)2 exceeds 10 ppm or 300 ppm, respectively, at zero percent oxygen and on a dry basis if compliance is achieved through the use of a reduction control system not followed by incineration.~~

~~4. — Any six-hour period during which the average emissions (arithmetic average of six contiguous one-hour periods) of sulfur dioxide as measured by a continuous monitoring system exceed the standard under 1200-3-16-.09(5).~~

~~(7) — Test Methods and Procedures~~

~~(a) — For the purpose of determining compliance with 1200-3-16-.09(3)(a)1, the following reference methods and calculation procedures shall be used:~~

~~1. — For gases released to the atmosphere from the fluid catalytic cracking unit catalyst regenerator:~~

~~(i) Method 5B or 5F as specified in rule 1200-3-16.01(5)(g) is to be used to determine particulate matter emissions and associated moisture content from affected facilities without wet FGD systems; only Method 5B is to be used after wet FGD systems.~~

~~(ii) Method 1 for sample and velocity traverses, and~~

~~(iii) Method 2 for velocity and volumetric flow rate.~~

~~2. For Method 5B or 5F, the sampling time for each run shall be at least 60 minutes and the sampling rate shall be at least 0.015 dscm/min (0.53 dscf/min), except that shorter sampling times may be approved by the Technical Secretary when process variables or other factors preclude sampling for at least 60 minutes.~~

~~3. For exhaust gases from the fluid catalytic cracking unit catalyst regenerator prior to the emission control system: the integrated sample techniques of Methods 3 and 4 of subparagraph .01(5)(g) of this chapter for gas analysis and moisture content determination respectively; Method 1 for velocity traverses; and Method 2 for velocity and volumetric flow rate shall be used.~~

~~4. Coke burn-off rate shall be determined by the following formula:~~

$$R_c = 0.2982 Q_{re} (\%CO_2 + \%CO) + 2.088 Q_{ra} - 0.0094 Q_{re} \frac{(\%CO + \%CO_2 + \%O_2)}{2} \text{ (Metric Units)}$$

~~or~~

$$R_c = 0.0186 Q_{re} (\%CO_2 + \%CO) + 0.1303 Q_{ra} - 0.0062 Q_{re} \frac{(\%CO + \%CO_2 + \%O_2)}{2} \text{ (English Units)}$$

~~where:~~

~~$R_c$  = coke burn-off rate, kg/hr (English units: lb/hr).~~

~~0.2982 = metric units material balance factor divided by 100, kg-min/hr-m<sup>3</sup>.~~

~~0.0186 = English units material balance factor divided by 100, lb-min/hr-ft<sup>3</sup>.~~

~~$Q_{re}$  = fluid catalytic cracking unit catalyst regenerator exhaust gas flow rate before entering the emission control system, as determined by Method 2, subparagraph .01(5)(g) of this chapter, dscm/min (English units: dscf/min).~~

~~$\%CO_2$  = percent carbon dioxide by volume, dry basis, as determined by Method 3, subparagraph .01(5)(g) of this chapter.~~

~~$\%O_2$  = percent oxygen by volume dry basis, as determined by Method 3, subparagraph .01(5)(g) of this chapter.~~

~~2.088 = metric units material balance factor divided by 100, kg-min/hr-m<sup>3</sup>.~~

~~0.1303 = English units material balance factor divided by 100, lb-min/hr-ft<sup>3</sup>.~~

~~$Q_{ra}$  = air rate to fluid catalytic cracking unit catalyst regenerator, as determined from fluid catalytic cracking unit control room instrumentation. dscm/min (English units: dscf/min).~~

~~0.0094 = metric units material balance factor divided by 100, kg-min/hr-m<sup>3</sup>.~~

~~0.0062 = English units material balance factor divided by 100, lb-min/hr-ft<sup>3</sup>.~~

~~$\%CO$  = Percent carbon monoxide by volume, dry basis, as determined by Method~~

~~3, subparagraph .01(5)(g) of this chapter.~~

~~5. Particulate emissions shall be determined by the following equation:~~

$$\text{Re} = (60 \times 10^{-6}) Q_{rv} C_s \text{ (Metric Units)}$$

~~or~~

$$\text{Re} = (8.57 \times 10^{-3}) Q_{rv} C_s \text{ (English Units)}$$

~~where:~~

~~Re = particulate emission rate, kg/hr (English units: lb/hr)~~

~~$60 \times 10^{-6}$  = Metric units conversion factor, min-kg/hr-mg~~

~~$8.57 \times 10^{-3}$  = English units conversion factor, min-lb/hr-gr~~

~~$Q_{rv}$  = volumetric flow rate of gases discharged into the atmosphere from the fluid catalytic cracking unit catalyst regenerator following the emission control system, as determined by Method 2, dscm/min. (English units: dscf/min).~~

~~$C_s$  = particulate emission concentration discharged into the atmosphere, as determined by Method 5, mg/dscm (English units: gr/dscf).~~

~~6. For each run, emissions expressed in kg/1000 kg (English units: lb/1000 lb) of coke burn-off in the catalyst regenerator shall be determined by the following equation:~~

$$\text{Rs} = 1000 \text{ Re/Rc (Metric or English Units)}$$

~~where:~~

~~$\text{Rs}$  = Particulate emission rate, kg/1000 kg, (English units: lb/1000 lb) of coke burn-off in the fluid catalytic cracking unit catalyst regenerator.~~

~~1000 = conversion factor, kg to 1000 kg (English units: lb to 1000 lb).~~

~~$\text{Re}$  = particulate emission rate, kg/hr. (English units: lb/hr).~~

~~$\text{Rc}$  = coke burn-off rate, kg/hr (English units: lb/hr).~~

~~7. In those instances in which auxiliary liquid or solid fossil fuels are burned in an incinerator-waste heat boiler, the rate of particulate matter emission permitted under subparagraph (3)(b) of this rule must be determined. Auxiliary fuel heat input expressed in millions of cal/hr (English units: Millions of Btu/hr) shall be calculated for each run by fuel flow rate measurement and analysis of the liquid or solid fossil auxiliary fuels. For each run, the rate of particulate emissions permitted under subparagraph (3)(b) of this rule shall be calculated from the following equation:~~

$$\text{Rs} = \frac{1.0 + 0.18 H}{\text{Rc}} \text{ (Metric Units)}$$

~~or~~

$$\text{Rs} = \frac{1.0 + 0.10 H}{\text{Rc}} \text{ (English Units)}$$

~~where:~~

~~$\text{Rs}$  = allowable particulate emission rate, kg/1000 kg (English units: lb/1000 lb) of coke burn-off in the fluid catalytic cracking unit catalyst regenerator.~~

~~1.0 = emission standard, 1.0 kg/1000 kg (English units: 1.0 lb/1000 lb) of coke burn-off in the fluid-catalytic cracking unit catalyst regenerator.~~

~~0.18 = metric units maximum allowable incremental rate of particulate emissions, g/million cal.~~

~~0.10 = English units maximum allowable incremental rate of particulate emissions, lb/million Btu.~~

~~H = heat input from solid or liquid fossil fuel, million cal/hr (English units: million Btu/hr).~~

~~R<sub>c</sub> = coke burn-off rate, kg/hr (English units: lb/hr).~~

~~(b) For the purpose of determining compliance with paragraph (4) of this rule, the integrated sample technique of Method 10 as specified in 1200-3-16-.01(5)(g)10 shall be used. The sample shall be extracted at a rate proportional to the gas velocity at a sampling point near the centroid of the duct. The sampling time shall not be less than sixty (60) minutes.~~

~~(c) For the purpose of determining compliance with part 1200-3-16-.09 (5)(a)1, Method 11 as specified in 1200-3-16-.01(5)(g)11 shall be used to determine the concentration of H<sup>2</sup>S and Method 6 as specified in 1200-3-16-.01(5)(g)6 shall be used to determine the concentration of SO<sub>2</sub>.~~

~~1. If Method 11 is used, the gases sampled shall be introduced into the sampling train at approximately atmospheric pressure. Where refinery fuel gas lines are operating at pressures substantially above atmosphere, this may be accomplished with a flow control valve. If the line pressure is high enough to operate the sampling train without a vacuum pump, the pump may be eliminated from the sampling train. The sample shall be drawn from a point near the centroid of the fuel gas line. The minimum sampling time shall be 10 minutes and the minimum sampling volume 0.01 dscm (0.35 dscf) for each sample. The arithmetic average of two samples of equal sampling time shall constitute one run. Samples shall be taken at approximately 1-hour intervals. For most fuel gases, sample times exceeding 20 minutes may result in depletion of the collecting solution, although fuel gases containing low concentrations of hydrogen sulfide may necessitate sampling for longer periods of time.~~

~~2. If Method 6 is used, Method 1 as specified in 1200-3-16-.01(5)(g)1 shall be used for velocity traverses and Method 2 as specified in 1200-3-16-.01(5)(g)2 for determining velocity and volumetric flow rate. The sampling site for determining SO<sub>2</sub> concentration by Method 6 shall be the same as for determining volumetric flow rate by Method 2. The sampling point in the duct for determining SO<sub>2</sub> concentration by Method 6 shall be at the centroid of the cross section if the cross sectional area is less than 5 m<sup>2</sup> (54 ft<sup>2</sup>) or at a point no closer to the walls than 1 m (39 inches) if the cross sectional area is 5 m<sup>2</sup> or more and the centroid is more than one meter from the wall. The sample shall be extracted at a rate proportional to the gas velocity at the sampling point. The minimum sampling time shall be 10 minutes and the minimum sampling volume 0.01 dscm (0.35 dscf) for each sample. The arithmetic average of two samples of equal sampling time shall constitute one run. Samples shall be taken at approximately 1-hour intervals.~~

~~(d) For the purpose of determining compliance with part 1200-3-16-.09(5)(a)2, Method 6 shall be used to determine the concentration of SO<sub>2</sub> and Method 15 as specified by 1200-3-16-.01(5)(g)15 shall be used to determine the concentration of H<sub>2</sub>S and reduced sulfur compounds.~~

~~As an alternative, Method 15A as specified by 1200-3-16-.01(5)(g)15 may be used for determining reduced sulfur compounds.~~

~~1. If Method 6 is used, the procedure outlined in subparagraph (c)(2) of this paragraph shall be followed except that each run shall span a minimum of four consecutive hours of continuous sampling. A number of separate samples may be taken for each run, provided the total sampling time of these samples adds up to a minimum of four consecutive hours.~~



Where more than one sample is used, the average SO<sub>2</sub> concentration for the run shall be calculated as the time weighted average of the SO<sub>2</sub> concentration for each sample according to the formula:

$$C_R = \frac{\sum_{i=1}^n C_{si} t_{si}}{T}$$

Where:

C<sub>R</sub> = SO<sub>2</sub> concentration for the run.

N = Number of samples.

C<sub>si</sub> = SO<sub>2</sub> concentration for sample i.

t<sub>si</sub> = Continuous time of sample i.

T = Total continuous sampling time of all N samples.

2. If Method 15 is used, each run shall consist of 16 samples taken over a minimum of 3 hours. If Method 15A is used, each run shall consist of one 3-hour sample or three 1-hour samples. The sampling point shall be at the centroid of the cross-section of the duct if the cross-sectional area is less than 5 m<sup>2</sup> (54 ft<sup>2</sup>) or at a point no closer to the walls than 1 m (39 in.) if the cross-sectional area is 5 m<sup>2</sup> or more and the centroid is more than 1 m from the wall. For Method 15, to ensure minimum residence time for the sample inside the sample lines, the sampling rate shall be at least 3 liters/min (0.1 ft<sup>3</sup>/min). The SO<sub>2</sub> equivalent for each run shall be calculated as the arithmetic average of the SO<sub>2</sub> equivalent of each sample during the run. Method 4 shall be used to determine the moisture content of the gases when using Method 15. The sampling point for Method 4 shall be adjacent to the sampling point for Method 15. The sample shall be extracted at a rate proportional to the gas velocity at the sampling point. Each run shall span a minimum of 4 consecutive hours of continuous sampling. A number of separate samples may be taken for each run provided the total sampling time of these samples adds up to a minimum of 4 consecutive hours. Where more than one sample is used, the average moisture content for the run shall be calculated as the time weighted average of the moisture content of each sample according to the formula:

$$B_{wo} = \frac{\sum_{i=1}^n B_{si} t_{si}}{T}$$

Where:

B<sub>wo</sub> = Proportion by volume of water vapor in the gas stream for the run.

N = Number of samples.

B<sub>si</sub> = Proportion by volume of water vapor in the gas stream for the sample i.

t<sub>si</sub> = Continuous sampling time for sample i.

T = Total continuous sampling time of all N samples.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.10 Reserved.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.11 Reserved.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

#### ~~1200-03-16-.12 Secondary Lead Smelters~~

##### ~~(1) Applicability~~

~~The provisions of this rule shall apply to the following affected facilities commenced on or after April 21, 1976 in secondary lead smelters: pot furnaces of more than 250 kg (550 lb) charging capacity, blast (cupola) furnaces, and reverberatory furnaces.~~

##### ~~(2) Definitions~~

~~(a) "Reverberatory furnace" includes the following types of reverberatory furnaces: stationary, rotating, rocking and tilting.~~

~~(b) "Secondary lead smelter" means any facility producing lead from a lead-bearing scrap material by smelting to the metallic form.~~

~~(c) "Lead" means elemental lead or alloys in which the predominant component is lead.~~

##### ~~(3) Standards for particulate matter and opacity~~

~~(a) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from a blast (cupola) or reverberatory furnace any gases which:~~

~~1. Contain particulate matter in excess of 50 mg/dscm (0.022 gr/dscf).~~

~~2. Exhibit twenty (20) percent opacity or greater.~~

~~(b) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any pot furnace any gases which exhibit ten (10) percent opacity or greater.~~

##### ~~(4) Test methods and procedures~~

~~For determining of the concentration of particulate matter and associated moisture content, the sampling time for each run shall be at least sixty (60) minutes and the sampling rate shall be at least 0.9 dscm/hr (0.53 dscf/min) except that shorter sampling times, when necessitated by process variables or other factors, may be approved by the Technical Secretary. Particulate sampling shall be conducted during representative periods of furnace operation, including charging and tapping.~~

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

#### ~~1200-03-16-.13 Secondary Brass and Bronze Ingot Production~~

##### ~~(1) Applicability~~

~~The provisions of this rule shall apply to the following affected facilities commenced on or after April 21, 1976, in secondary brass or bronze ingot production plants: reverberatory and electric furnaces of 1,000 kg (2,205 lb) or greater production capacity and blast (cupola) furnaces of 250 kg/hr (550 lb/hr) or greater production capacity.~~

##### ~~(2) Definitions~~

~~(a) "Brass or bronze" means any metal alloy containing copper as its predominant constituent and lesser amounts of zinc, tin, lead, or other metals.~~

- ~~(b) "Reverberatory furnace" includes the following types of reverberatory furnaces: stationary, rotating, rocking, and tilting.~~
- ~~(c) "Electric furnace" means any furnace which uses electricity to produce over fifty (50) percent of the heat required in the production of refined brass or bronze.~~
- ~~(d) "Blast furnace" means any furnace used to recover metal from slag.~~

~~(3) Standard for particulate matter~~

- ~~(a) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from a reverberatory furnace any gases which:
  - ~~1. Contain particulate matter in excess of 50 mg/dscm (0.022 gr/dscf).~~
  - ~~2. Exhibit twenty (20) percent opacity or greater.~~~~
- ~~(b) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any blast (cupola) or electric furnace any gases which exhibit ten (10) percent opacity or greater.~~

~~(4) Test methods and procedures~~

~~For determining the concentration of particulate matter and the associated moisture content, the sampling time for each run shall be at least 120 minutes and the sampling rate shall be at least 0.9 dscm/hr (0.53 dscf/min) except that shorter sampling times, when necessitated by process variables or other factors, may be approved by the Technical Secretary. Particulate matter sampling shall be conducted during representative periods of charging and refining, but not during pouring of the heat.~~

~~Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.~~

~~1200-03-16-.14 Iron and Steel Plants~~

~~(1) Applicability~~

~~The provisions of this rule shall apply to each basic oxygen process furnace commenced on or after April 21, 1976.~~

~~(2) Definitions~~

- ~~(a) "Basic oxygen process furnace" (BOPF) means any furnace with a refractory lining in which molten steel is produced by charging scrap metal, molten iron, and flux materials or alloy additions into a vessel and introducing a high volume of oxygen-rich gas. Open hearth, blast, and reverberatory furnaces are not included in this definition.~~
- ~~(b) "Primary emissions" means particulate matter emissions from the BOPF generated during the steel production cycle and captured by the BOPF primary control system.~~
- ~~(c) "Primary oxygen blow" means the period in the steel production cycle of a BOPF during which a high volume of oxygen-rich gas is introduced to the bath of molten iron by means of a lance inserted from the top of the vessel or through tuyeres in the bottom or through the bottom and sides of the vessel. This definition does not include any additional or secondary oxygen blows made after the primary blow or the introduction of nitrogen or other inert gas through tuyeres in the bottom or bottom and sides of the vessel.~~
- ~~(d) "Steel production cycle" means the operations conducted within the BOPF steelmaking facility that are required to produce each batch of steel and includes the following operations: scrap charging,~~

~~preheating (when used), hot metal charging, primary oxygen blowing, sampling (vessel turndown and turnup), additional oxygen blowing (when used), tapping, and deslagging. This definition applies to an affected facility constructed, modified, or reconstructed after November 6, 1988. For an affected facility constructed, modified, or reconstructed after April 21, 1976, but on or before November 6, 1988, "steel production cycle" means the operations conducted within the BOPF steelmaking facility that are required to produce each batch of steel and includes the following operations: scrap charging, preheating (when used), hot metal charging, primary oxygen blowing, sampling (vessel turndown and turnup), additional oxygen blowing (when used), and tapping.~~

~~(3) Standard for particulate matter~~

~~(a) Except as provided under subparagraph (b) of this paragraph, on and after the date on which the performance test required to be conducted by paragraph 1200-3-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any affected facility any gases which:~~

- ~~1. Contain particulate matter in excess of 50 mg/dscm (0.022 gr/dscf).~~
- ~~2. Exit from a control device and exhibit 10 percent opacity or greater, except that an opacity of greater than 10 percent but less than 20 percent may occur once per steel production cycle.~~

~~(b) For affected facilities constructed, modified, or reconstructed after November 6, 1988, the following limits shall apply:~~

~~1. On or after the date on which the performance test under paragraph 1200-3-16-.01(5) is required to be completed, no owner or operator of an affected facility for which open hooding is the method for controlling primary emissions shall cause to be discharged to the atmosphere any gases that:~~

- ~~(i) Contain particulate matter in excess of 50 mg/dscm (0.022 gr/dscf), as measured for the primary oxygen blow.~~
- ~~(ii) Exit from a control device not used solely for the collection of secondary emissions, as defined in paragraph (2) of rule 1200-3-16-.55, and exhibit 10 percent opacity or greater, except that an opacity greater than 10 percent but less than 20 percent may occur once per steel production cycle.~~

~~2. On or after the date on which the performance test required by 1200-3-16-.01(5) is completed, no owner or operator of an affected facility for which closed hooding is the method for controlling primary emissions shall cause to be discharged into the atmosphere any gases that:~~

- ~~(i) Contain particulate matter in excess of 68 mg/dscm (0.030 gr/dscf), as measured for the primary oxygen blow.~~
- ~~(ii) Exit from a control device not used solely for the collection of secondary emissions, as defined in paragraph (2) of rule 1200-3-16-.55, and exhibit 10 percent opacity or greater, except that an opacity greater than 10 percent but less than 20 percent may occur once per steel production cycle.~~

~~(c) On and after the date on which the performance test required by 1200-3-16-.01(5) is completed, each owner or operator of an affected facility subject to subparagraph (b) of this paragraph shall operate the primary gas cleaning system during any reblow in a manner identical to operation during the primary oxygen blow.~~

~~(4) Monitoring of operations~~

~~(a) The owner or operator of an affected facility shall maintain a single time-measuring instrument which shall be used in recording daily the time and duration of each steel production cycle, and the time and duration of any diversion of exhaust gases from the main stack servicing the BOPF.~~

- ~~(b) The owner or operator of any affected facility that uses venturi scrubber emission control equipment shall install, calibrate, maintain, and continuously operate monitoring devices as follows:~~
- ~~1. A monitoring device for the continuous measurement of the pressure loss through the venturi constriction of the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within  $\pm 250$  Pa ( $\pm 1$  inch water).~~
  - ~~2. A monitoring device for the continual measurement of the water supply pressure to the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within  $\pm 5$  percent of the design water supply pressure. The monitoring device's pressure sensor or pressure tap must be located close to the water discharge point. The Technical Secretary must be consulted for approval in advance of selecting alternative locations for the pressure sensor or tap.~~
  - ~~3. All monitoring devices shall be synchronized each day with the time measuring instrument used under subparagraph (a) of this paragraph. The chart recorder error directly after synchronization shall not exceed 0.08 cm ( $^{1}/_{32}$  inch).~~
  - ~~4. All monitoring devices shall use chart recorders which are operated at a minimum chart speed of 3.8 cm/hr (1.5 in/hr).~~
  - ~~5. All monitoring devices are to be recalibrated annually, and at other times as the Technical Secretary may require, in accordance with the procedures under part .01(8)(b)3 of this chapter.~~

~~(c) Any owner or operator subject to the requirements of subparagraph (b) of this paragraph shall report to the Technical Secretary, on a semiannual basis, all measurements over any 3-hour period that average more than 10 percent below the average levels maintained during the most recent performance test conducted under paragraph 1200-3-16-.01(5) in which the affected facility demonstrated compliance with the mass standards under 1200-3-16-.14(3)(a)1, (b)1(i) or (b)2(i). The accuracy of the respective measurements, not to exceed the values specified in parts (b)1 and (b)2 of this paragraph, may be taken into consideration when determining the measurement results that must be reported.~~

~~(5) Test Methods and Procedures~~

~~(a) For determining the concentration of particulate matter and associated moisture content, the sampling for each run shall continue for an integral number of cycles with total duration of at least sixty (60) minutes. The sampling rate shall be at least 0.9 dscm/hr (0.53 dscf/min) except that shorter sampling times, when necessitated by process variables or other factors, may be approved by the Technical Secretary. A cycle shall start at the beginning of either the scrap preheat or the oxygen blow and shall terminate immediately prior to tapping.~~

~~(b) For Method 5, the sampling time shall be as follows:~~

- ~~1. For affected facilities that commenced construction, modification, or reconstruction on or before November 6, 1988, the sampling for each run shall continue for an integral number of steel production cycles with total duration of at least 60 minutes. A cycle shall start at the beginning of either the scrap preheat or the oxygen blow and shall terminate immediately prior to tapping. The minimum sample volume shall be at least 1.5 dscm (53 dscf). Shorter sampling times and smaller sample volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.~~
- ~~2. For affected facilities that commence construction, modification, or reconstruction after November 6, 1988, the sampling for each run shall continue for an integral number of primary oxygen blows, with total duration of at least 60 minutes. The minimum sample volume shall be at least 1.5 dscm (53 dscf). Shorter sampling times and smaller sample volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.~~

- ~~(c) Sampling of flue gases during each steel production cycle shall be discontinued whenever all flue gases are diverted from the stack and shall be resumed after each diversion period.~~

~~Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.~~

#### ~~1200-03-16-.15 Sewage Treatment Plant Incinerators~~

##### ~~(1) Applicability~~

~~The provisions of this rule shall apply to each incinerator commenced on or after April 21, 1976, which burns the sludge produced by municipal sewage treatment facilities.~~

##### ~~(2) Standards for particulate matter and opacity~~

~~On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator of any sewage sludge incinerator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere of:~~

- ~~(a) Particulate matter at a rate in excess of 0.65 g/kg dry sludge input (1.30 lb/ton dry sludge input).~~  
~~(b) Any gases which exhibit twenty (20) percent opacity or greater.~~

##### ~~(3) Monitoring of operations~~

~~The owner or operator of any sludge incinerator subject to the provisions of this rule shall:~~

- ~~(a) Install, calibrate, maintain, and operate a flow measuring device which can be used to determine either the mass or volume of sludge charged to the incinerator. The flow measuring device shall have an accuracy of +5 percent over its operating range.~~  
~~(b) Provide access to the sludge charged so that a well-mixed representative grab sample of the sludge can be obtained.~~

##### ~~(4) Test methods and procedures~~

- ~~(a) For determining the concentration of particulate matter and associated moisture content, the sampling time for each run shall be at least sixty (60) minutes and the sampling rate shall be at least 0.015 dscm/min (0.53 dscf/min), except that shorter sampling times, when necessitated by process variables or other factors may be approved by the Technical Secretary.~~  
~~(b) Dry sludge charging rate shall be determined as follows:~~

- ~~1. Determine the mass (Sm) or volume (Sv) of sludge charged to the incinerator during each run using a flow measuring device meeting the requirements of subparagraph (3)(a) of this rule. If total input during a run is measured by a flow measuring device, such readings shall be used. Otherwise, record the flow measuring device readings at five (5) minute intervals during a run. Determine the quantity charged during each interval by averaging the flow rates at the beginning and end of the interval and then multiplying the average for each interval by the time for each interval. Then add the quantity for each interval to determine the total quantity charged during the entire run, (Sm) or (Sv).~~
- ~~2. Collect samples of the sludge charged to the incinerator in non-porous collecting jars at the beginning of each run and at approximately one (1) hour intervals thereafter until the test ends, and determine for each sample the dry sludge content (total solids residue) in accordance with the method specified in "244 G. Method for Solid and Semisolid Samples," Standard Methods for the Examination of Water and Wastewater, Thirteenth Edition, American Public Health Association, Inc., New York, N.Y., 1971, pp. 539-41, except that:~~
  - ~~(i) Evaporating dishes shall be ignited to at least 103°C rather than the 550°C specified in step 3(a)(1).~~

~~(ii) Determination of volatile residue, step 3(b) may be deleted.~~

~~(iii) The quantity of dry sludge per unit sludge charged shall be determined in terms of either Rdv (metric units; mg dry sludge/liter sludge charged or English units: lb/ft<sup>3</sup>) or Rdm (metric units: mg dry sludge/mg sludge charged or English units: lb/lb).~~

~~3. Determine the quantity of dry sludge per unit sludge charged in terms of either Rdv or Rdm.~~

~~(i) If the volume of sludge charged is used:~~

$$\text{Sd} = \frac{(60 \times 10^{-3}) \text{ Rdv Sv}}{\text{T}} \text{ (Metric Units)}$$

~~or~~

$$\text{Sd} = \frac{(8.021) \text{ Rdv Sv}}{\text{T}} \text{ (English Units)}$$

~~where:~~

~~Sd = average dry sludge charging rate during the run, kg/hr (English units: lb/hr).~~

~~Rdv = average quantity of dry sludge per unit volume of sludge charged to the incinerator, mg/l (English units: lb/ft<sup>3</sup>).~~

~~Sv = sludge charged to the incinerator during the run, m<sup>3</sup> (English units: gal).~~

~~T = duration of run, min (English units: min).~~

~~60x10<sup>-3</sup> = metric units conversion factor, 1-kg-min/m<sup>3</sup>-mg-hr.~~

~~8.021 = English units conversion factor, ft<sup>3</sup>-min/gal-hr.~~

~~(ii) If the mass of sludge charged is used:~~

$$\text{Sd} = \frac{(60 \text{ Rdm Sm (Metric or English Units)}}{\text{T}}$$

~~where:~~

~~Sd = average dry sludge charging rate during the run, kg/hr (English units: lb/hr).~~

~~Rdm = average ratio of quantity of dry sludge to quantity of sludge charged to the incinerator, mg/mg (English units: lb/lb).~~

~~Sm = sludge charged during the run, kg (English units: lb).~~

~~T = duration of run, min (Metric or English units).~~

~~60 = conversion factor, min/hr (Metric or English units).~~

~~(c) Particulate emission rate shall be determined by:~~

$$\text{Caw} = \text{CsQs (Metric or English Units)}$$

~~where:~~

$$\text{Caw} = \text{particulate matter mass emissions, mg/3hr (English units: lb/hr).}$$

~~Cs = particulate matter concentration, mg/m<sup>3</sup> (English units: lb/dscf).~~

~~Qs = volumetric stack gas flow rate, dscm/hr (English units: dscf/hr). Qs and Cs shall be determined using Method 2 and 5, respectively.~~

~~(d) To check compliance, particulate emissions shall be determined as follows:~~

$$\text{Cds} = \frac{(10^{-3}) \text{Caw (Metric Units)}}{\text{Sd}}$$

~~or~~

$$\text{Cds} = \frac{(2000) \text{Caw (English Units)}}{\text{Sd}}$$

~~where:~~

~~Cds = particulate emission discharge, g/kg dry sludge (English units: lb/ton dry sludge).~~

~~10<sup>-3</sup> = Metric conversion factor, g/mg.~~

~~2000 = English conversion factor, lb/ton.~~

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

#### 1200-03-16-.16 Phosphate Fertilizer Industry: Wet-Process Phosphoric Acid Plants

##### (1) Applicability

~~The provisions of this rule shall apply to each wet process phosphoric acid plant having a design capacity of more than 15 tons of equivalent P<sub>2</sub>O<sub>5</sub> feed per calendar day. For the purpose of this rule, the affected facility includes any combination of reactors, filters, evaporators, and hotwells commenced on or after February 9, 1977.~~

##### (2) Definitions

~~(a) "Wet process phosphoric acid plant" means any facility manufacturing phosphoric acid by reacting phosphate rock and acid.~~

~~(b) "Total fluorides" means elemental fluorine and all fluoride compounds as measured by reference methods specified in subparagraph .01(5)(g) or equivalent or alternative methods.~~

~~(c) "Equivalent P<sub>2</sub>O<sub>5</sub> feed" means the quantity of phosphorous, expressed as phosphorous pentoxide, fed to the process.~~

##### (3) Standard for Fluorides

~~On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility any gases which contain total fluorides in excess of 10.0 g/metric ton equivalent P<sub>2</sub>O<sub>5</sub> feed (0.020 lb/ton).~~

##### (4) Monitoring of Operations

~~The owner or operator of any wet process phosphoric acid plant, subject to the provisions of this rule shall:~~

~~(a) Install, calibrate, maintain, and operate a monitoring device which can be used to determine the mass flow of phosphorus-bearing feed material to the process. The monitoring device shall have an accuracy of ±5 percent over its operating range.~~



~~(b) — Maintain a daily record of equivalent P<sub>2</sub>O<sub>5</sub> feed by first determining the total mass rate in metric ton/hr of phosphorus-bearing feed using a monitoring device for measuring mass flow rate which meets the requirements of subparagraph (a) of this paragraph and then by proceeding according to part (5)(c)2 of this rule.~~

~~(c) — Install, calibrate, maintain, and operate a monitoring device which continuously measures and permanently records the total pressure drop across the process scrubbing system. The monitoring device shall have an accuracy of ±5 percent over its operating range.~~

~~(5) — Test Methods and Procedures~~

~~(a) — For determining the concentration of total fluorides and the associated moisture content, the sampling for each run shall be at least 60 minutes and the minimum sampling volume shall be 0.85 dscm (30 dscf) except that shorter sampling times or smaller volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.~~

~~(b) — The air pollution control system for the affected facility shall be constructed so that volumetric flow rates and total fluoride emissions can be accurately determined by applicable test methods and procedures.~~

~~(c) — Equivalent P<sub>2</sub>O<sub>5</sub> feed shall be determined as follows:~~

~~1. — Determine the total mass rate in metric ton/hr of phosphorus-bearing feed during each run using a flow monitoring device meeting the requirements of subparagraph (4)(a) of this rule.~~

~~2. — Calculate the equivalent P<sub>2</sub>O<sub>5</sub> feed by multiplying the percentage P<sub>2</sub>O<sub>5</sub> content, as measured by the spectrophotometric molybdovanadophosphate method (AOAC Method 9), times the total mass rate of phosphorus-bearing feed. AOAC Method 9 is published in the Official Methods of Analysis of the Association of Official Analytical Chemists, 11th edition, 1970, pp. 11-12. Other methods may be approved by the Technical Secretary.~~

~~(d) — For each run, emissions expressed in g/metric ton of equivalent P<sub>2</sub>O<sub>5</sub> feed shall be determined using the following equation:~~

$$E = \frac{(C_s Q_s) 10^{-3}}{M_{P_2O_5}}$$

~~where:~~

~~E — Emissions of total fluorides in g/metric ton of equivalent P<sub>2</sub>O<sub>5</sub> feed.~~

~~C<sub>s</sub> — Concentration of total fluorides in mg/dscm.~~

~~Q<sub>s</sub> — Volumetric flow rate of the effluent gas stream in dscm/hr.~~

~~10<sup>-3</sup> — Conversion factor for mg to g.~~

~~M<sub>P<sub>2</sub>O<sub>5</sub></sub> — Equivalent P<sub>2</sub>O<sub>5</sub> feed in metric ton/hr.~~

~~Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.~~

~~1200-03-16-.17 Phosphate Fertilizer Industry: Superphosphoric Acid Plants~~

~~(1) — Applicability~~

~~The provisions of this rule shall apply to each superphosphoric acid phosphate plant having a design capacity of more than 15 tons of equivalent P<sub>2</sub>O<sub>5</sub> feed per calendar day. For the purpose of this rule, the affected facility includes any combination of evaporators, hotwells, acid sumps and cooling tanks commenced on or after February 9, 1977.~~

~~(2) Definitions~~

- ~~(a) "Superphosphoric acid plant" means any facility which concentrates wet-process phosphoric acid to 66 percent or greater P<sub>2</sub>O<sub>5</sub> content by weight for eventual consumption as a fertilizer.~~
- ~~(b) "Total fluorides" means elemental fluorine and all fluoride compounds as measured by reference methods specified in subparagraph .01(5)(g) of this chapter, or equivalent or alternative methods.~~
- ~~(c) "Equivalent P<sub>2</sub>O<sub>5</sub> feed" means the quantity of phosphorus, expressed as phosphorous pentoxide, fed to the process.~~

~~(3) Standard for Fluorides~~

~~On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility any gases which contain total fluorides in excess of 5.0 g/metric ton of equivalent P<sub>2</sub>O<sub>5</sub> feed (0.010 lb/ton).~~

~~(4) Monitoring of Operations~~

~~The owner or operator of any granular diammonium phosphate plant subject to the provisions of this rule shall:~~

- ~~(a) Install, calibrate, maintain, and operate a flow monitoring device which can be used to determine the mass flow of phosphorus-bearing feed material to the process. The flow monitoring device shall have an accuracy of  $\pm 5$  percent over its operating range.~~
- ~~(b) Maintain a daily record of equivalent P<sub>2</sub>O<sub>5</sub> feed by first determining the total mass rate in metric ton/hr of phosphorus-bearing feed using a flow monitoring device meeting the requirements of subparagraph (a) of this paragraph and then by proceeding according to part (5)(c)2 of this rule.~~
- ~~(c) Install, calibrate, maintain, and operate a monitoring device which continuously measures and permanently records the total pressure drop across the scrubbing system. The monitoring device shall have an accuracy of  $\pm 5$  percent over its operating range.~~

~~(5) Test Methods and Procedures~~

- ~~(a) For determining the concentration of total fluorides and the associated moisture content, the sampling time for each run shall be at least 60 minutes and the minimum sample volume shall be at least 0.85 dscm (30 dscf) except that at shorter necessitated by process variables or other factors, may be approved by the Technical Secretary.~~
- ~~(b) The air pollution control system for the affected facility shall be constructed so that volumetric flow rates and total fluoride emissions can be accurately determined by applicable test methods and procedures.~~
- ~~(c) Equivalent P<sub>2</sub>O<sub>5</sub> feed shall be determined as follows:
  - ~~1. Determine the total mass rate in metric ton/hr of phosphorus-bearing feed during each run using a flow monitoring device meeting the requirements of subparagraph (4)(a) of this rule.~~
  - ~~2. Calculate the equivalent P<sub>2</sub>O<sub>5</sub> feed by multiplying the percentage P<sub>2</sub>O<sub>5</sub> content, as measured by the spectrophotometric molybdovanadophosphate method (AOAC Method 9), times the total mass rate of phosphorus-bearing feed. AOAC Method 9 is published in the Official Methods of Analysis of the Association of Official Analytical Chemists, 11th edition, 1970, pp. 11-12. Other methods may be approved by the Technical Secretary.~~~~
- ~~(d) For each run, emissions expressed in g/metric ton of equivalent P<sub>2</sub>O<sub>5</sub> feed shall be determined using the following equation:~~

$$E = \frac{(C_s Q_s) 10^{-3}}{MP_2O_5}$$

where:

~~E = Emissions of total fluorides in g/metric ton of equivalent P<sub>2</sub>O<sub>5</sub> feed.~~

~~C<sub>s</sub> = Concentration of total fluorides in mg/dscm.~~

~~Q<sub>s</sub> = Volumetric flow rate of the effluent gas stream in dscm/hr.~~

~~10<sup>-3</sup> = Conversion factor for mg to g.~~

~~MP<sub>2</sub>O<sub>5</sub> = Equivalent P<sub>2</sub>O<sub>5</sub> feed in metric ton/hr.~~

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.18 Phosphate Fertilizer Industry: Diammonium Phosphate Plants

~~(1) Applicability~~

~~The provisions of this rule shall apply to each granular diammonium phosphate plant having a design capacity of more than 15 tons of equivalent P<sub>2</sub>O<sub>5</sub> feed per calendar day. For the purpose of this rule, the affected facility includes any combination of reactors, granulators, dryers, coolers, screens and mills commenced on or after February 9, 1977.~~

~~(2) Definitions~~

~~(a) "Granular diammonium phosphate plant" means any plant manufacturing granular diammonium phosphate by reacting phosphoric acid with ammonia.~~

~~(b) "Total fluorides" means elemental fluorine and all fluoride compounds as measured by reference methods specified in subparagraph .01(5)(g) of this chapter or equivalent or alternative methods.~~

~~(c) "Equivalent P<sub>2</sub>O<sub>5</sub> feed" means the quantity of phosphorous, expressed as phosphorous pentoxide, fed to the process.~~

~~(3) Standard for Fluorides~~

~~On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility any gases which contain total fluorides in excess of 30 g/metric ton of equivalent P<sub>2</sub>O<sub>5</sub> feed (0.060 lb/ton).~~

~~(4) Monitoring of operations~~

~~The owner or operator of any granular diammonium phosphate plant subject to the provisions of this rule shall:~~

~~(a) Install, calibrate, maintain and operate a flow monitoring device which can be used to determine the mass flow of phosphorus-bearing feed material to the process. The flow monitoring device shall have an accuracy of ±5 percent over its operating range.~~

~~(b) Maintain a daily record of equivalent P<sub>2</sub>O<sub>5</sub> feed by first determining the total mass rate in metric ton/hr of phosphorus-bearing feed using a flow monitoring device meeting the requirements of subparagraph (a) of this paragraph and then by proceeding according to part (5)(c)2 of this rule.~~

~~(c) Install, calibrate, maintain and operate a monitoring device which continuously measures and permanently records the total pressure drop across the process scrubbing system. The monitoring device shall have an accuracy of ±5 percent over its operating range.~~

~~(5) — Test Methods and Procedures~~

~~(a) — For determining the concentration of total fluorides and the associated moisture content, the sampling time for each run shall be at least 60 minutes and the minimum sample volume shall be at least 0.85 dscm (30 dscf) except that shorter sampling times or smaller volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.~~

~~(b) — The air pollution control system for the affected facility shall be constructed so that volumetric flow rates and total fluoride emissions can be accurately determined by applicable test methods and procedures.~~

~~(c) — Equivalent P<sub>2</sub>O<sub>5</sub> feed shall be determined as follows:~~

~~1. — Determine the total mass rate in metric ton/hr of phosphorus-bearing feed during each run using a flow monitoring device meeting the requirements of subparagraph (4)(a) of this rule.~~

~~2. — Calculate the equivalent P<sub>2</sub>O<sub>5</sub> feed by multiplying the percentage P<sub>2</sub>O<sub>5</sub> content, as measured by the spectrophotometric molybdovanadophosphate method (AOAC Method 9), times the total mass rate of phosphorus-bearing feed. AOAC Method 9 is published in the Official Methods of Analysis of the Association of Official Analytical Chemists, 11th edition, 1970, pp. 11-12. Other methods may be approved by the Technical Secretary.~~

~~(d) — For each run, emissions expressed in g/metric ton of equivalent P<sub>2</sub>O<sub>5</sub> feed shall be determined using the following equation:~~

$$E = \frac{(CsQs) 10^{-3}}{MP_2O_5}$$

~~where:~~

~~E = Emissions of total fluorides in g/metric ton of equivalent P<sub>2</sub>O<sub>5</sub> feed.~~

~~Cs = Concentration of total fluorides in mg/dscm.~~

~~Qs = Volumetric flow rate of the effluent gas stream in dscm/hr.~~

~~10<sup>-3</sup> = Conversion factor for mg to g.~~

~~MP<sub>2</sub>O<sub>5</sub> = Equivalent P<sub>2</sub>O<sub>5</sub> feed in metric ton/hr.~~

~~Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.~~

~~1200-03-16-.19 Phosphate Fertilizer Industry: Triple Superphosphate Plants~~

~~(1) — Applicability~~

~~The provisions of this rule shall apply to each triple superphosphate plant having a design capacity of more than 15 tons of equivalent P<sub>2</sub>O<sub>5</sub> feed per calendar day. For the purpose of this rule, the affected facility includes any combination of mixers, curing belts (dens), reactors, granulators, dryers, cookers, screens, mills and facilities which store run-of-pile triple superphosphate commenced on or after February 9, 1977.~~

~~(2) — Definitions~~

~~(a) — “Triple superphosphate plant” means any facility manufacturing triple superphosphate by reacting phosphate rock with phosphoric acid. A run-of-pile triple superphosphate plant includes curing and storing.~~

~~(b) — “Run-of-pile triple superphosphate” means any triple phosphate that has not been processed in a granulator and is composed on particles at least 25 percent by weight of which (when not caked) will pass through a 16 mesh screen.~~

- ~~(c) "Total fluorides" means elemental fluorine and all fluoride compounds as measured by reference methods specified in subparagraph .01(5)(g) of this chapter or equivalent or alternative methods.~~
- ~~(d) "Equivalent P<sub>2</sub>O<sub>5</sub> feed" means the quantity of phosphorus, expressed as phosphorous pentoxide, fed to the process.~~

~~(3) Standard for Fluorides~~

~~On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility any gases which contain total fluorides in excess of 100 g/metric ton of equivalent P<sub>2</sub>O<sub>5</sub> feed (0.20 lb/ton).~~

~~(4) Monitoring of Operations~~

~~The owner or operator of any triple superphosphate plant subject to the provisions of this rule shall:~~

- ~~(a) Install, calibrate, maintain, and operate a flow monitoring device which can be used to determine the mass flow of phosphorus-bearing feed material to the process. The flow monitoring device shall have an accuracy of ±5 percent over its operating range.~~
- ~~(b) Maintain a daily record of equivalent P<sub>2</sub>O<sub>5</sub> feed by first determining the total mass rate in metric ton/hr of phosphorus-bearing feed using a flow monitoring device meeting the requirements of subparagraph (a) of this paragraph and then by proceeding according to part (5)(c)2 of this rule.~~
- ~~(c) Install, calibrate, maintain, and operate a monitoring device which continuously measures and permanently records the total pressure drop across the process scrubbing system. The monitoring device shall have an accuracy of ±5 percent over its operating range.~~

~~(5) Test Methods and Procedures~~

- ~~(a) For determining the concentration of total fluorides and the associated moisture content, the sampling time for each run shall be at least 60 minutes and the minimum sample volume shall be at least 0.85 dscm (30 dscf) except that shorter sampling times or smaller volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.~~
- ~~(b) The air pollution control system for the affected facility shall be constructed so that volumetric flow rates and total fluoride emissions can be accurately determined by applicable test methods and procedures.~~
- ~~(c) Equivalent P<sub>2</sub>O<sub>5</sub> feed shall be determined as follows:
 
  - ~~1. Determine the total mass rate in metric ton/hr of phosphorus-bearing feed during each run using a flow monitoring device meeting the requirements of subparagraph (4)(a) of this rule.~~
  - ~~2. Calculate the equivalent P<sub>2</sub>O<sub>5</sub> feed by multiplying the percentage P<sub>2</sub>O<sub>5</sub> content, as measured by the spectrophotometric molybdovanadophosphate method (AOAC Method 9), times the total mass rate of phosphorus-bearing feed. AOAC Method 9 is published in the Official Methods of Analysis of the Association of Official Analytical Chemists, 11th edition, 1970, pp. 11-12. Other methods may be approved by the Technical Secretary.~~~~
- ~~(d) For each run, emissions expressed in g/metric ton of equivalent P<sub>2</sub>O<sub>5</sub> feed shall be determined when using the following equation:~~

$$E = \frac{(CsQs) 10^{-3}}{MP_{2}O_{5}}$$

~~where:~~

~~E = Emissions of total fluorides in g/metric ton of equivalent feed.~~

~~Cs = Concentration of total fluorides in mg/dscm.~~

~~Qs = Volumetric flow rate of the effluent gas stream in dscm/hr.~~

~~$10^{-3}$  = Conversion factor for mg to g.~~

~~MP<sub>2</sub>O<sub>5</sub> = Equivalent P<sub>2</sub>O<sub>5</sub> feed in metric ton/hr.~~

~~Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.~~

~~1200-03-16-.20 Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities~~

~~(1) Applicability~~

~~The provisions of this rule shall apply to each granular triple superphosphate storage facility. For the purpose of this rule, the affected facility includes any combination of storage or curing piles, conveyors, elevators, screens and mills commenced on or after February 9, 1977.~~

~~(2) Definitions~~

~~(a) "Granular triple superphosphate storage facility" means any facility curing or storing granular triple superphosphate.~~

~~(b) "Total fluorides" means elemental fluorine and all fluoride compounds as measured by reference methods specified in subparagraph .01(5)(g) of this chapter.~~

~~(c) "Equivalent P<sub>2</sub>O<sub>5</sub> stored" means the quantity of phosphorus, expressed as phosphorus pentoxide, being cured or stored in the affected facility.~~

~~(d) "Fresh granular triple superphosphate" means granular triple superphosphate produced no more than 10 days prior to the date of the performance test.~~

~~(3) Standard for Fluorides~~

~~On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility any gases which contain total fluorides in excess of 0.25 g/hr/metric ton of equivalent P<sub>2</sub>O<sub>5</sub> stored ( $5.0 \times 10^{-4}$  lb/hr/ton of equivalent P<sub>2</sub>O<sub>5</sub> stored).~~

~~(4) Monitoring of Operations~~

~~The owner or operator of any granular triple superphosphate storage facility subject to the provisions of this rule shall:~~

~~(a) Maintain an accurate account of triple superphosphate in storage to permit the determination of the amount of equivalent P<sub>2</sub>O<sub>5</sub> stored.~~

~~(b) Maintain a daily record of total equivalent P<sub>2</sub>O<sub>5</sub> stored by multiplying the percentage P<sub>2</sub>O<sub>5</sub> content, as determined by part (5)(e)(2) of this rule times the total mass of granular triple superphosphate stored.~~

~~(c) Install, calibrate, maintain, and operate a monitoring device which continuously measures and permanently records the total pressure drop across the process scrubbing system. The monitoring device shall have an accuracy of  $\pm 5$  percent over its operating range.~~

~~(5) Test Methods and Procedures~~

~~(a) For determining the concentration of total fluorides and the associated moisture content, the sampling time for each run shall be at least 60 minutes and the minimum sample volume shall be~~

~~at least 0.85 dscm (30 dscf) except that shorter sampling times or smaller volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.~~

~~(b) The air pollution control system for the affected facility shall be constructed so that volumetric flow rates and total fluoride emissions can be accurately determined by applicable test methods and procedures.~~

~~(c) Except as provided under subparagraph (e) of this paragraph, all performance tests on granular triple superphosphate storage facilities shall be conducted only when the following quantities of product are being cured or stored in the facility:~~

~~1. Total granular triple superphosphate - at least 10 percent of the building capacity.~~

~~2. Fresh granular triple superphosphate - at least 20 percent of the amount of triple superphosphate in the building.~~

~~(d) If the provisions set forth in part (c)2 of this paragraph exceed production capabilities for fresh granular triple superphosphate, the owner or operator shall have at least five days maximum production of fresh granular triple superphosphate in the building during a performance test.~~

~~(e) Equivalent P<sub>2</sub>O<sub>5</sub> stored shall be determined as follows:~~

~~1. Determine the total mass stored during each run using an accountability system meeting the requirements of subparagraph (4)(a) of this rule.~~

~~2. Calculate the equivalent P<sub>2</sub>O<sub>5</sub> stored by multiplying the percentage P<sub>2</sub>O<sub>5</sub> content, as measured by the spectrophotometric molybdovanadophosphate method (AOAC Method 9), times the total mass stored. AOAC Method 9 is published in the Official Methods of Analysis of the Association of Official Analytical Chemists, 11th edition, 1970, pp. 11-12. Other methods may be approved by the Technical Secretary.~~

~~(f) For each run, emissions expressed in g/hr/metric ton of equivalent P<sub>2</sub>O<sub>5</sub> stored shall be determined using the following equation:~~

$$E = \frac{(C_s Q_s) 10^{-3}}{MP_{2}O_5}$$

~~where:~~

~~E = Emissions of total fluorides in g/hr/metric ton of equivalent P<sub>2</sub>O<sub>5</sub> stored.~~

~~C<sub>s</sub> = Concentration of total fluorides in mg/dscm.~~

~~Q<sub>s</sub> = Volumetric flow rate of the effluent gas stream in dscm/hr.~~

~~10<sup>-3</sup> = Conversion factor for mg to g.~~

~~MP<sub>2</sub>O<sub>5</sub> = Equivalent P<sub>2</sub>O<sub>5</sub> stored in metric tons.~~

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

#### 1200-3-16-.21 Primary Aluminum Reduction Plants

##### (1) Applicability

~~(a) The affected facilities in primary aluminum reduction plants to which this rule applies are potroom groups and anode baking plants.~~

~~(b) Any facility under subparagraph (a) of this paragraph that commences construction or modification after November 6, 1988 is subject to the requirements of this rule.~~

~~(2) Definitions~~

- ~~(a) "Aluminum equivalent" means an amount of aluminum which can be produced from a Mg of anodes produced by an anode bake plant as determined by subparagraph (6)(g) of this rule.~~
- ~~(b) "Anode bake plant" means a facility which produces carbon anodes for use in a primary aluminum reduction plant.~~
- ~~(c) "Potroom" means a building unit which houses a group of electrolytic cells in which aluminum is produced.~~
- ~~(d) "Potroom group" means an uncontrolled potroom, a potroom which is controlled individually, or a group of potrooms or potroom segments ducted to a common control system.~~
- ~~(e) "Primary aluminum reduction plant" means any facility manufacturing aluminum by electrolytic reduction.~~
- ~~(f) "Primary control system" means an air pollution control system designed to remove gaseous and particulate fluorides from exhaust gases which are captured at the cell.~~
- ~~(g) "Roof monitor" means that portion of the roof of a potroom where gases not captured at the cell exit from the potroom.~~
- ~~(h) "Total fluorides" means elemental fluorine and all fluoride compounds as measured by reference methods specified in paragraph (6) of this rule or by equivalent or alternative methods.~~

~~(3) Standards for fluorides~~

- ~~(a) On and after the date on which the initial performance test required to be conducted by 1200-3-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility any gases containing total fluorides as measured according to 1200-3-16-.01(5) above, in excess of:
  - ~~1. (i) 1.0 kg/Mg (2.0 lb/ton) of aluminum produced for potroom groups at Soderberg plants; except that emissions between 1.0 kg/Mg (2.0 lb/ton) and 1.3 kg/Mg (2.6 lb/ton) will be considered in compliance if the owner or operator demonstrates that exemplary operation and maintenance procedures were used with respect to the emission control system and that proper control equipment was operating at the affected facility during the performance tests;~~
  - ~~(ii) 0.95 kg/Mg (1.9 lb/ton) of aluminum produced for potroom groups at prebake plants; except that emissions between 0.95 kg/Mg and 1.25 kg/Mg (2.5 lb/ton) will be considered in compliance if the owner or operator demonstrates that exemplary operation and maintenance procedures were used with respect to the emission control system and that proper control equipment was operating at the affected facility during the performance test;~~
  - ~~(iii) For the purpose of compliance with the alternative standards in subparts (i) and (ii), exemplary operation and maintenance procedures include the following:
    - ~~(I) Hood covers should fit properly and be in good repair;~~
    - ~~(II) If the exhaust system is equipped with an adjustable air damper system, the hood exhaust rate for individual pots should be increased whenever hood covers are removed from a pot (the exhaust system should not, however, be overloaded by placing too many pots on high exhaust);~~
    - ~~(III) Hood covers should be replaced as soon as possible after each potroom operation;~~
    - ~~(IV) Dust entrainment should be minimized during materials handling~~~~~~



operations and sweeping of the working aisles;

~~(V) — Only tapping crucibles with functional aspirator air return systems (for returning gases under the collection hooding) should be used;~~

~~(VI) — The primary control system should be regularly inspected and properly maintained;~~

~~2. — 0.05 kg/Mg (0.1 lb/ton) of aluminum equivalent for anode bake plants.~~

~~(b) — Within 30 days of any performance test which reveals emissions which fall between the 1.0 kg/Mg and 1.3 kg/Mg levels in part (a)1(i) of this paragraph or between the 0.95 kg/Mg and 1.25 kg/Mg levels in part (a)1(ii) of this paragraph, the owner or operator shall submit a report indicating whether all necessary control devices were on line and operating properly during the performance test, describing the operating and maintenance procedures followed, and setting forth any explanation for the excess emissions to the Technical Secretary.~~

~~(4) — Standard for visible emissions~~

~~(a) — On and after the date on which the performance test required to be conducted by 1200-3-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere:~~

~~1. — From any potroom group any gases which exhibit 10 percent opacity or greater, or~~

~~2. — From any anode bake plant any gases which exhibit 20 percent opacity or greater.~~

~~(5) — Monitoring of Operations~~

~~(a) — The owner or operator of any affected facility subject to the provisions of this rule shall install, calibrate, maintain and operate monitoring devices which can be used to determine daily the weight of aluminum and anode produced. The weighing devices shall have an accuracy of  $\pm$  5 percent over their operating range.~~

~~(b) — The owner or operator of any affected facility shall maintain a record of daily production rates of aluminum and anodes, raw material feed rates, and cell or potline voltages.~~

~~(6) — Test methods and procedures~~

~~(a) — Following the initial performance test as required under 1200-3-16-.01(5)(a) an owner or operator shall conduct a performance test at least once each month during the life of the affected facility, except when malfunctions prevent representative sampling, as provided under 1200-3-16-.01(5)(c). The owner or operator shall give the Technical Secretary at least 15 days notice of each test. The Technical Secretary may require additional testing.~~

~~(b) — An owner or operator may petition the Technical Secretary to establish an alternative testing requirement that requires testing less frequently than once each month for a primary control system or an anode bake plant. If the owner or operator shows that emissions from the primary control system or the anode bake plant have low variability during day-to-day operations, the Technical Secretary may establish such an alternative testing requirement. The alternative testing requirement shall include a testing schedule and, in the case of a primary control system, the method to be used to determine primary control system emissions for the purpose of performance tests. The Technical Secretary shall establish alternative testing requirements on the applicable operating permit as a condition.~~

~~(c) — Except as provided in 1200-3-16-.01(5)(b), reference methods in 1200-3-16-.01(5)(g) shall be used to determine compliance with the standards prescribed in paragraph (3) of this rule as follows:~~

~~1. — For sampling emissions from stacks:~~

~~(i) — Method 1 as specified in 1200-3-16-.01(5)(g)1 for sample and velocity traverses.~~

- ~~(ii) Method 2 as specified in 1200-3-16-.01(5)(g)2 for velocity and volumetric flow rate.~~
  - ~~(iii) Method 3 as specified in 1200-3-16-.01(5)(g)3 for gas analysis.~~
  - ~~(iv) Method 13A and 13B as specified in 1200-3-16-.01(5)(g)13 for the concentration of total fluorides and the associated moisture content.~~
- ~~2. For sampling emissions from roof monitors not employing stacks or pollutant collection systems:~~
- ~~(i) Method 1 as specified in 1200-3-16-.01(5)(g)1 for sample and velocity traverses,~~
  - ~~(ii) Method 2 as specified in 1200-3-16-.01(5)(g)2 and Method 14 as specified in 1200-3-16-.01(5)(g)14 for velocity and volumetric flow rate,~~
  - ~~(iii) Method 3 as specified in 1200-3-16-.01(5)(g)3 for gas analysis, and~~
  - ~~(iv) Method 14 as specified in 1200-3-16-.01(5)(g)14 for the concentration of total fluorides and associated moisture content.~~
- ~~3. For sampling emissions from roof monitors not employing stacks but equipped with pollutant collection systems, the procedures under 1200-3-16-.01(5)(b) shall be followed.~~
- ~~(d) For Method 13A or 13B as specified in 1200-3-16-.01(5)(g)13, the sampling time for each run shall be at least 8 hours for any potroom sample and at least 4 hours for any anode bake plant sample, and the minimum sample volume shall be 6.8 dscm (240 dscf) for any potroom sample and 3.4 dscm (120 dscf) for any anode bake plant sample except that shorter sampling times or smaller volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.~~
  - ~~(e) The air pollution control system for each affected facility shall be constructed so that volumetric flow rates and total fluoride emissions can be accurately determined using applicable methods specified under subparagraph (c) of this paragraph.~~
  - ~~(f) The rate of aluminum production is determined by dividing 720 hours into the weight of aluminum tapped from the affected facility during a period of 30 days prior to and including the final run of a performance test.~~
  - ~~(g) For anode bake plants, the aluminum equivalent for anodes produced shall be determined as follows:~~
    - ~~1. Determine the average weight (Mg) of anode produced in anode bake plant during a representative oven cycle using a monitoring device which meets the requirements of subparagraph (5)(a) of this rule.~~
    - ~~2. Determine the average rate of anode production by dividing the total weight of anodes produced during the representative oven cycle by the length of the cycle in hours.~~
    - ~~3. Calculate the aluminum equivalent for anodes produced by multiplying the average rate of anode production by two. (Note: An owner or operator may establish a different multiplication factor by submitting production records of the Mg of aluminum produced and the concurrent Mg of anode consumed by potrooms).~~
  - ~~(h) For each run, potroom group emissions expressed in kg/Mg of aluminum produced shall be determined using the following equation:~~

$$E_{pg} = \frac{(CsQs)_1 \cdot 10^{-6} + (CsQs)_2 \cdot 10^{-6}}{M}$$

Where:

~~E<sub>pg</sub> = potroom group emissions of total fluorides in kg/Mg of aluminum produced.~~

~~C<sub>s</sub> = concentration of total fluorides in mg/dscm as determined by Method 13A or 13B, as specified in 1200-3-16-.01(5)(g)13, or by Method 14 as specified in 1200-3-16-.01(5)(g)14, as applicable.~~

~~Q<sub>s</sub> = volumetric flow rate of the effluent gas stream in dscm/hr as determined by Method 2 as specified in 1200-3-16-.01(5)(g)2 and/or Method 14 as specified in 1200-3-16-.01(5)(g)14, as applicable.~~

~~10<sup>-6</sup> = conversion factor from mg to kg.~~

~~M = rate of aluminum production in Mg/hr as determined by subparagraph (6)(f) of this rule.~~

~~(C<sub>s</sub>Q<sub>s</sub>)<sub>1</sub> = product of C<sub>s</sub> and Q<sub>s</sub> for measurements of primary control system effluent gas streams.~~

~~(C<sub>s</sub>Q<sub>s</sub>)<sub>2</sub> = product of C<sub>s</sub> and Q<sub>s</sub> for measurements of secondary control system of roof monitor effluent gas streams.~~

~~Where an alternative testing requirement has been established for the primary control system, the calculated value (C<sub>s</sub>Q<sub>s</sub>)<sub>1</sub> from the most recent performance test will be used.~~

~~(i) For each run, as applicable, anode bake plant emissions expressed in kg/Mg of aluminum equivalent shall be determined using the following equation:~~

$$\text{E}_{bp} = \frac{(C_s Q_s) 10^{-6}}{M_e}$$

Where:

~~E<sub>bp</sub> = anode bake plant emissions of total fluorides in kg/Mg of aluminum equivalent.~~

~~C<sub>s</sub> = concentration of total fluorides in mg/dscm as determined by Method 13A or 13B, as specified in 1200-3-16-.01(5)(g)13.~~

~~Q<sub>s</sub> = volumetric flow rate of the effluent gas stream in dscm/hr as determined by Method 2, as specified in 1200-3-16-.01(5)(g)2.~~

~~10<sup>-6</sup> = conversion factor from mg to kg.~~

~~M<sub>e</sub> = aluminum equivalent for anodes produced by anode bake plants in Mg/hr as determined by subparagraph (6)(g) of this rule.~~

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.22 Reserved

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.23 Primary Copper Smelters

(1) Applicability

The provisions of this rule shall apply to the following affected facilities commenced on or after February 9, 1977 in primary copper smelters: dryer roaster, smelting furnace, and copper converter.

~~(2) Definitions~~

- ~~(a) "Primary copper smelter" means any installation or any intermediate process engaged in the production of copper from copper sulfide ore concentrates through the use of pyrometallurgical techniques.~~
- ~~(b) "Dryer" means any facility in which a copper sulfide ore concentrate charge is heated in the presence of air to eliminate a portion of the moisture from the charge, provided less than 5 percent of the sulfur contained in the charge is eliminated in the facility.~~
- ~~(c) "Roaster" means any facility in which a copper sulfide ore concentrate charge is heated in the presence of air to eliminate a significant portion (5 percent or more) of the sulfur contained in the charge.~~
- ~~(d) "Calcine" means the solid materials produced by a roaster.~~
- ~~(e) "Smelting" means processing techniques for the melting of a copper sulfide ore concentrate or calcine charge leading to the formation of separate layers of molten slag, molten copper, and/or copper matte.~~
- ~~(f) "Smelting furnace" means any vessel in which the smelting of copper sulfide ore concentrates or calcines is performed and in which the heat necessary for smelting is provided by an electric current, rapid oxidation of a portion of the sulfur contained in the concentrate as it passes through an oxidizing atmosphere, or the combustion of a fossil fuel.~~
- ~~(g) "Copper converter" means any vessel to which copper matte is charged and oxidized to copper.~~
- ~~(h) "Sulfuric acid plant" means any facility producing sulfuric acid by the contact process.~~
- ~~(i) "Fossil fuel" means natural gas, petroleum, coal and any form of solid, liquid, or gaseous fuel derived from such materials for the purpose of creating useful heat.~~
- ~~(j) "Reverberatory smelting furnace" means any vessel in which the smelting of copper sulfide ore concentrates or calcines is performed and in which the heat necessary for smelting is provided primarily by combustion of a fossil fuel.~~
- ~~(k) "Total smelter charge" means the weight (dry basis) of all copper sulfides ore concentrates processed at a primary copper smelter, plus the weight of all other solid materials introduced into the roasters and smelting furnaces at a primary copper smelter, except calcine, over a one-month period.~~
- ~~(l) "High level of volatile impurities" means a total smelter charge containing more than 0.2 weight percent arsenic, 0.1 weight percent antimony, 4.5 weight percent lead or 5.5 weight percent zinc, on a dry basis.~~

~~(3) Standard for particulate matter~~

~~On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any dryer any gases which contain particulate matter in excess of 50 mg/dscm (0.022 gr/dscf).~~

~~(4) Standard for Sulfur Dioxide~~

- ~~(a) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any roaster, smelting furnace, or copper converter any gases which contain sulfur dioxide in excess of 0.065 percent by volume, except as provided in subparagraphs (b) and (c) of this paragraph.~~
- ~~(b) Reverberatory smelting furnaces shall be exempted from subparagraph (a) of this paragraph during~~

~~periods when the total smelter charge at the primary copper smelter contains a high level of volatile impurities.~~

~~(c) A change in the fuel combusted in a reverberatory smelting furnace shall not be considered a modification under this chapter.~~

~~(5) Standard for Visible Emissions~~

~~(a) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any dryer any visible emissions which exhibit greater than twenty (20%) percent opacity.~~

~~(b) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any affected facility that uses a sulfuric acid plant to comply with the standard set forth in paragraph (4) of this rule, any visible emissions which exhibit greater than twenty percent (20%) opacity.~~

~~(6) Monitoring of Operations~~

~~(a) The owner or operator of any primary copper smelter subject to subparagraph (4)(b) of this rule, shall keep a monthly record of the total smelter charge and the weight percent (dry basis) of arsenic, antimony, lead and zinc contained in this charge. The analytical methods and procedures employed to determine the weight of the total smelter charge and the weight percent of arsenic, antimony, lead and zinc shall be approved by the Technical Secretary and shall be accurate to within plus or minus ten percent.~~

~~(b) The owner or operator of any primary copper smelter subject to the provisions of this rule shall install and operate:~~

~~1. A continuous monitoring system to monitor and record the opacity of gases discharged into the atmosphere from any dryer. The span of this system shall be set at 80 to 100 percent opacity.~~

~~2. A continuous monitoring system to monitor and record sulfur dioxide emissions discharged into the atmosphere from any roaster, smelting furnace or copper converter subject to subparagraph (4)(a) of this rule. The span of this system shall be set at a sulfur dioxide concentration of 0.20 percent by volume.~~

~~(i) The continuous monitoring system performance evaluation required under paragraph .01(8) of this chapter shall be completed prior to the initial performance evaluation. During the performance evaluation the span of the continuous monitoring system may be set at a sulfur dioxide concentration of 0.15 percent by volume if necessary to maintain the system output between 20 percent and 90 percent of full scale. Upon completion of the continuous monitoring system performance evaluation, the span of the continuous monitoring system shall be set at a sulfur dioxide concentration of 0.20 percent by volume.~~

~~(ii) For the purpose of the continuous monitoring system performance evaluation required under paragraph .01(8) of this chapter, the reference method referred to under the Field Test for Accuracy (Relative) in Performance Specification 2 of Appendix B (Federal Register, Vol. 40, No. 194) to this part shall be as specified by the Technical Secretary. For the performance evaluation, each concentration measurement shall be of one hour duration. The pollutant gas used to prepare the calibration gas mixtures required under paragraph 2.1, Performance Specification 2 of Appendix B (Federal Register, Vol. 40, No. 194), and for calibration checks under paragraph .01(8) of this chapter, shall be sulfur dioxide.~~

~~(c) Six-hour average sulfur dioxide concentrations shall be calculated and recorded daily for the four consecutive 6-hour periods of each operating day. Each six-hour average shall be determined as~~

~~the arithmetic mean of the appropriate six contiguous one-hour average sulfur dioxide concentrations provided by the continuous monitoring system installed under subparagraph (b) of this paragraph.~~

~~(d) For the purpose of reports required under subparagraph .01(7)(c) of this chapter periods of excess emissions that shall be reported are defined as follows:~~

~~1. Opacity~~

~~Any six-minute period during which the average opacity, as measured by the continuous monitoring system installed under subparagraph (b) of this paragraph, exceeds the standard under subparagraph (5)(a).~~

~~2. Sulfur dioxide~~

~~Any six-hour period, as described in subparagraph (c) of this paragraph, during which the average emissions of sulfur dioxide, as measured by the continuous monitoring system installed under subparagraph (b) of this paragraph, exceeds the standard under paragraph (4).~~

~~(7) Test Methods and Procedures~~

~~(a) Sulfur dioxide concentrations shall be determined using the continuous monitoring system installed in accordance with subparagraph (6)(b). One 6-hour average period shall constitute one run. The monitoring system drift during any run shall not exceed 2 percent of span.~~

~~(b) For determining the concentration of particulate matter and associated moisture content, the sampling time for each run shall be at least 60 minutes and the minimum sampling volume shall be 0.85 dscm (30 dscf) except that smaller times or volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.~~

~~Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.~~

~~1200-3-16-.24 Primary Zinc Smelters~~

~~(1) Applicability~~

~~The provisions of this rule shall apply to the following affected facilities in primary zinc smelters: roaster and sintering machine commenced on or after February 9, 1977.~~

~~(2) Definitions~~

~~(a) "Primary zinc smelter" means any installation engaged in the production, or any intermediate process in the production, of zinc or zinc oxide from zinc sulfide ore concentrates through the use of pyrometallurgical techniques.~~

~~(b) "Roaster" means any facility in which a zinc sulfide ore concentrate charge is heated in the presence of air to eliminate a significant portion (more than 10 percent) of the sulfur contained in the charge.~~

~~(c) "Sintering machine" means any furnace in which calcines are heated in the presence of air to agglomerate the calcines into a hard porous mass called "sinter".~~

~~(d) "Sulfuric acid plant" means any facility producing sulfuric acid by the contact process.~~

~~(3) Standard for Particulate Emissions~~

~~(a) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any sintering machine any gases which contain particulate matter in excess of 50 mg/dscm (0.022 gr/dscf).~~

~~(4) Standard for Sulfur Dioxide~~

- ~~(a) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any roaster any gases which contain sulfur dioxide in excess of 0.065 percent by volume.~~
- ~~(b) Any sintering machine which eliminates more than 10 percent of the sulfur initially contained in the zinc sulfide ore concentrates will be considered as a roaster under subparagraph (a) of this paragraph.~~

~~(5) Standard for Visible Emissions~~

- ~~(a) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any sintering machine any visible emissions which exhibit greater than 20 percent opacity.~~
- ~~(b) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any affected facility that uses a sulfuric acid plant to comply with the standard set forth in paragraph (4), any visible emissions which exhibit greater than 20 percent opacity.~~

~~(6) Monitoring of Operations~~

- ~~(a) The owner or operator of any primary zinc smelter subject to the provisions of this rule shall install and operate:
  - ~~1. A continuous monitoring system to monitor and record the opacity of gases discharged into the atmosphere from any sintering machine. The span of this system shall be set at 80 to 100 percent opacity.~~
  - ~~2. A continuous monitoring system to monitor and record sulfur dioxide emissions discharged into the atmosphere from any roaster subject to paragraph (4). The span of this system shall be set at a sulfur dioxide concentration of 0.20 percent by volume.
    - ~~(i) The continuous monitoring system performance evaluation required under paragraph .01(8) of this chapter Rule 0400-30-16-.01 shall be completed prior to the initial performance test required under paragraph .01(5) of this chapter. During the performance evaluation, the span of the continuous monitoring system may be set at a sulfur dioxide concentration of 0.15 percent by volume if necessary to maintain the system output between 20 percent and 90 percent of full scale. Upon completion of the continuous monitoring system performance evaluation, the span of the continuous monitoring system shall be set at a sulfur dioxide concentration of 0.20 percent by volume.~~
    - ~~(ii) For the purpose of the continuous monitoring system performance evaluation required under paragraph .01(8) of this chapter the reference method referred to under the Field Test for Accuracy (Relative) in Performance Specification 2 of Appendix B (Federal Register, Vol. 40, No. 194) shall be as specified by the Technical Secretary.~~
    - ~~(iii) For the performance evaluation, each concentration measurement shall be of one hour duration. The pollutant gas used to prepare the calibration gas mixtures required under paragraph 2.1, Performance Specifications 2 of Appendix B (Federal Register, Vol. 40, No. 194) and for calibration checks under paragraph .01(8) of this chapter shall be sulfur dioxide.~~~~~~
- ~~(b) Two-hour average sulfur dioxide concentrations shall be calculated and recorded daily for the~~

~~twelve consecutive 2-hour periods of each operating day. Each two-hour average shall be determined as the arithmetic mean of the appropriate two contiguous one-hour average sulfur dioxide concentrations provided by the continuous monitoring system installed under subparagraph (a) of this paragraph.~~

~~(c) For the purpose of reports required under subparagraph .01(7)(c) of this chapter, periods of excess emissions that shall be reported are defined as follows:~~

~~1. Opacity~~

~~Any six-minute period during which the average opacity, as measured by the continuous monitoring system installed under subparagraph (a) of this paragraph, exceeds the standard in subparagraph (5)(a) of this rule.~~

~~2. Sulfur dioxide~~

~~Any two-hour period, as described in subparagraph (b) of this paragraph, during which the average emissions of sulfur dioxide, as measured by the continuous monitoring system installed under subparagraph (a) of this paragraph, exceeds the standard under paragraph (4).~~

~~(7) Test Methods and Procedures~~

~~(a) Sulfur dioxide concentrations shall be determined using the continuous monitoring system installed in accordance with subparagraph (6)(a). One 2-hour average period shall constitute one run.~~

~~(b) The sampling time for each run shall be at least 60 minutes and the minimum sampling volume shall be 0.85 dscm (30 dscf) except that smaller times or volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.~~

~~Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.~~

~~1200-03-16-.25 Primary Lead Smelters~~

~~(1) Applicability~~

~~The provisions of this rule shall apply to the following affected facilities in primary lead smelters: sintering machine, sintering machine discharge end, blast furnace, dross reverberatory furnace, electric smelting furnace, and converter commenced on or after February 9, 1977.~~

~~(2) Definitions~~

~~(a) "Primary lead smelter" means any installation or any intermediate process engaged in the production of lead from lead sulfide ore concentrates through the use of pyrometallurgical techniques.~~

~~(b) "Sintering machine" means any furnace in which a lead sulfide ore concentrate charge is heated in the presence of air to eliminate sulfur contained in the charge and to agglomerate the charge into a hard porous mass called "sinter".~~

~~(c) "Sinter bed" means the lead sulfide ore concentrate charge within a sintering machine.~~

~~(d) "Sintering machine discharge end" means any apparatus which receives sinter as it is discharged from the conveying grate of a sintering machine.~~

~~(e) "Blast furnace" means any reduction furnace to which sinter is charged and which forms separate layers of molten slag and lead bullion.~~

~~(f) "Dross reverberatory furnace" means any furnace used for the removal or refining of impurities from lead bullion.~~



~~(g) —“Electric smelting furnace” means any furnace in which the heat necessary for smelting of the lead sulfide ore concentrate charge is generated by passing an electric current through a portion of the molten mass in the furnace.~~

~~(h) —“Converter” means any vessel to which lead concentrate or bullion is charged and refined.~~

~~(i) —“Sulfuric acid plant” means any facility producing sulfuric acid by the contact process.~~

~~(3) —Standard for Particulate Matter~~

~~On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any blast furnace, cross reverberatory furnace, or sintering machine discharge end any gases which contain particulate matter in excess of 50 mg/dscm (0.022 gr/dscf).~~

~~(4) —Standard for Sulfur Dioxide~~

~~On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any sintering machine, electric smelting furnace, or converter gases which contain sulfur dioxide in excess of 0.065 percent by volume.~~

~~(5) —Standard for Visible Emissions~~

~~(a) —On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any blast furnace, cross reverberatory furnace, or sintering machine discharge end any visible emissions which exhibit greater than 20 percent opacity.~~

~~(b) —On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any affected facility that uses a sulfuric acid plant to comply with the standard set forth in paragraph (4), any visible emissions which exhibit greater than 20 percent opacity.~~

~~(6) —Monitoring of Operations~~

~~(a) —The owner or operator of any primary lead smelter subject to the provisions of this rule shall install and operate:~~

~~1. —A continuous monitoring system to monitor and record the opacity of gases discharged into the atmosphere from any blast furnace, cross reverberatory furnace, or sintering machine discharge end. The span of this system shall be set at 80 to 100 percent opacity.~~

~~2. —A continuous monitoring system to monitor and record sulfur dioxide emissions discharged into the atmosphere from any sintering machine, electric furnace or converter subject to paragraph (4). The span of this system shall be set at a sulfur dioxide concentration of 0.20 percent by volume.~~

~~(i) —The continuous monitoring system performance evaluation required under paragraph .01(8) of this chapter shall be completed prior to the initial performance test required under paragraph .01(5) of this chapter. During the performance evaluation, the span of the continuous monitoring system may be set at a sulfur dioxide concentration of 0.15 percent by volume if necessary to maintain the system output between 20 percent and 90 percent of full scale. Upon completion of the continuous monitoring system performance evaluation, the span of the continuous monitoring system shall be set at a sulfur dioxide concentration of 0.20 percent by volume.~~

~~(ii) —For the purpose of the continuous monitoring system performance evaluation~~

~~required under paragraph .01(8) of this chapter, the reference method referred to under the Field Test for Accuracy (Relative) in Performance Specification 2 of Appendix B (Federal Register, Vol. 40, No. 194) shall be as specified by the Technical Secretary.~~

~~(iii) For the performance evaluation, each concentration measurement shall be of one hour duration. The pollutant gases used to prepare the calibration gas mixtures required under paragraph 2.1, Performance Specification 2 of Appendix B (Federal Register, Vol. 40, No. 194) and for calibration checks under paragraph .01(8) of this chapter shall be sulfur dioxide.~~

~~(b) Two-hour average sulfur dioxide concentrations shall be calculated and recorded daily for the twelve consecutive two-hour periods of each operating day. Each two-hour average shall be determined as the arithmetic mean of the appropriate two continuous one-hour average sulfur dioxide concentrations provided by the continuous monitoring system installed under subparagraph (a) of this paragraph.~~

~~(c) For the purpose of reports required under subparagraph .01(7)(c) of this chapter, periods of excess emissions that shall be reported are defined as follows:~~

~~1. Opacity~~

~~Any six-minute period during which the average opacity, as measured by the continuous monitoring system installed under subparagraph (a) of this paragraph, exceeds the standard under subparagraph (5)(a).~~

~~2. Sulfur dioxide. Any two-hour period, as described in subparagraph (b) of this paragraph, during which the average emissions of sulfur dioxide, as measured by the continuous monitoring system installed under subparagraph (a) of this paragraph, exceeds the standard under subparagraph (4)(a).~~

~~(7) Test Methods and Procedures~~

~~(a) Sulfur dioxide concentrations shall be determined using the continuous monitoring system installed in accordance with subparagraph (6)(a) of this rule. One 2-hour average period shall constitute one run.~~

~~(b) The sampling time for each run shall be at least 60 minutes and the minimum sampling volume shall be 0.85 dscm (30 dscf) except that smaller times or volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.~~

~~Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.~~

~~1200-03-16-.26 Steel Plants: Electric Arc Furnaces Constructed After February 9, 1977, and on or Before August 17, 1983.~~

~~(1) Applicability and designation of affected facility~~

~~(a) The provisions of this rule are applicable to the following affected facilities in steel plants that produce carbon, alloy, or specialty steels: electric arc furnaces and dust-handling systems.~~

~~(b) The provisions of this rule apply to each affected facility identified in subparagraph (a) of this paragraph that commenced construction, modification, or reconstruction after February 9, 1977 and on or before August 17, 1983.~~

~~(2) Definitions~~

~~(a) "Electric Arc Furnace" (EAF) means a furnace that produces molten steel and heats the charge materials with electric arcs from carbon electrodes. Furnaces that continuously feed direct-reduced iron ore pellets as the primary source of iron are not affected facilities within the scope of this definition.~~

- ~~(b) "Dust-handling equipment" means any equipment used to handle particulate matter collected by the control device and located at or near the control device for an EAF subject to this rule.~~
- ~~(c) "Control device" means the air pollution control equipment used to remove particulate matter generated by an EAF(s) from the effluent gas stream.~~
- ~~(d) "Capture system" means the equipment (including ducts, hoods, fans, dampers, etc.) used to capture or transport particulate matter generated by an EAF to the air pollution control device.~~
- ~~(e) "Charge" means the addition of iron and steel scrap or other materials into the top of an electric arc furnace.~~
- ~~(f) "Charging period" means the time period commencing at the moment an EAF starts to open and ending either three minutes after the EAF roof is returned to its closed position or six minutes after commencement of opening of the roof, whichever is longer.~~
- ~~(g) "Tap" means the pouring of molten steel from an EAF.~~
- ~~(h) "Tapping period" means the time period commencing at the moment an EAF begins to tilt to pour and ending either three minutes after an EAF returns to an upright position or six minutes after commencing to tilt, whichever is longer.~~
- ~~(i) "Meltdown and refining" means that phase of the steel production cycle when charge material is melted and undesirable elements are removed from the metal.~~
- ~~(j) "Meltdown and refining period" means the time period commencing at the termination of the initial charging period and ending at the initiation of the tapping period, excluding any intermediate charging periods.~~
- ~~(k) "Shop opacity" means the arithmetic average of 24 or more opacity observations of emissions from the shop taken in accordance with Method 9 (as specified in 1200-3-16-.01(5)(g)9) for the applicable time periods.~~
- ~~(l) "Heat time" means the period commencing when scrap is charged to an empty EAF and terminating when the EAF tap is completed.~~
- ~~(m) "Shop" means the building which houses one or more EAF's.~~
- ~~(n) "Direct shell evacuation system (DEC System)" means any system that maintains a negative pressure within the EAF above the slag or metal and ducts these emissions to the control device.~~
- ~~(3) Standards for Particulate Matter and Opacity~~
- ~~(a) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from an electric arc furnace any gases which:~~
- ~~1. Exit from a control device and contain particulate matter in excess of 12 mg/dscm (0.0052 gr/dscf).~~
  - ~~2. Exit from a control device and exhibit three percent opacity or greater.~~
  - ~~3. Exit from a shop and, due solely to operations of any EAF(s), exhibit six percent opacity or greater except:~~
    - ~~(i) Shop opacity less than 20 percent may occur during charging periods.~~
    - ~~(ii) Shop opacity less than 40 percent may occur during tapping periods.~~
    - ~~(iii) Opacity standards under part (a)3 of this paragraph shall apply only during periods~~

~~when pressures and either control system fan motor amperes and damper positions or flow rates are being established under subparagraphs (5)(c) and (5)(g) of this rule.~~

~~(iv) Where the capture system is operated such that the roof of the shop is closed during the charge and the tap, and emissions to the atmosphere are prevented until the roof is opened after completion of the charge or tap, the shop opacity standards under part (a)3 of this paragraph shall apply when the roof is opened and shall continue to apply for the length of time defined by the charging and/or tapping periods.~~

~~(b) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from dust-handling equipment any gases which exhibit 10 percent opacity or greater.~~

#### ~~(4) Emission Monitoring~~

~~(a) A continuous monitoring system for the measurement of the opacity of emissions discharged into the atmosphere from the control device(s) shall be installed, calibrated, maintained, and operated by the owner or operator subject to the provisions of this rule.~~

~~(b) For the purpose of reports under 1200-3-16-.01(7)(c), periods of excess emissions that shall be reported are defined as all six-minute periods during which the average opacity is three percent or greater.~~

~~(c) No continuous monitoring system shall be required on any modular, multiple-stack, negative-pressure or positive-pressure fabric filters if observations of the opacity of the visible emissions from the control device are performed by a certified visible emission observer in accordance with subpart (6)(c)6(i) of this rule.~~

#### ~~(5) Monitoring of Operations~~

~~(a) The owner or operator subject to the provisions of this rule shall maintain records daily of the following information:~~

~~1. Time and duration of each charge;~~

~~2. Time and duration of each tap;~~

~~3. All flow rate data obtained under subparagraph (b) of this paragraph, or equivalent obtained under subparagraph (d) of this paragraph; and~~

~~4. All pressure data obtained under subparagraph (e) of this paragraph.~~

~~(b) Except as provided under subparagraph (d) of this paragraph, the owner or operator subject to the provisions of this rule shall check and record on a once-per-shift basis the furnace static pressure (if a Direct Shell Evacuation system is in use) and either:~~

~~1. check and record the control system fan motor amperes and damper positions on a once-per-shift basis; or~~

~~2. install, calibrate, and maintain a monitoring device that continuously records the volumetric flow rate through each separately ducted hood. The monitoring device(s) may be installed in any appropriate location in the exhaust duct such that reproducible flow rate monitoring will result. The flow rate monitoring device(s) shall have an accuracy  $\pm 10$  percent over its normal operating range and shall be calibrated according to the manufacturer's instructions. The Technical Secretary may require the owner or operator to demonstrate the accuracy of the monitoring device(s) relative to Methods 1 and 2 (as specified in 1200-3-16-.01(5)(g)).~~

- ~~(c) When the owner or operator of an EAF is required to demonstrate compliance with the standards under 1200-3-16-.26(3)(a)3 and at any other time the Technical Secretary may require that either the control system fan motor amperes and all damper positions or the volumetric flow rate through each separately ducted hood shall be determined during all periods in which a hood is operated for the purpose of capturing emissions from the EAF subject to parts (b)1 or (b)2 of this paragraph. The owner or operator may petition the Technical Secretary for reestablishment of these parameters whenever the owner or operator can demonstrate to the Technical Secretary's satisfaction that the EAF operating conditions upon which the parameters were previously established are no longer applicable. The values of these parameters as determined during the most recent demonstration of compliance shall be maintained at the appropriate level for each applicable period. Operation at other than baseline values may be subject to the requirements of 1200-3-16-.26(7)(a).~~
- ~~(d) The owner or operator may petition the Technical Secretary to approve any alternative method that will provide a continuous record of operation of each emission capture system.~~
- ~~(e) The owner or operator shall perform monthly operational status inspections of the equipment that is important to the performance of the total capture system (i.e., pressure sensors, dampers, and damper switches). This inspection shall include observations of the physical appearance of the equipment (e.g., presence of hole in ductwork or hoods, flow constrictions caused by dents or accumulated dust in ductwork, and fan erosion). Any deficiencies shall be noted and proper maintenance performed.~~
- ~~(f) Where emissions during any phase of the heat time are controlled by use of a direct shell evacuation system, the owner or operator shall install, calibrate, and maintain a monitoring device that continuously records the pressure in the free space inside the EAF. The pressure shall be recorded as 15-minute integrated averages. The monitoring device may be installed in any appropriate location in the EAF such that reproducible results will be obtained. The pressure monitoring device shall have an accuracy of  $\pm 5$  mm of water gauge over its normal operating range and shall be calibrated according to the manufacturer's instructions.~~
- ~~(g) When the owner or operator of an EAF is required to demonstrate compliance with the standard under 1200-3-16-.26(3)(a)3 and at any other time the Technical Secretary may require, the pressure in the free space inside the furnace shall be determined during the meltdown and refining period(s) using the monitoring device described in subparagraph (f) of this paragraph. The owner or operator may petition the Technical Secretary for reestablishment of the 15-minute integrated average pressure whenever the owner or operator can demonstrate to the Technical Secretary's satisfaction that the EAF operating conditions upon which the pressures were previously established are no longer applicable. The pressure determined during the most recent demonstration of compliance shall be maintained at all times the EAF is operating in a meltdown and refining period. Operation at higher pressures may be considered by the Technical Secretary to be unacceptable operation and maintenance of the affected facility.~~
- ~~(h) Where the capture system is designed and operated such that all emissions are captured and ducted to a control device, the owner or operator shall not be subject to the requirements of this paragraph.~~
- ~~(i) During any performance test required under 1200-3-16-.01(5), and for any report thereof required by subparagraph (6)(c) of this rule or to determine compliance with 1200-3-16-.26(3)(a)3, the owner or operator shall monitor the following information for all heats covered by the test:~~
- ~~1. Charge weights and materials, and tap weights and materials;~~
  - ~~2. Heat times, including start and stop times, and a log of process operation, including periods of no operation during testing and the pressure inside furnace where direct-shell evacuation systems are used;~~
  - ~~3. Control device operation log; and~~
  - ~~4. Continuous monitor or Method 9 (as specified in 1200-3-16-.01(5)(g)9) data.~~

~~(6) — Test methods and procedures~~

- ~~(a) — Reference methods (as referenced in 1200-3-16-.01(5)(g)) except as provided under 1200-3-16-.01(5)(b), shall be used to determine compliance with standards prescribed under 1200-3-16-.26(3) as follows:~~
- ~~1. — Either Method 5 for negative-pressure fabric filters and other types of control devices or Method 5D for positive-pressure fabric filters for concentration of particulate matter and associated moisture content;~~
  - ~~2. — Method 1 for sample and velocity traverses;~~
  - ~~3. — Method 2 for velocity and volumetric flow rate;~~
  - ~~4. — Method 3 for gas analysis; and~~
  - ~~5. — Method 9 for the opacity of visible emissions.~~
- ~~(b) — For Method 5 or 5D, the sampling time for each run shall be at least 4 hours. When a single EAF is sampled, the sampling time for each run shall also include an integral number of heats. Shorter sampling times, when necessitated by process variables or other factors, may be approved by the Technical Secretary. For Method 5 or 5D, the minimum sample volume shall be 4.5 dscm (160 dscf).~~
- ~~(c) — For the purpose of this rule, the owner or operator shall conduct the demonstration of compliance with subparagraph (3)(a) of this rule and furnish the Technical Secretary a written report of the results of the test. This report shall include the following information:~~
- ~~1. — Facility name and address;~~
  - ~~2. — Plant representative;~~
  - ~~3. — Make and model of process, control device, and continuous monitoring equipment;~~
  - ~~4. — Flow diagram of process and emission capture equipment including other equipment or process(es) ducted to the same control device;~~
  - ~~5. — Rated (design) capacity of process equipment;~~
  - ~~6. — Those data required under subparagraph (5)(i) of this rule:
    - ~~(i) — List of charge and tap weights and materials;~~
    - ~~(ii) — Heat times and process log;~~
    - ~~(iii) — Control device operation log; and~~
    - ~~(iv) — Continuous monitor or Reference Method 9 data.~~~~
  - ~~7. — Test dates and times;~~
  - ~~8. — Test company;~~
  - ~~9. — Test company representative;~~
  - ~~10. — Test observers from outside agency;~~
  - ~~11. — Description of test methodology used, including any deviation from standard reference methods;~~
  - ~~12. — Schematic of sampling location;~~

- ~~13. Number of sampling points;~~
- ~~14. Description of sampling equipment;~~
- ~~15. Listing of sampling equipment calibrations and procedures;~~
- ~~16. Field and laboratory data sheets;~~
- ~~17. Description of sample recovery procedures;~~
- ~~18. Sampling equipment leak check results;~~
- ~~19. Description of quality assurance procedures;~~
- ~~20. Description of analytical procedures;~~
- ~~21. Notation of sample blank corrections; and~~
- ~~22. Sample emission calculations.~~

~~(d) During any performance test required under 1200-3-16-.01(5)(g), no gaseous diluents may be added to the effluent gas stream after the fabric in any pressurized fabric filter collector, unless the amount of dilution is separately determined and considered in the determination of emissions.~~

~~(e) When more than one control device serves the EAF(s) being tested, the concentration of particulate matter shall be determined using the following equation:~~

$$C_s = \frac{\sum_{n=1}^N (C_s Q_s)_n}{\sum_{n=1}^N (Q_s)_n}$$

~~Where:~~

~~C<sub>s</sub> = concentration of particulate matter in mg/dscm (gr/dscf) as determined by Method 5.~~

~~N = total number of control devices tested.~~

~~Q<sub>s</sub> = volumetric flow rate of the effluent gas stream in dscm/hr (dscf/hr) as determined by Method 2.~~

~~(C<sub>s</sub>Q<sub>s</sub>)<sub>n</sub> or (Q<sub>s</sub>)<sub>n</sub> = value of the applicable parameter for each control device tested.~~

~~(f) Any control device subject to the provisions of this rule shall be designed and constructed to allow measurement of emissions using applicable test methods and procedures.~~

~~(g) Where emissions from any EAF(s) are combined with emissions from facilities not subject to the provisions of this rule but controlled by a common capture system and control device, the owner or operator may use any of the following procedures during a performance test:~~

- ~~1. Base compliance on control of the combined emissions.~~
- ~~2. Utilize a method acceptable to the Technical Secretary which compensates for the emissions from the facilities not subject to this rule.~~
- ~~3. Any combination of the criteria of parts (g)1 and (g)2 of this paragraph.~~

- ~~(h) — Where emissions from any EAF(s) are combined with emissions from facilities not subject to the provisions of this rule, the owner or operator may use any of the following procedures for demonstrating compliance with 1200-3-16-.26(3)(a)3:~~
- ~~1. — Base compliance on control of the combined emissions.~~
  - ~~2. — Shut down operation of facilities not subject to the provisions of this rule.~~
  - ~~3. — Any combination of the criteria of parts (h)1 and (h)2 of this paragraph.~~
- ~~(i) — Visible emissions observations of modular, multiple-stack, negative-pressure or positive-pressure fabric filters shall occur at least once per day of operation. The observations shall occur when the furnace is operating in the melting and refining period. These observations shall be taken in accordance with Method 9, and, for at least three 6-minute periods, the opacity shall be recorded for any point(s) where visible emissions are observed. Where it is possible to determine that a number of visible emission sites relate to only one incident of the visible emissions, only one set of three 6-minute observations will be required. In this case, Reference Method 9 observations must be made for the site of highest opacity that directly relates to the cause (or location) of visible emissions observed during a single incident. Records shall be maintained of any 6-minute average that is in excess of the emission limit specified in subparagraph (3)(a) of this rule.~~
- ~~(j) — Unless the presence of inclement weather makes concurrent testing infeasible, the owner or operator shall conduct concurrently the performance tests required under 1200-3-16-.01(5)(g) to demonstrate compliance with parts (3)(a)1, 2 and 3, of subparagraph 1200-3-16-.26(3)(a).~~

~~(7) — Recordkeeping and reporting requirements~~

- ~~(a) — Operation at a furnace static pressure that exceeds the value established under subparagraph (5)(f) of this rule and either operation of control system fan motor amperes at values exceeding  $\pm$ 15 percent of the value established under subparagraph (5)(c) of this rule or operation at flow rates lower than those established by subparagraph (5)(c) of this rule may be considered by the Technical Secretary to be unacceptable operation and maintenance of the affected facility. Operation at such values shall be reported to the Technical Secretary semiannually.~~
- ~~(b) — When the owner or operator of an EAF is required to demonstrate compliance with the standard under parts (6)(g)2 and (6)(g)3 of this rule, the owner or operator shall obtain approval from the Technical Secretary of the procedure(s) that will be used to determine compliance. Notification of the procedure(s) to be used must be postmarked 30 days prior to the performance test.~~

~~Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.~~

~~1200-03-16-.27 Ferroalloy Production Facilities~~

~~(1) — Applicability~~

~~The provisions of this rule are applicable to the following affected facilities commenced on or after February 9, 1977: Electric submerged arc furnaces which produce silicon metal, ferrosilicon, calcium silicon, silicomanganese zirconium, ferrochrome silicon, silvery iron, high-carbon ferrochrome, charge chrome, standard ferromanganese, silicomanganese, ferromanganese silicon, or calcium carbide; and dust handling equipment.~~

~~(2) — Definitions~~

- ~~(a) — “Electric submerged arc furnace” means any furnace wherein electrical energy is converted to heat energy by transmission of current between electrodes partially submerged in the furnace charge.~~
- ~~(b) — “Furnace charge” means any material introduced into the electric material arc furnace and may consist of, but is not limited to, ores, slag, carbonaceous material, and limestone.~~
- ~~(c) — “Product change” means any change in the composition of the furnace charge that would cause the electric submerged arc furnace to become subject to a different mass standard applicable under~~



~~this rule.~~

- ~~(d) "Slag" means the more or less completely fused and vitrified matter separated during the reduction of a metal from its ore.~~
- ~~(e) "Tapping" means the removal of slag or product from the electrical submerged arc furnace under normal operating conditions such as removal of metal under normal pressure and movement by gravity down the spout into the ladle.~~
- ~~(f) "Tapping period" means the time duration from initiation of the process of opening tap until plugging of the tap hole is completed.~~
- ~~(g) "Furnace cycle" means the time period from completion of a furnace product tap to the completion of the next consecutive product tap.~~
- ~~(h) "Tapping station" means that general area where molten product or slag is removed from the electric submerged arc furnace.~~
- ~~(i) "Blowing tap" means any tap in which an evolution of gas forces or projects jets of flame or metal sparks beyond the ladle, runner, or collection hood.~~
- ~~(j) "Furnace power input" means the resistive electrical power consumption of an electric submerged arc furnace as measured in kilowatts.~~
- ~~(k) "Dust handling equipment" means any equipment used to handle particulate matter collected by the air pollution control device (and located at or near such device) serving any electric submerged arc furnace subject to this rule.~~
- ~~(l) "Control device" means the air pollution control equipment used to remove particulate matter generated by an electric submerged arc furnace from an effluent gas stream.~~
- ~~(m) "Capture system" means the equipment (including hoods, ducts, fans, dampers, etc.) used to capture or transport particulate matter generated by an affected electric submerged arc furnace to the control device.~~
- ~~(n) "Standard ferromanganese" means that alloy as defined by A.S.T.M. designation A99-66.~~
- ~~(o) "Silicomanganese" means that alloy as defined by A.S.T.M. designation A483-66.~~
- ~~(p) "Calcium carbide" means material containing 70 to 85 percent calcium carbide by weight.~~
- ~~(q) "High-carbon ferrochrome" means that alloy as defined by A.S.T.M. designation A101-66 grades HC1 through HC6.~~
- ~~(r) "Charge chrome" means that alloy containing 52 to 70 percent by weight chromium, 5 to 8 percent by weight carbon, and 3 to 6 percent by weight silicon.~~
- ~~(s) "Silvery iron" means any ferrosilicon, as defined by A.S.T.M. designation A100-69, which contains less than 30 percent silicon.~~
- ~~(t) "Ferrochrome silicon" means that alloy as defined by A.S.T.M. designation A482-66.~~
- ~~(u) "Silicomanganese zirconium" means that alloy containing 60 to 65 percent by weight silicon, 1.5 to 2.5 percent by weight calcium, 5 to 7 percent by weight zirconium, 0.75 to 1.25 percent by weight aluminum, 5 to 7 percent by weight manganese, and 2 to 3 percent by weight barium.~~
- ~~(v) "Calcium silicon" means that alloy as defined by A.S.T.M. designation A495-64.~~
- ~~(w) "Ferrosilicon" means that alloy as defined by A.S.T.M. designation A100-69 grades A, B, C, D, and E which contains 50 or more percent silicon by weight.~~

~~(x) —“Silicon metal” means any silicon alloy containing more than 96 percent silicon by weight.~~

~~(y) —“Ferromanganese silicon” means that alloy containing 63 to 66 percent by weight manganese, 28 to 32 percent by weight silicon, and a maximum of 0.08 percent by weight carbon.~~

~~(3) —Standards for Particulate Matter and Opacity~~

~~(a) —On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any electric submerged arc furnace any gases which:~~

~~1. —Exit from a control device and contain particulate matter in excess of 0.45 kg/MW-hr (0.99 lb/MW-hr) while silicon metal, ferrosilicon, calcium silicon, or silicomanganese-zirconium is being produced.~~

~~2. —Exit from a control device and contain particulate matter in excess of 0.23 kg/MW-hr (0.51 lb/MW-hr) while high-carbon ferrochrome, charge chrome, standard ferromanganese, silicomanganese, calcium carbide, ferrochrome silicon, ferromanganese silicon, or silvery iron is being produced.~~

~~3. —Exit from a control device and exhibit 15 percent opacity or greater.~~

~~4. —Exit from an electric submerged arc furnace and escape the capture system and are visible without the aid of instruments. The requirements under this part apply only during periods when flow rates are being established under subparagraph (6)(d) of this rule.~~

~~5. —Escape the capture system at the tapping station and are visible without the aid of instruments for more than 40 percent of each tapping period. There are no limitations on visible emissions under this part when a blowing tap occurs. The requirements under this subparagraph apply only during periods when flow rates are being established under subparagraph (6)(d) of this rule.~~

~~(b) —On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any dust-handling equipment any gases which exhibit 10 percent opacity or greater.~~

~~(4) —Standard for Carbon Monoxide~~

~~(a) —On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any electric submerged arc furnace any gases which contain, on a dry basis, 20 or greater volume percent of carbon monoxide. Combustion of such gases under conditions acceptable to the Technical Secretary constitutes compliance with this section. Acceptable conditions include, but are not limited to, flaring of gases or use of gases as fuel for other processes.~~

~~(5) —Emission Monitoring~~

~~(a) —The owner or operator subject to the provisions of this rule shall install, calibrate, maintain and operate a continuous monitoring system for measurement of the opacity of emissions discharged into the atmosphere from the control device(s).~~

~~(b) —For the purpose of reports required under subparagraph .01 (7)(c) of this chapter, the owner or operator shall report as excess emissions all six-minute periods in which the average opacity is 15 percent or greater.~~

~~(c) —The owner or operator subject to the provisions of this subpart shall submit a written report of any product change to the Technical Secretary. Reports of product changes must be postmarked not later than 30 days after implementation of the product change.~~

~~(6) Monitoring of Operations~~

- ~~(a) The owner or operator of any electric submerged arc furnace subject to the provisions of this rule shall maintain daily records of the following information:~~
- ~~1. Product being produced.~~
  - ~~2. Description of constituents of furnace charge, including the quantity, by weight.~~
  - ~~3. Time and duration of each tapping period and the identification of material tapped (slag or product).~~
  - ~~4. All furnace power input data obtained under subparagraph (b) of this paragraph.~~
  - ~~5. All flow rate data obtained under subparagraph (e) of this paragraph or all fan motor power consumption and pressure drop data obtained under subparagraph (e) of this paragraph.~~
- ~~(b) The owner or operator subject to the provisions of this rule shall install, calibrate, maintain, and operate a device to measure and continuously record the furnace power input. The furnace power input may be measured at the output or input side of the transformer. The device must have an accuracy of  $\pm 5$  percent over its operating range.~~
- ~~(c) The owner or operator subject to the provisions of this rule shall install, calibrate, and maintain a monitoring device that continuously measures and records the volumetric flow rate through each separately ducted hood of the capture system, except as provided under subparagraph (e) of this paragraph. The owner or operator of an electric submerged arc furnace that is equipped with a water cooled cover which is designed to contain and prevent escape of the generated gas and particulate matter shall monitor only the volumetric flow rate through the capture system for control of emissions from the tapping station. The owner or operator may install the monitoring device(s) in any appropriate location in the exhaust duct such that reproducible flow rate monitoring will result. The flow rate monitoring device must have an accuracy of  $\pm 10$  percent over its normal operating range and must be calibrated according to the manufacturer's instructions. The Technical Secretary may require the owner or operator to demonstrate the accuracy of the monitoring device relative to Methods 1 and 2 in subparagraph .01(5)(g) of this chapter.~~
- ~~(d) When performance tests are conducted under the provisions of paragraph .01(5) of this chapter to demonstrate compliance with the standards under parts (3)(a)4 and (3)(a)5 of this rule, the volumetric flow rate through each separately ducted hood of the capture system must be determined using the monitoring device required under subparagraph (c) of this paragraph. The volumetric flow rates must be determined for furnace power input levels at 50 and 100 percent of the nominal rated capacity of the electric submerged arc furnace. At all times the electric submerged arc furnace is operated, the owner or operator shall maintain the volumetric flow rate at or above the appropriate levels for that furnace power input level determined during the most recent performance test. If emissions due to tapping are captured and ducted separately from emissions of the electric submerged arc furnace, during each tapping period the owner or operator shall maintain the exhaust flow rates through the capture system over the tapping station at or above the levels established during the most recent performance test. Operation at lower flow rates may be considered by the Technical Secretary to be unacceptable operation and maintenance of the affected facility. The owner or operator may request that these flow rates be reestablished by conducting new performance tests under paragraph .01(5) of this rule.~~
- ~~(e) The owner or operator may as an alternative to subparagraph (c) of this paragraph determine the volumetric flow rate through each fan of the capture system from the fan power consumption, pressure drop across the fan and the fan performance curve. Only data specific to the operation of the affected electric submerged arc furnace are acceptable for demonstration of compliance with the requirements of this subparagraph. The owner or operator shall maintain a permanent record of the fan performance curve (prepared for a specific temperature) and shall:~~
- ~~1. Install, calibrate, maintain and operate a device to continuously measure and record the power consumption of the fan motor (measured in kilowatts), and~~

~~2. Install, calibrate, maintain, and operate a device to continuously measure and record the pressure drop across the fan. The fan power consumption and pressure drop measurements must be synchronized to allow real time comparisons of the data. The monitoring devices must have an accuracy of  $\pm 5$  percent over their normal operating ranges.~~

~~(f) The volumetric flow rate through each fan of the capture system must be determined from the fan power consumption, fan pressure drop, and fan performance curve specified under subparagraph (e) of this paragraph, during any performance test required under paragraph .01(5)(g) of this chapter to demonstrate compliance with the standards under parts (3)(a)4 and 5 of this rule. The owner or operator shall determine the volumetric flow rate at a representative temperature for furnace power input levels of 50 and 100 percent of the nominal rated capacity of the electric submerged arc furnace. At all times the electric submerged arc furnace is operated, the owner or operator shall maintain the fan power consumption and fan pressure drop at levels such that the volumetric flow rate is at or above the levels established during the most recent performance test for the furnace power input level.~~

~~If emissions due to tapping are captured and ducted separately from emissions of the electric submerged arc furnace, during each tapping period the owner or operator shall maintain the fan power consumption and fan pressure drop at levels such that the volumetric flow rate is at or above the levels established during the most recent performance test. Operation at lower flow rates may be considered by the Technical Secretary to be unacceptable operation and maintenance of the affected facility. The owner or operator may request that these flow rates be reestablished by conducting new performance tests under paragraph .01(5) of this chapter. The Technical Secretary may require the owner or operator to verify the fan performance curve by monitoring necessary fan operating parameters and determining the gas volume moved relative to Methods 1 and 2 of subparagraph .01(5)(g) of this chapter.~~

~~(g) All monitoring devices required under subparagraphs (c) and (e) of this paragraph are to be checked for calibration annually in accordance with the procedures under paragraph .01(8) of this chapter.~~

#### ~~(7) Test Methods and Procedures~~

~~(a) When determining the concentration of particulate matter and the associated moisture content, the use of the heating system specified by the method outlined in part .01(5)(g) of this chapter are not to be used when the carbon monoxide content of the gas stream exceeds ten (10) percent by volume, dry basis.~~

~~(b) The sampling time for each particulate run is to include an integral number of furnace cycles. The sampling time for each run must be at least 60 minutes and the minimum sample volume must be 1.8 dscm (64 dscf) when sampling emissions from open electric submerged arc furnaces with wet scrubber control devices, sealed electric submerged arc furnaces, or semi-enclosed electric submerged arc furnaces. When sampling emissions from other types of installations, the sampling time for each run must be at least 200 minutes and the minimum sample volume must be 5.7 dscm (200 dscf). Shorter sampling times or smaller sampling volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.~~

~~(c) During the performance test, the owner or operator shall record the maximum open hood area (in hoods with segmented or otherwise moveable sides) under which the process is expected to be operated and remain in compliance with all standards. Any future operation of the hooding system with open areas in excess of the maximum is not permitted.~~

~~(d) The owner or operator shall construct the control devices so that volumetric flow rates and particulate matter emissions can be accurately determined by applicable test methods and procedures.~~

~~(e) During any performance test required under paragraph .01(5) of this chapter, the owner or operator shall not allow gaseous diluents to be added to the effluent gas stream after the fabric in an open pressurized fabric filter collector unless the total gas volume flow from the collector is accurately~~

determined and considered in the determination of emissions.

~~(f) When compliance with paragraph (4) of this rule is to be attained by combusting the gas stream in a flare, the location of the sampling site for particulate matter is to be upstream of the flare.~~

~~(g) For each run, particulate matter emissions, expressed in kg/hr (lb/hr), must be determined for each exhaust stream at which emissions are quantified using the following equation:~~

$$E_n = C_s Q_s$$

~~where:~~

~~$E_n$  = Emissions of particulate matter in kg/hr (lb/hr).~~

~~$C_s$  = Concentration of particulate matter in kg/dscm (lb/dscf) as determined by Method 5 of subparagraph .01(5)(g) of this chapter Rule 0400-30-16-.01.~~

~~$Q_s$  = Volumetric flow rate of the effluent gas stream in dscm/hr (dscf/hr) as determined by Method 2 of subparagraph .01(5)(g) of this chapter Rule 0400-30-16-.01.~~

~~(h) For Method 5, particulate matter emissions from the affected facility, expressed in kg/MW-hr (lb/MW-hr) must be determined for each run using the following equation:~~

$$E = \frac{\sum_{n=1}^N E_n}{P}$$

~~where:~~

~~$E$  = Emissions of particulate matter from the affected facility, in kg/MW-hr (lb/MW-hr).~~

~~$N$  = Total number of exhaust streams at which emissions are quantified.~~

~~$E_n$  = Emission of particulate matter from each exhaust stream in kg/hr (lb/hr), as determined in subparagraph (g) of this subparagraph.~~

~~$p$  = Average furnace power input during the sampling period, in megawatts as determined according to subparagraph (6)(b) of this rule.~~

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.28 Lime Manufacturing Plants

(1) Applicability and designation of the affected facility

(a) The provisions of this rule are applicable to the following affected facilities commenced on or after November 6, 1988, used in the manufacture of lime: rotary lime kilns and lime hydrators.

(b) The provisions of this rule are not applicable to facilities used in the manufacture of lime at kraft pulp mills.

(2) Definitions

(a) "Lime manufacturing plant" includes any plant which produces a lime product from limestone by calcination. Hydration of the lime product is also considered to be part of the source.

(b) "Lime product" means the product of the calcination process including, but not limited to, calcitic lime, dolomitic lime, and dead-burned dolomite.

(c) "Rotary lime kiln" means a unit with an inclined rotating drum which is used to produce a lime

~~product from limestone by calcination.~~

~~(d) —“Lime hydrator” means a unit used to produce hydrated lime product.~~

~~(3) —Standard for particulate matter~~

~~(a) —On and after the date on which the performance test required to be conducted by paragraph .01(5) of this Chapter is completed, no owner or operator subject to the provisions of this paragraph shall cause to be discharged into the atmosphere:~~

- ~~1. —from any rotary lime kiln any gases which contain particulate matter in excess of 0.15 kilogram per megagram of limestone feed (0.30 lb/ton).~~
- ~~2. —From any lime hydrator any gases which contain particulate matter in excess of 0.075 kilogram per megagram of lime feed (0.15 lb/ton).~~

~~(4) —Standard for visible emissions~~

~~(a) —On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any rotary lime kiln any gases which exhibit ten (10) percent opacity or greater.~~

~~(5) —Monitoring of Emissions and Operations~~

~~(a) —The owner or operator subject to the provisions of this rule shall install, calibrate, maintain, and operate a continuous monitoring system, except as provided in subparagraph (b) of this paragraph, to monitor and record the opacity of a representative portion of the gases discharged into the atmosphere from any rotary lime kiln. The span of this system shall be set at forty (40) percent opacity.~~

~~(b) —The owner or operator of any rotary lime kiln using a positive pressure fabric filter control device or a control device with a multiple stack exhaust or a roof monitor may, in lieu of the continuous opacity monitoring requirement of subparagraph (a) of this paragraph, monitor visible emissions at least once per day of operation by using a certified visible emissions observer who, for each site where visible emissions are observed, will perform three Method 9 tests and record the results. Visible emission observations shall occur during normal operation of the rotary lime kiln at least once per day. For at least three 6-minute periods, the opacity shall be recorded for any point(s) where visible emissions are observed, and the corresponding feed rate of the kiln shall also be recorded. Records shall be maintained of any 6-minute average that is in excess of the emissions specified in subparagraph (4)(a) of this rule.~~

~~(c) —The owner or operator of any lime hydrator using a wet scrubbing emission control device subject to the provisions of this rule shall install, calibrate, maintain, and operate the following continuous monitoring devices:~~

- ~~1. —A monitoring device for the continuous measuring of the scrubbing liquid flow rate. The monitoring device must be accurate within  $\pm 5$  percent of design scrubbing liquid flow rate.~~
- ~~2. —A monitoring device for the continuous measurement of the electric current, in amperes, used by the scrubber. The monitoring device must be accurate within  $\pm 10$  percent over its normal operating range.~~

~~(d) —For the purpose of conducting a performance test under paragraph .01(5) of this Chapter, the owner or operator of any lime manufacturing plant subject to the provisions of this rule shall install, calibrate, maintain, and operate a device for measuring the mass rate of limestone feed to any affected rotary lime kiln and the mass rate of lime feed to any affected lime hydrator. The measuring device used must be accurate to within  $\pm 5$  percent of the mass rate over its operating range.~~

~~(e) —For the purpose of reports required under subparagraph .01(7)(c) of this chapter, periods of excess emissions that shall be reported are defined as all six-minute periods during which the average~~

~~opacity of the plume from any lime kiln subject to subparagraph (a) of this paragraph is 10 percent or greater.~~

~~(6) — Test Methods and Procedures~~

- ~~(a) — For determining the concentration of particulate matter and associated moisture content, the sampling time for each run shall be at least 60 minutes and the sampling rate shall be at least 0.85 std m<sup>3</sup>/h, dry basis (0.53 dscf/min), except that shorter sampling times, when necessitated by process variables or other factors, may be approved by the Technical Secretary.~~
- ~~(b) — Because of the high moisture content (40 to 85 percent by volume) of the exhaust gases from hydrators, the Method 5 sample train may be modified to include a calibrated orifice immediately following the sample nozzle when testing lime hydrators. In this configuration, the sampling rate necessary for maintaining isokinetic conditions can be directly related to exhaust gas velocity without a correction for moisture content. Extra care should be exercised when cleaning the sample train with the orifice in this position with the following test runs.~~
- ~~(c) — Visible emission observations of a control device with a multiple stack exhaust or a roof monitor shall occur during normal operation of the rotary lime kiln, at least once per day of operation. For at least three 6-minute periods, the opacity shall be recorded for any point(s) where visible emissions are observed, and the corresponding feed rate of the kiln shall also be recorded. These observations shall be taken in accordance with Method 9. Records shall be maintained of any 6-minute average that is in excess of the emissions limit specified in subparagraph (4)(a) of this rule.~~

~~Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.~~

~~1200-03-16-.29 Kraft Pulp Mills~~

~~(1) — Applicability and Designation of Affected Facility~~

- ~~(a) — The provisions of this rule are applicable to the following affected facilities in kraft pulp mills: Digester system, brown stock washer system, multiple-effect evaporator system, recovery furnace, smelt dissolving tank, lime kiln, and condensate stripper system. In pulp mills where kraft pulping is combined with neutral sulfite semichemical pulping, the provisions of this rule are applicable when any portion of the material charged to an affected facility is produced by the kraft pulping operation.~~
- ~~(b) — Except as noted in subpart (4)(a)1(iv) of this rule, any facility under subparagraph (a) of this paragraph that commences construction or modification after November 6, 1988 is subject to the requirements of this rule.~~

~~(2) — Definitions~~

- ~~(a) — “Kraft pulp mill” means any stationary source which produces pulp from wood by cooking (digesting) wood chips in a water solution of sodium hydroxide and sodium sulfide (white liquor) at high temperature and pressure. Regeneration of the cooking chemicals through a recovery process is also considered part of the kraft pulp mill.~~
- ~~(b) — “Neutral sulfite semichemical pulping operation” means any operation in which pulp is produced from wood by cooking (digesting) wood chips in a solution of sodium sulfite and sodium bicarbonate, followed by mechanical defibrating (grinding).~~
- ~~(c) — “Total reduced sulfur (TRS)” means the sum of the sulfur compounds hydrogen sulfide, methyl mercaptan, dimethyl sulfide, and dimethyl disulfide, that are released during the kraft pulping operation and measured by Reference Method 16 (as referenced in 1200-03-16-.01(5)(g)).~~
- ~~(d) — “Digester system” means each continuous digester or each batch digester used for the cooking of wood in white liquor, and associated flash tank(s), blow tank(s), chip steamer(s), and condenser(s).~~
- ~~(e) — “Brown stock washer system” means brown stock washers and associated knotters, vacuum pumps, and filtrate tanks used to wash the pulp following the digestion system. Diffusion washers~~

~~are excluded from this definition.~~

- ~~(f) "Multiple-effect evaporator system" means the multiple-effect evaporators and associated condenser(s) and hotwell(s) used to concentrate the spent cooking liquid that is separated from the pulp (black liquor).~~
- ~~(g) "Black liquor oxidation system" means the vessels used to oxidize, with air or oxygen, the black liquor, and associated storage tank(s).~~
- ~~(h) "Recovery furnace" means either a straight kraft recovery furnace, or a cross recovery furnace, and includes the direct-contact evaporator for a direct-contact furnace.~~
- ~~(i) "Straight kraft recovery furnace" means a furnace used to recover chemicals consisting primarily of sodium and sulfur compounds by burning black liquor which on a quarterly basis contains 7 weight percent or less of the total pulp solids from the neutral sulfite semichemical process or has green liquor sulfidity of 28 percent or less.~~
- ~~(j) "Cross recovery furnace" means a furnace used to recover chemicals consisting primarily of sodium and sulfur compounds by burning black liquor which on a quarterly basis contains more than 7 weight percent of the total pulp solids from the neutral sulfite semichemical process and has a green liquor sulfidity of more than 28 percent.~~
- ~~(k) "Black liquor solids" means the dry weight of the solids which enter the recovery furnace in the black liquor.~~
- ~~(l) "Green liquor sulfidity" means the sulfidity of the liquor which leaves the smelt dissolving tank.~~
- ~~(m) "Smelt dissolving tank" means a vessel used for dissolving the smelt collected from the recovery furnace.~~
- ~~(n) "Lime kiln" means a unit used to calcine lime mud, which consists primarily of calcium carbonate, into quicklime, which is calcium oxide.~~
- ~~(o) "Condensate stripper system" means a column, and associated condensers, used to strip, with air or steam, TRS compounds from condensate streams from various processes within a kraft pulp mill.~~

~~(3) Standard for Particulate Matter and Opacity~~

- ~~(a) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this Chapter is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere:
  - ~~1. From any recovery furnace any gases which:
    - ~~(i) Contain particulate matter in excess of 0.10 g/dscm (0.044 gr/dscf) corrected to 8 percent oxygen.~~
    - ~~(ii) Exhibit 35 percent opacity or greater.~~~~
  - ~~2. From any smelt dissolving tank any gases which contain particulate matter in excess of 0.1 g/kg black liquor solids (dry weight) (0.2 lb/ton black liquor solids (dry weight)).~~
  - ~~3. From any lime kiln any gases which contain particulate matter in excess of:
    - ~~(i) 0.15 g/dscm (0.067 gr/dscf) corrected to 10 percent oxygen, when gaseous fossil fuel is burned.~~
    - ~~(ii) 0.30 g/dscm (0.13 gr/dscf) corrected to 10 percent oxygen when liquid fossil fuel is burned.~~~~~~



~~(4) Standard for Total Reduced Sulfur (TRS).~~

~~(a) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this Chapter is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere:~~

~~1. From any digester system, brown stock washer system, multiple-effect evaporator system, or condensate stripper system any gases which contain TRS in excess of 5 ppm by volume on a dry basis, corrected to 10 percent oxygen, unless the following conditions are met:~~

~~(i) The gases are combusted in a lime kiln subject to the provisions of part (a)5 of this paragraph; or,~~

~~(ii) The gases are combusted in a recovery furnace subject to the provisions of parts (a)2 or (a)3 of this paragraph; or,~~

~~(iii) The gases are combusted with other waste gases in an incinerator or other device, or combusted in a lime kiln or recovery furnace not subject to the provisions of this rule, and are subjected to a minimum temperature of 1200°F for at least 0.5 second; or,~~

~~(iv) It has been demonstrated to the Technical Secretary's satisfaction by the owner or operator that incinerating the exhaust gases from a new, modified, or reconstructed brown stock washer system is technologically or economically unfeasible. Any exempt system will become subject to the provisions of this rule if the facility is changed so that the gases can be incinerated.~~

~~(v) The gases from the digester system, brown stock washer system, or condensate stripper system are controlled by a means other than combustion. In this case, this system shall not discharge any gases to the atmosphere which contain TRS in excess of 5 ppm by volume on a dry basis, corrected to the actual oxygen content of the untreated gas stream.~~

~~(vi) The uncontrolled exhaust gases from a new, modified, or reconstructed digester system contain TRS less than 0.005 g/kg ADP (0.01 lb/ton ADP).~~

~~2. From any straight kraft recovery furnace any gases which contain TRS in excess of 5 ppm by volume on a dry basis, corrected to 8 percent oxygen.~~

~~3. From any cross recovery furnace any gases which contain TRS in excess of 25 ppm by volume on a dry basis, corrected to 8 percent oxygen.~~

~~4. From any smelt dissolving tank any gases which contain TRS in excess of 0.016 g/kg black liquor solids at H<sub>2</sub>S (0.033 lb/ton black liquor solids as H<sub>2</sub>S).~~

~~5. From any lime kiln any gases which contain TRS in excess of 8 ppm by volume on a dry basis, corrected to 10 percent oxygen.~~

~~(5) Monitoring of Emissions and Operations~~

~~(a) Any owner or operator subject to the provisions of this rule shall install, calibrate, maintain, and operate the following continuous monitoring systems:~~

~~1. A continuous monitoring system to monitor and record the opacity of the gases discharged into the atmosphere from any recovery furnace. The span of this system shall be set at 70 percent opacity.~~

~~2. Continuous monitoring systems to monitor and record the concentration of TRS emissions on a dry basis and the percent of oxygen by volume on a dry basis in the gases discharged into the atmosphere from any lime kiln, recovery furnace, digester system, brown stock washer system, multiple-effect evaporator system, or condensate stripper system, except~~

~~where the provisions of subpart (4)(a)1(iii) or (iv) of this rule apply. These systems shall be located downstream of the control device(s) and the spans of these continuous monitoring system(s) shall be set:~~

- ~~(i) At a TRS concentration of 30 ppm for the TRS continuous monitoring system, except that for any cross-recovery furnace the span shall be set at 50 ppm.~~
- ~~(ii) At 20 percent oxygen for the continuous oxygen monitoring system.~~

~~(b) Any owner or operator subject to the provisions of this rule shall install, calibrate, maintain, and operate the following continuous monitoring devices:~~

- ~~1. For any incinerator, a monitoring device which measures and records the combustion temperature at the point of incineration of effluent gases which are emitted from any digester system, brown stock washer system, multiple-effect evaporator system, black liquor oxidation system, or condensate stripper system where the provisions of subpart (4)(a)1(iii) of this rule apply. The monitoring device is to be certified by the manufacturer to be accurate within  $\pm 1$  percent of the temperature being measured.~~
- ~~2. For any lime kiln or smelt dissolving tank using a scrubber emission control device:
  - ~~(i) A monitoring device for the continuous measurement of the pressure loss of the gas stream through the control equipment. The monitoring device is to be certified by the manufacturer to be accurate to within a gauge pressure of  $\pm 500$  pascals (ca.  $\pm 2$  inches water gauge pressure).~~
  - ~~(ii) A monitoring device for the continuous measurement of the scrubbing liquid supply pressure to the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within  $\pm 15$  percent of design scrubbing liquid supply pressure. The pressure sensor or tap is to be located close to the scrubber liquid discharge point. The Technical Secretary shall be consulted for approval of alternative locations.~~~~

~~(c) Any owner or operator subject to the provisions of this rule shall, except where the provisions of subpart (4)(a)1(iv) or part (4)(a)4 of this rule apply.~~

- ~~1. Calculate and record on a daily basis 12-hour average TRS concentrations for the two consecutive periods of each operating day. Each 12-hour average shall be determined as the arithmetic mean of the appropriate 12 contiguous 1-hour average total reduced sulfur concentrations provided by each continuous monitoring system installed under part (a)2 of this paragraph.~~
- ~~2. Calculate and record on a daily basis 12-hour average oxygen concentrations for the two consecutive periods of each operating day for the recovery furnace and lime kiln. These 12-hour averages shall correspond to the 12-hour average TRS concentrations under part (c)1 of this paragraph and shall be determined as an arithmetic mean of the appropriate 12 contiguous 1-hour average oxygen concentrations provided by each continuous monitoring system installed under part (a)2 of this paragraph.~~
- ~~3. Correct all 12-hour average TRS concentrations to 10 volume percent oxygen, except that all 12-hour average TRS concentration from a recovery furnace shall be corrected to 8 volume percent using the following equation:~~

$$~~C_{corr} = C_{meas} (21-X/21-Y)~~$$

~~where:~~

~~$C_{corr}$  = the concentration corrected for oxygen.~~

~~$C_{meas}$  = the concentration uncorrected for oxygen.~~

~~X = The volumetric oxygen concentration in percentage to be corrected to (8 percent for recovery furnaces and 10 percent for lime kilns, incinerators, or other devices).~~

~~Y = the measured 12-hour average volumetric oxygen concentration.~~

~~4. Record once per shift measurements obtained from the continuous monitoring devices installed under part (b)2 of this paragraph.~~

~~(d) For the purpose of reports required under 1200-3-16-.01(7)(c), any owner or operator subject to the provisions of this rule shall report semiannually periods of excess emissions as follows:~~

~~1. For emissions from any recovery furnace periods of excess emissions are:~~

~~(i) All 12-hour averages of TRS concentrations above 5 ppm by volume for straight kraft recovery furnaces and above 25 ppm by volume for cross recovery furnaces.~~

~~(ii) All 6-minute average opacities that exceed 35 percent.~~

~~2. For emissions from any lime kiln, periods of excess emissions are all 12-hour average TRS concentration above 8 ppm by volume.~~

~~3. For emissions from any digester system, brown stock washer system, multiple-effect evaporator system, or condensate stripper system periods of excess emissions are:~~

~~(i) All 12-hour average TRS concentrations above 5 ppm by volume unless the provisions of subparts (4)(a)1(i), (ii), or (iv) of this rule apply; or~~

~~(ii) All periods in excess of 5 minutes and their duration during which the combustion temperature at the point of incineration is less than 1200° F, where the provisions of subpart (4)(a)1(iii) of this rule apply.~~

~~(e) The Technical Secretary will not consider periods of excess emissions reported under subparagraph (d) of this paragraph to be indicative of a violation of rule .01(6)(d) of this chapter provided that:~~

~~1. The percent of the total number of possible contiguous periods of excess emissions in a quarter (excluding periods of startup, shutdown, or malfunction and periods when the facility is not operating) during which excess emissions occur does not exceed:~~

~~(i) One percent for TRS emissions from recovery furnaces.~~

~~(ii) Six percent for average opacities from recovery furnaces.~~

~~2. The Technical Secretary determines that the affected facility, including air pollution control equipment, is maintained and operated in a manner which is consistent with good air pollution control practice for minimizing emissions during periods of excess emissions.~~

#### ~~(6) Test Methods and Procedures~~

~~(a) For determining the concentration of particulate matter and associated moisture content, the sampling time for each run shall be at least 60 minutes and the sampling rate shall be at least 0.85 dscm/hr (0.53 dscf/min) except that shorter sampling times, when necessitated by process variables or other factors, may be approved by the Technical Secretary. Water shall be used as the cleanup solvent instead of acetone in the sample recovery procedure outlined in Method 5 (as specified in 1200-3-16-.01(5)(g)5).~~

~~(b) In-stack filtration as specified in 1200-3-16-.01(5)(g)17 may be used for determining compliance with subpart (3)(a)1(i) of this rule provided, that a constant value of 0.009 g/dscm (0.004 gr/dscf) is added to the results of Method 17 and the stack temperature is no greater than 205°C (ca. 400°F). Water shall be used as the cleanup solvent instead of acetone in the sample recovery procedure~~

~~outlined in Method 17 (as referenced in 1200-3-16-.01(5)(g)17).~~

~~(c) For the purpose of determining compliance with paragraph (4) of this rule, the following reference methods shall be used:~~

- ~~1. Reference method listed in 1200-3-16-.01(5)(g)16 or at the discretion of the owner or operator, 1200-3-16-.01(5)(g)16, subpart (i) for the concentration of TRS.~~
- ~~2. The reference method listed in 1200-3-16-.01(5)(g)3 for gas analysis, and~~
- ~~3. When determining compliance with part (4)(a)4 of this rule, use the results of Method 2, Method 16 or Method 16A, and the black liquor solids feed rate in the following equation to determine the TRS emission rate on an equivalent hydrogen sulfide (H<sub>2</sub>S) basis.~~

$$~~E = (C_{\text{TRS}})(F)(Q_{\text{sd}})/\text{BLS}~~$$

~~Where:~~

~~E = mass of TRS emitted per unit of black liquor solids (g/kg)(lb/ton)~~

~~C<sub>TRS</sub> = average combined concentration of TRS as determined by Method 16 or 16A during the test period, PPM.~~

~~F = 0.001417 g H<sub>2</sub>S/m<sup>3</sup> PPM for metric units  
0.08844 x 10<sup>-6</sup> lb H<sub>2</sub>S/ft<sup>3</sup> PPM for English units~~

~~Q<sub>sd</sub> = dry volumetric stack gas flow rate corrected to standard conditions, dscm/hr (dscf/hr)~~

~~BLS = black liquor solids feed rate, kg/hr (ton/hr)~~

- ~~4. When determining whether a furnace is a straight kraft recovery furnace or a cross recovery furnace, TAPPI Method T.624 (note: All references to TAPPI refer to the Technical Association of the Pulp and Paper Industry, Dunwoody Park, Atlanta, Georgia 30341. Copies of the methods are available for purchase by writing TAPPI at the above address. Be sure and specify the desired method.) shall be used to determine sodium sulfide, sodium hydroxide and sodium carbonate. These determinations shall be made three times daily from the green liquor and the daily average values shall be converted to sodium oxide (Na<sub>2</sub>O) and substituted into the following equation to determine the green liquor sulfidity:~~

$$~~GLS = 100 \text{CN}_{\text{a2S}} / (\text{CN}_{\text{a2S}} + \text{CN}_{\text{aOH}} + \text{CN}_{\text{a2CO3}})~~$$

~~where:~~

~~GLS = percent green liquor sulfidity~~

~~CN<sub>a2S</sub> = average concentration of Na<sub>2</sub>S expressed as Na<sub>2</sub>O (mg/l)~~

~~CN<sub>aOH</sub> = average concentration of NaOH expressed as Na<sub>2</sub>O (mg/l)~~

~~CN<sub>a2CO3</sub> = average concentration of Na<sub>2</sub>CO<sub>3</sub> expressed as Na<sub>2</sub>O (mg/l)~~

- ~~5. When determining compliance with subpart (4)(a)1(vi) of this rule, use the results of Method 2, Method 16 or Method 16A, and the pulp production rate in the equation specified in part (6)(c) 3 of this rule, except substitute the pulp production rate (PPR) (kg/hr (tons/hr)) for the black liquor solids feed rate (BLS).~~

~~(d) All concentrations of particulate matter and TRS required to be measured by this paragraph from lime kilns or incinerators shall be corrected to volume percent oxygen and those concentrations from recovery furnaces shall be corrected to 8 volume percent oxygen. These corrections shall be made in the manner specified in part (5)(c)3 of this rule.~~

1200-03-16-.30 Grain Elevators

(1) ~~Applicability and Designation of Affected Facility~~

- ~~(a) The provisions of this rule apply to each affected facility at any grain terminal elevator or any grain storage elevator, except as provided under subparagraph (5)(a) of this rule. The affected facilities are each truck unloading station, truck loading station, barge and ship unloading station, barge and ship loading station, railcar loading station, railcar unloading station, grain dryer, and all grain handling operations.~~
- ~~(b) Any facility under subparagraph (a) of this paragraph which commences construction, modification, or reconstruction after December 10, 1979 is subject to the requirements of this rule.~~

(2) ~~Definitions~~

- ~~(a) "Grain" means corn, wheat, sorghum, rice, rye, oats, barley, and soybeans.~~
- ~~(b) "Grain elevator" means any plant or installation at which grain is unloaded, handled, cleaned, dried, stored, or loaded.~~
- ~~(c) "Grain terminal elevator" means any grain elevator which has a permanent storage capacity of more than 88,100 m<sup>3</sup> (ca. 2.5 million U.S. bushels), except those located at animal food manufacturers, cereal manufacturers, breweries, and livestock feedlots.~~
- ~~(d) "Permanent storage capacity" means grain storage capacity which is inside a building, bin, or silo.~~
- ~~(e) "Railcar" means railroad hopper car or boxcar.~~
- ~~(f) "Grain storage elevator" means any grain elevator located at any wheat flour mill, wet corn mill, dry corn mill (human consumption), rice mill, or soybean oil extraction plant which has a permanent grain storage capacity of 35,200 m<sup>3</sup> (ca. 1 million bushels).~~
- ~~(g) "Process emission" means the particulate matter which is collected by a capture system.~~
- ~~(h) "Fugitive emission" means the particulate matter which is not collected by a capture system and is released directly into the atmosphere from an affected facility at a grain elevator.~~
- ~~(i) "Capture system" means the equipment such as sheds, hoods, ducts, fans, dampers, etc. used to collect particulate matter generated by an affected facility at a grain elevator.~~
- ~~(j) "Grain unloading station" means that portion of a grain elevator where the grain is transferred from a truck, railcar, barge, or ship to a receiving hopper.~~
- ~~(k) "Grain loading station" means that portion of a grain elevator where the grain is transferred from the elevator to a truck, railcar, barge, or ship.~~
- ~~(l) "Grain handling operations" include bucket elevators or legs (excluding legs used to unload barges or ships), scale hoppers and surge bins (garners), turn heads, scalpors, cleaners, trippers, and the headhouse and other such structures.~~
- ~~(m) "Column dryer" means any equipment used to reduce the moisture content of grain in which the grain flows from the top to the bottom in one or more continuous packed columns between two perforated metal sheets.~~
- ~~(n) "Rack dryer" means any equipment used to reduce the moisture content of grain in which the grain flows from the top to the bottom in a cascading flow around rows of baffles (racks).~~
- ~~(o) "Unloading leg" means a device which includes a bucket-type elevator which is used to remove~~

~~grain from a barge or ship.~~

~~(3) Standards for Particulate Matter and Opacity~~

~~(a) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this Chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere any gases which exhibit greater than 0 percent opacity from any:~~

- ~~1. Column dryer with column plate perforation exceeding 2.4 mm diameter (ca. 0.094 inch).~~
- ~~2. Rack dryer in which exhaust gases pass through a screen filter coarser than 50 mesh.~~

~~(b) On and after the date on which the performance test required to be conducted in paragraph .01(5) of this Chapter is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility except a grain dryer any process emission which:~~

- ~~1. Contains particulate matter in excess of 0.023 g/dscm (ca. 0.01 gr/dscf).~~
- ~~2. Exhibits greater than 0 percent opacity.~~

~~(c) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this Chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere any fugitive emissions from:~~

- ~~1. Any individual truck unloading station, railcar unloading station, or railcar loading station, which exhibits greater than 5 percent opacity.~~
- ~~2. Any grain handling operation which exhibits greater than 0 percent opacity.~~
- ~~3. Any truck loading station which exhibits greater than 10 percent opacity.~~
- ~~4. Any barge or ship loading station which exhibits greater than 20 percent opacity.~~

~~(d) The owner or operator of any barge or ship unloading station shall operate as follows:~~

- ~~1. The unloading leg shall be enclosed from the top (including the receiving hopper) to the center line of the bottom pulley and ventilation to a control device shall be maintained on both sides of the leg and the grain receiving hopper.~~
- ~~2. The total rate of air ventilated shall be at least 32.1 actual cubic meters per cubic meter of grain handling capacity (ca. 40 ft<sup>3</sup>/bu).~~
- ~~3. Rather than meet the requirements of subparagraphs (1) and (2), of this paragraph the owner or operator may use other methods of emission control if it is demonstrated to the Technical Secretary's satisfaction that they would reduce emissions of particulate matter to the same level or less.~~

~~(4) Test Methods and Procedures~~

~~For determination of concentration of particulate matter, the sampling time for each run shall be at least 60 minutes and the sample volume shall be 1.7 dscm (ca. 60 dscf). If the method 5 sampling procedure is used, the sampling probe and filter holder shall be operated without heaters.~~

~~(5) Modifications~~

~~(a) The following physical changes or changes in the method of operation shall not by themselves be considered a modification of any existing facility:~~

- ~~1. The addition of gravity loadout spouts to existing grain storage or grain transfer bins.~~

- ~~2. The installation of automatic weighing scales.~~
- ~~3. Replacement of motor and drive units driving existing grain handling equipment.~~
- ~~4. The installation of permanent storage capacity with no increase in hourly grain handling capacity.~~

~~Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.~~

~~1200-03-16-.31 Reserved~~

~~Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.~~

~~1200-03-16-.32 Ammonium Sulfate Manufacture~~

~~(1) Applicability~~

- ~~(a) The affected facility to which the provisions of this rule apply is each ammonium sulfate dryer within an ammonium sulfate manufacturing plant in the caprolactam by-product, synthetic, and coke oven by-product sectors of the ammonium sulfate industry.~~
- ~~(b) Any facility under subparagraph (a) of this paragraph that commences construction or modification after February 28, 1983 is subject to the requirements of this rule.~~

~~(2) Definitions~~

~~“Ammonium sulfate dryer” means a unit or vessel into which ammonium sulfate is charged for the purpose of reducing the moisture content of the product using a heated gas stream. The unit includes foundations, superstructure, material charger systems, exhaust systems, and integral control systems and instrumentation.~~

~~“Ammonium sulfate feed material streams” means the sulfuric acid feed stream to the reactor/crystallizer for synthetic and coke oven by-product ammonium sulfate manufacturing plants; and means the total or combined feed streams (the oximation ammonium sulfate stream and the rearrangement reaction ammonium sulfate stream) to the crystallizer stage, prior to any recycle streams.~~

~~“Ammonium sulfate manufacturing plant” means any plant which produces ammonium sulfate.~~

~~“Caprolactam by-product ammonium sulfate manufacturing plant” means any plant which produces ammonium sulfate as a by-product from process streams generated during caprolactam manufacture.~~

~~“Coke oven by-product ammonium sulfate manufacturing plant” means any plant which produces ammonium sulfate by reacting sulfuric acid with ammonia recovered as a by-product from the manufacture of coke.~~

~~“Synthetic ammonium sulfate manufacturing plant” means any plant which produces ammonium sulfate by direct combination of ammonia and sulfuric acid.~~

~~(3) Standards for particulate matter~~

~~On or after the date on which the performance test required to be conducted by 1200-3-16-.01(5) is completed, no owner or operator of an ammonium sulfate dryer subject to the provisions of this rule shall cause to be discharged into the atmosphere, from any ammonium sulfate dryer, particulate matter at an emission rate exceeding 0.15 kilogram of particulate per megagram of ammonium sulfate produced (0.30 pound of particulate per ton of ammonium sulfate produced) and exhaust gases with greater than 15 percent opacity.~~

~~(4) Monitoring of operations~~

- ~~(a) The owner or operator of any ammonium sulfate manufacturing plant subject to the provisions of~~

~~this rule shall install, calibrate, maintain, and operate flow monitoring devices which can be used to determine the mass flow of ammonium sulfate feed material streams to the process. The flow monitoring device shall have an accuracy of  $\pm 5$  percent over its range. However, if the plant uses weigh scales of the same accuracy to directly measure production rate of ammonium sulfate, the use of flow monitoring devices is not required.~~

~~(b) The owner or operator of any ammonium sulfate manufacturing plant subject to the provisions of this rule shall install, calibrate, maintain, and operate a monitoring device which continuously measures and permanently records the total pressure drop across the emission control system. The monitoring device shall have an accuracy of  $\pm 5$  percent over its operating range.~~

~~(5) Test methods and procedures~~

~~(a) Reference methods in 1200-3-16-.01(5)(g) of this chapter, except as provided in 1200-3-16-.01(5)(b), shall be used to determine compliance with 1200-3-16-.32(3) as follows:~~

- ~~1. Method 5 as specified in 1200-3-16-.01(5)(g)5 for the concentration of particulate matter.~~
- ~~2. Method 1 as specified in 1200-3-16-.01(5)(g)1 for sample and velocity traverses.~~
- ~~3. Method 2 as specified in 1200-3-16-.01(5)(g)2 for velocity and volumetric flow rate.~~
- ~~4. Method 3 as specified in 1200-3-16-.01(5)(g)3 for gas analysis.~~

~~(b) For Method 5, the sampling time for each run shall be at least 60 minutes and the volume shall be at least 1.50 dry standard cubic meters (53 dry standard cubic feet).~~

~~(c) For each run, the particulate emission rate, E, shall be computed as follows:~~

$$E = Q_{sd} \times C_s \times 1000$$

- ~~1. E is the particulate emission rate (kg/h).~~
- ~~2.  $Q_{sd}$  is the average volumetric flow rate (dscm/h) as determined by Method 2; and~~
- ~~3.  $C_s$  is the average concentration (g/dscm) of particulate matter as determined by Method 5.~~

~~(d) For each run, the rate of ammonium sulfate production, P (Mg/h), shall be determined by direct measurement using product weigh scales or computed from a material balance. If production rate is determined by material balance, the following equations shall be used.~~

~~1. For synthetic and coke oven by-product ammonium sulfate plants, the ammonium sulfate production rate shall be determined using the following equation:~~

$$P = A \times B \times C \times 0.0808$$

~~where:~~

~~P = Ammonium sulfate production rate in megagrams per hour.~~

~~A = Sulfuric acid flow rate to the reactor/crystallizer in liters per minute averaged over the time period taken to conduct the run.~~

~~B = Acid density (a function of acid strength and temperature) in grams per cubic centimeter.~~

~~C = Percent acid strength in decimal form.~~

~~0.0808 = Physical constant for conversion of time, volume, and mass units.~~



2. ~~For caprolactam by-product ammonium sulfate plants the ammonium sulfate production rate shall be determined by using the following equation:~~

$$P = D * E * F * (6.0 \times 10^{-5})$$

where:

~~P = Production rate of caprolactam by-product ammonium sulfate in megagrams per hour.~~

~~D = Total combined feed stream flow rate to the ammonium sulfate crystallizer before the point where any recycle streams enter the stream in liters per minute averaged over the time period taken to conduct the test run.~~

~~E = Density of the process stream solution in grams per liter.~~

~~F = Percent mass of ammonium sulfate in the process solution in decimal form.~~

~~(6.0 x 10<sup>-5</sup>) = Physical constant for conversion of time and mass units.~~

- (c) ~~For each run, the dryer emission rate shall be computed as follows:~~

$$R = E/P$$

where:

- ~~1. R is the dryer emission rate (kg/Mg);~~
- ~~2. E is the particulate emission rate (kg/h) from (c) above; and~~
- ~~3. P is the rate of ammonium sulfate production (Mg/h) from (d) above.~~

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.33 Reserved.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.34 Automobile and Light Duty Truck Surface Coating Operations

(1) ~~Applicability~~

- ~~(a) The provisions of this rule apply to the following affected facilities in an automobile or light-duty truck assembly plant: each prime coat operation, each guide coat operation, and each topcoat operation.~~
- ~~(b) Exempted from the provisions of this rule are operations used to coat plastic body components or all-plastic automobile or light-duty truck bodies on separate coating lines. The attachment of plastic body parts to a metal body before the body is coated does not cause the metal body coating operation to be exempted.~~
- ~~(c) The provisions of this rule apply to any affected facility identified in subparagraph (a) of this paragraph that begins construction, reconstruction, or modification after November 6, 1988.~~

(2) ~~Definitions and Abbreviations~~

(a) ~~Definitions~~

- ~~1. "Applied coating solids" means the volume of dried or cured coating solids which is~~

~~deposited and remains on the surface of the automobile or light-duty truck body.~~

- ~~2. "Automobile" means a motor vehicle capable of carrying no more than 12 passengers. "Motor vehicle" for the purposes of this rule means every vehicle which is self-propelled excluding motorized bicycles and every vehicle which is not propelled by electric power obtained from overhead trolley wires. The words "motor vehicle" shall not mean any mobile home or house trailer.~~
- ~~3. "Automobile and light-duty truck body" means the exterior surface of an automobile or light-duty truck including hoods, fenders, cargo boxes, doors, and grill opening panels.~~
- ~~4. "Bake oven" means a device that uses heat to dry or cure coatings.~~
- ~~5. "Electrodeposition (EDP)" means a method of applying a prime coat by which the automobile or light-duty truck body is submerged in a tank filled with coating material and an electrical field is used to effect the deposition of the coating material on the body.~~
- ~~6. "Electrostatic spray application" means a spray application method that uses an electrical potential to increase the transfer efficiency of the coating solids. Electrostatic spray application can be used for prime coat, guide coat, or topcoat operations.~~
- ~~7. "Flash-off area" means the structure on automobile and light-duty truck assembly lines between the coating application system (dip tank or spray booth) and the bake oven.~~
- ~~8. "Guide coat operation" means the guide coat spray booth, flash-off area and bake oven(s) which are used to apply and dry or cure a surface coating between the prime coat and topcoat operation on the components of automobile and light-duty truck bodies.~~
- ~~9. "Light-duty truck" means any motor vehicle rated at 3,850 kilograms gross vehicle weight or less, designed mainly to transport property.~~
- ~~10. "Plastic body" means an automobile or light-duty truck body constructed of synthetic organic material.~~
- ~~11. "Plastic body component" means any component of an automobile or light-duty truck exterior surface constructed of synthetic organic material.~~
- ~~12. "Prime coat operation" means the prime coat spray booth or dip tank, flash-off area, and bake oven(s) which are used to apply and dry or cure the initial coating on components of automobile or light-duty truck bodies.~~
- ~~13. "Purge" or "line purge" means the coating material expelled from the spray system when clearing it.~~
- ~~14. "Solvent-borne" means a coating which contains five percent or less water by weight in its volatile fraction.~~
- ~~15. "Spray application" means a method of applying coatings by atomizing the coating material and directing the atomized material toward the part to be coated. Spray applications can be used for prime coat, guide coat, and topcoat operations.~~
- ~~16. "Spray booth" means a structure housing automatic or manual spray application equipment where prime coat, guide coat, or topcoat is applied to components of automobile or light-duty truck bodies.~~
- ~~17. "Surface coating operation" means any prime coat, guide coat, or topcoat operation on an automobile or light-duty truck surface coating line.~~
- ~~18. "Topcoat operation" means the topcoat spray booth, flash-off area, and bake oven(s) which are used to apply and dry or cure the final coating(s) on components of automobile and light-duty truck bodies.~~

19. ~~“Transfer efficiency” means the ratio of the amount of coating solids transferred onto the surface of a part or product to the total amount of coating solids used.~~
20. ~~“VOC content” means all volatile organic compounds that are in a coating expressed as kilograms of VOC per liter (pounds per gallon) of coating solids.~~
21. ~~“Waterborne” or “water reducible” means a coating which contains more than five weight percent water in its volatile fraction.~~

~~(b) Abbreviations~~

1.  ~~$C_{aj}$  = concentration of VOC (as carbon) in the effluent gas flowing through stack (j) leaving the control device (parts per million by volume).~~
2.  ~~$C_{bi}$  = concentration of VOC (as carbon) in the effluent gas flowing through stack (i) entering the control device (parts per million by volume).~~
3.  ~~$C_{fk}$  = concentration of VOC (as carbon) in the effluent gas flowing through exhaust stack (k) not entering the control device (parts per million by volume).~~
4.  ~~$D_{ci}$  = density of each coating (i) as received (kilograms per liter) (pounds per gallon).~~
5.  ~~$D_{dj}$  = density of each type VOC dilution solvent (j) added to the coatings, as received (kilograms per liter or pounds per gallon).~~
6.  ~~$D_r$  = density of VOC recovered from an affected facility (kilograms per liter or pounds per gallon).~~
7.  ~~$E$  = VOC destruction efficiency of the control device.~~
8.  ~~$F$  = fraction of total VOC which is emitted by an affected facility that enters the control device.~~
9.  ~~$G$  = volume weighted average mass of VOC per volume of applied solids (kilograms per liter or pounds per gallon).~~
10.  ~~$L_{ci}$  = volume of each coating (i) consumed, as received (liters or gallons).~~
11.  ~~$L_{cil}$  = volume of each coating (i) consumed by each application method (l), as received (liters or gallons).~~
12.  ~~$L_{dj}$  = volume of each type VOC dilution solvent (j) added to the coatings, as received (liters or gallons).~~
13.  ~~$L_r$  = volume of VOC recovered from an affected facility (liters or gallons).~~
14.  ~~$L_s$  = volume of solids in coatings consumed (liters or gallons).~~
15.  ~~$M_d$  = total mass of VOC in dilution solvent (kilograms or pounds).~~
16.  ~~$M_o$  = total mass of VOC in coatings as received (kilograms or pounds).~~
17.  ~~$M_r$  = total mass of VOC recovered from an affected facility (kilograms or pounds).~~
18.  ~~$N$  = volume weighted average mass of VOC per volume of applied coating solids after the control device kilograms of VOC or pounds of VOC liter of applied solids (gallon of applied solids)~~
19.  ~~$Q_{aj}$  = volumetric flow rate of the effluent gas flowing through stack (j) leaving the control device (dry standard cubic meters (feet) per hour).~~

- ~~20. Q<sub>bi</sub> = volumetric flow rate of the effluent gas flowing through stack (i) entering the control device (dry standard cubic meters (feet) per hour).~~
- ~~21. Q<sub>fk</sub> = volumetric flow rate of the effluent gas flowing through exhaust stack (k) not entering the control device (dry standard cubic meters (feet) per hour).~~
- ~~22. T = overall transfer efficiency.~~
- ~~23. T<sub>l</sub> = transfer efficiency for application method (l).~~
- ~~24. V<sub>si</sub> = proportion of solids by volume in each coating (i) as received liter solids or gallons of solids liter coating gallons of coating, and~~
- ~~25. W<sub>oi</sub> = proportion of VOC by weight in each coating (i), as received kilograms VOC or pounds VOC kilograms coating pounds coating.~~

~~(3) Standards for volatile organic compounds~~

~~On and after the date on which the initial performance test required by 1200-3-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any affected facility VOC emissions in excess of:~~

- ~~(a) 0.16 kilograms of VOC per liter (1.34 pounds of VOC per gallon) of applied coating solids of each prime coat operation.~~
- ~~(b) 1.40 kilograms of VOC per liter (11.69 pounds of VOC per gallon) of applied coating solids from each guide coat operation.~~
- ~~(c) 1.47 kilograms of VOC per liter (12.28 pounds of VOC per gallon) of applied coating solids from each topcoat operation.~~

~~(4) Performance test and compliance provisions~~

- ~~(a) Subparagraphs 1200-3-16-.01(5)(d) and (f) do not apply to the performance test procedures required by this paragraph.~~
- ~~(b) The owner or operator of an affected facility shall conduct an initial performance test in accordance with 1200-3-16-.01(5)(a) and thereafter for each calendar month for each affected facility according to the procedures in this paragraph.~~
- ~~(c) The owner or operator shall use the following procedures for determining the monthly volume weighted average mass of VOC emitted per volume of applied coating solids.~~
  - ~~1. The owner or operator shall use the following procedures for each affected facility which does not use a capture system and a control device to comply with the applicable emission limit specified under paragraph (3) of this rule.~~
    - ~~(i) Calculate the volume weighted average mass of VOC per volume of applied coating solids for each calendar month for each affected facility. The owner or operator shall determine the composition of the coatings by formulation data supplied by the manufacturer of the coating or from data determined by an analysis of each coating, as received, by Reference Method 24, as specified in 1200-3-16-.01(5)(g)24. The Technical Secretary may require the owner or operator who uses formulation data supplied by the manufacturer of the coating to determine data used in the calculation of the VOC content of coatings by Reference Method 24, as specified in 1200-3-16-.01(5)(g)24 or an equivalent or alternative method. The owner or operator shall determine from company records on a monthly basis the volume of coating consumed, as received, and the mass of solvent used for thinning purposes. The volume weighted average of the total mass of VOC per volume of coating solids used each calendar month will be determined by the~~

following procedures:

- (I) Calculate the mass of VOC used in each calendar month for each affected facility by the following equation where “n” is the total number of coatings used and “m” is the total number of VOC solvents used:

$$M_o + M_d = \sum_{i=1}^n L_{ci} D_{ci} W_{oi} + \sum_{j=1}^m L_{dj} D_{dj}$$

(SUM LdjDdj will be zero if no VOC solvent is added to the coatings, as received).

- (II) Calculate the total volume of coating solids used in each calendar month for each affected facility by the following equation where “n” is the total number of coatings used:

$$L_s = \sum_{i=1}^n L_{ci} v_{si}$$

- (III) Select the appropriate transfer efficiency (T) from the following tables for each surface coating operation:

| Application Method                          | Transfer efficiency |
|---|---------------------|
| Air Atomized Spray (waterborne coating).    | 0.39                |
| Air Atomized Spray (solvent-borne coating). | 0.50                |
| Manual Electrostatic Spray.                 | 0.75                |
| Automatic Electrostatic Spray.              | 0.95                |
| Electrodeposition.                          | 1.00                |

The values in the table above represent an overall system efficiency which includes a total capture of purge. If a spray system uses line purging after each vehicle and does not collect any of the purge material, the following table shall be used:

| Application Method                          | Transfer efficiency |
|---|---------------------|
| Air Atomized Spray (waterborne coating).    | 0.30                |
| Air Atomized Spray (solvent-borne coating). | 0.40                |
| Manual Electrostatic Spray.                 | 0.62                |
| Automatic Electrostatic Spray.              | 0.75                |

In lieu of using the values listed above for transfer efficiencies, any owner or operator may petition the Board for use of a different transfer efficiency based on scientific evidence that the proposed values are more correct than those listed above for their sources. Prior to any approval by the Board, a public hearing shall be held to allow input from the public. If the petition is granted, the approved values shall be included on any permit issued to the source and shall serve in lieu of those listed above.

- I. When more than one application method (I) is used on an individual surface coating operation, the owner or operator shall perform an analysis to determine an average transfer efficiency by the following equation where “n” is the total number of coatings used and “p” is the total number of application methods:

$$T = \frac{\sum_{i=1}^n T_i V_{si} L_{cil}}{\sum_{l=1}^p L_s}$$

~~(IV) Calculate the volume solids weighted average mass of VOC per volume of applied coating solids (G) during each calendar month for each affected facility by the following procedures:~~

~~I. For prime coat operations, use the following procedure: G is equal to the sum of (Mo + Md) for 6 out of 7 most recent calendar months of normal operation divided by the respective sum of (LsT).~~

~~II. For guide coat and topcoat operations, use the following equation:~~

$$G = \frac{Mo + Md}{LsT}$$

~~(ii) If the volume weighted average mass of VOC per volume of applied coating solids (G), calculated on a calendar month basis, is less than or equal to the applicable emission limit specified in paragraph (3) of this rule, the affected facility is in compliance. Each monthly calculation is a performance test for the purpose of this rule.~~

~~2. The owner or operator shall use the following procedures for each affected facility which uses a capture system and a control device that destroys VOC (e.g., incinerator) to comply with the applicable emission limits specified under paragraph (3) of this rule.~~

~~(i) Calculate the volume weighted average mass of VOC per volume of applied coating solids (G) during each calendar month for each affected facility as described under subpart (4)(c)1(i) of this rule.~~

~~(ii) Calculate the volume weighted average mass of VOC per volume of applied solids emitted after the control device, by the following equation:~~

$$N = G(1 - FE)$$

~~(I) Determine the fraction of total VOC which is emitted by an affected facility that enters the control device by using the following equation where "n" is the total number of stacks entering the control device and "p" is the total number of stacks not connected to the control device:~~

$$F = \frac{\sum_{i=1}^n Q_{bi} C_{bi}}{\sum_{l=1}^n Q_{bi} C_{bi} + \sum_{l=1}^p Q_{fk} C_{fk}}$$

~~In lieu of using the method above, any owner or operator may petition the Board for use of a different method based on scientific evidence that the proposed method is more correct than that method above for their sources. Prior to any approval by the Board, a public hearing shall be held to allow input from the public. If the petition is granted, the approved method shall be included on any permit issued to the source and shall serve in lieu of the method above.~~

~~I. In subsequent months, the owner or operator shall use the most recently determined capture fraction for the performance test.~~

~~(II) — Determines the destruction efficiency of the control device using values of the volumetric flow rate of the gas streams and the VOC content (as carbon) of each of the gas streams in and out of the device by the following equation where “n” is the total number of stacks entering the control device and “m” is the total number of stacks leaving the control device:~~

$$E = \frac{\sum_{i=1}^n Q_{bi} C_{bi} - \sum_{j=1}^m Q_{aj} C_{aj}}{\sum_{i=1}^n Q_{bi} C_{bi}}$$

~~I. — In subsequent months, the owner or operator shall use the most recently determined VOC destruction efficiency for the performance test.~~

~~(III) — If an emission control device controls the emissions from more than one affected facility, the owner or operator shall measure the VOC concentration (C<sub>bi</sub>) in the effluent gas entering the control device (in parts per million by volume) and the volumetric flow rate (Q<sub>bi</sub>) of the effluent gas (in dry standard cubic meters per hour) entering the device through each stack. The destruction or removal efficiency determined using these data shall be applied to each affected facility served by the control device.~~

~~(iii) — If the volume weighted average mass of VOC per volume of applied solids emitted after the control device (N) calculated on a calendar month basis is less than or equal to the applicable emission limit specified in paragraph (3) of this rule, the affected facility is in compliance. Each monthly calculation is a performance test for the purposes of this rule.~~

~~3. — The owner or operator shall use the following procedures for each affected facility which uses a capture system and a control device that recovers the VOC (e.g., carbon adsorber) to comply with the applicable emission limit specified under paragraph (3) of this rule.~~

~~(i) — Calculate the mass of VOC (M<sub>o</sub> + M<sub>d</sub>) used during each calendar month for each affected facility as described under subpart (4)(c)1(i) of this rule.~~

~~(ii) — Calculate the total volume of coating solids (L<sub>s</sub>) used in each calendar month for each affected facility as described under subpart (4)(c)1(i) of this rule.~~

~~(iii) — Calculate the mass of VOC recovered (M<sub>r</sub>) each calendar month for each affected facility by the following equation: M<sub>r</sub> = L<sub>r</sub>D<sub>r</sub>~~

~~(iv) — Calculate the volume weighted average mass of VOC per volume of applied coating solids emitted after the control device during a calendar month by the following equation:~~

$$N = \frac{M_o + M_d - M_r}{L_s T}$$

~~(v) — If the volume weighted average mass of VOC per volume of applied solids emitted after the control device (N) calculated on a calendar month basis is less than or equal to the applicable emission limit specified in paragraph (3) of this rule, the affected facility is in compliance. Each monthly calculation is a performance test for the purposes of this rule.~~

~~(5) — Monitoring of emissions and operations~~

~~The owner or operator of an affected facility which uses an incinerator to comply with the emission limits~~

~~specified under paragraph (3) of this rule shall install, calibrate, maintain, and operate temperature measurement devices as prescribed below:~~

~~(a) Where thermal incineration is used, a temperature measurement device shall be installed in the firebox. Where catalytic incineration is used, a temperature measurement device shall be installed in the gas stream immediately before and after the catalyst bed.~~

~~(b) Each temperature measurement device shall be installed, calibrated, and maintained according to accepted practice and the manufacturer's specifications. The device shall have an accuracy of the greater of  $\pm 0.75$  percent of the temperature being measured expressed in degrees Celsius or  $\pm 2.5^{\circ}\text{C}$ .~~

~~(c) Each temperature measurement device shall be equipped with a recording device so that a permanent record is produced.~~

~~(6) Reporting and recordkeeping requirements~~

~~(a) Each owner or operator of an affected facility shall include the data outlined in parts 1 and 2 of this subparagraph in the initial compliance report required by 1200-3-16-.01(5).~~

~~1. The owner or operator shall report the volume weighted average mass of VOC per volume of applied coating solids for each affected facility.~~

~~2. Where compliance is achieved through the use of incineration, the owner or operator shall include the following additional data in the control device initial performance test required by 1200-3-16-.01(5)(a) or subsequent performance tests at which destruction efficiency is determined: the combustion temperature (or the gas temperature upstream and downstream of the catalyst bed), the total mass of VOC per volume of applied coating solids before and after the incinerator, capture efficiency, the destruction efficiency of the incinerator used to attain compliance with the applicable emission limit specified in paragraph (3) of this rule and a description of the method used to establish the fraction of the VOC captured and sent to the control device.~~

~~(b) Following the initial report, each owner or operator shall report the volume weighted average mass of VOC per volume of applied coating solids for each affected facility during each calendar month in which the affected facility is not in compliance with the applicable emission limit specified in paragraph (3) of this rule. This report shall be postmarked not later than ten days after the end of the calendar month that the affected facility is not in compliance. Where compliance is achieved through the use of a capture system and control device, the volume weighted average after the control device should be reported.~~

~~(c) Where compliance with paragraph (3) of this rule is achieved through the use of incineration, the owner or operator shall continuously record the incinerator combustion temperature during coating operations for thermal incineration or the gas temperature upstream and downstream of the incinerator catalyst bed during coating operations for catalytic incineration. The owner or operator shall report quarterly as defined below.~~

~~1. For thermal incinerators, every three-hour period shall be reported during which the average temperature measured is more than  $28^{\circ}\text{C}$  less than the average temperature during the most recent control device performance test at which the destruction efficiency was determined as specified under paragraph (3) of this rule. Readings should be taken a minimum of one (1) every fifteen (15) minutes within the specified three-hour period.~~

~~2. For catalytic incinerators, every three-hour period shall be reported during which the average temperature immediately before the catalyst bed, when the coating system is operational, is more than  $28^{\circ}\text{C}$  less than the average temperature immediately before the catalyst bed during the most recent control device performance test at which destruction efficiency was determined as specified under paragraph (4) of this rule. In addition, every three-hour period shall be reported each quarter during which the average temperature difference across the catalyst bed when the coating system is operational is less than 80 percent of the average temperature difference of the device during the most recent control~~



~~device performance test at which destruction efficiency was determined as specified under paragraph (4) of this rule. Readings should be taken a minimum of one (1) every fifteen (15) minutes within the specified three-hour period.~~

~~3. For thermal and catalytic incinerators, if no such periods occur, the owner or operator shall submit a negative report.~~

~~(d) The owner or operator shall notify the Technical Secretary 30 days in advance of any test by Reference Method 25 as specified in 1200-3-16-.01(5)(g)25.~~

~~(7) Reference methods and procedures~~

~~(a) The reference methods in 1200-3-16-.01(5)(g) shall be used to conduct performance tests.~~

~~1. Reference Method 24 as specified 1200-3-16-.01(5)(g)24 or an equivalent or an alternative method approved by the Technical Secretary shall be used for the determination of the data used in the calculation of the VOC content of the coatings used for each affected facility. Manufacturers' formulation data is approved by the Technical Secretary as an alternative method to Method 24. In the event of dispute, Reference Method 24 shall be the referee method.~~

~~2. Reference Method 25 as specified in 1200-3-16-.01(5)(g)25 or an equivalent or alternative method approved by the Technical Secretary shall be used for the determination of the VOC concentration in the effluent gas entering and leaving the emission control device for each stack equipped with an emission control device and in the effluent gas leaving each stack not equipped with a control device.~~

~~3. The following methods shall be used to determine the volumetric flow rate in the effluent gas in a stack:~~

~~(i) Method 1 as specified in 1200-3-16-.01(5)(g)1 for sample and velocity traverses.~~

~~(ii) Method 2 as specified in 1200-3-16-.01(5)(g)2 for velocity and volumetric flow rate.~~

~~(iii) Method 3 as specified in 1200-3-16-.01(5)(g)3 for gas analysis, and~~

~~(iv) Method 4 as specified in 1200-3-16-.01(5)(g)4 for stack gas moisture.~~

~~(b) For reference Method 24, the coating sample must be a 1-liter sample taken in a 1-liter container.~~

~~(c) For Reference Method 25, the sampling time for each of three runs must be at least one hour. The minimum sample volume must be 0.003 dscm except that shorter sampling times or smaller volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary. The Technical Secretary will approve the sampling of representative stacks on a case-by-case basis if the owner or operator can demonstrate to the satisfaction of the Technical Secretary that the testing of representative stacks would yield results comparable to those that would be obtained by testing all stacks.~~

~~(8) Modifications~~

~~The following physical or operational changes are not by themselves, considered modifications of existing facilities:~~

~~(a) Changes as a result of model year changeovers or switches to larger cars.~~

~~(b) Changes in the application of the coatings to increase coating film thickness.~~

~~Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.~~

~~1200-03-16-.35 Asphalt Processing and Asphalt Roofing Manufacture~~

~~(1) Applicability and designation of affected facilities~~

~~The affected facilities to which this rule applies are each saturator and each mineral handling and storage facility at asphalt roofing plants and each asphalt storage tank and each blowing still at asphalt processing plants, petroleum refineries, and asphalt roofing plants that commence construction or modification after November 6, 1988.~~

~~(2) Definitions~~

~~(a) "Afterburner (A/B)" means an exhaust gas incinerator used to control emissions of particulate matter.~~

~~(b) "Asphalt processing" means the storage and blowing of asphalt.~~

~~(c) "Asphalt processing plant" means a plant which blows asphalt for use in the manufacture of asphalt products.~~

~~(d) "Asphalt roofing plant" means a plant which produces asphalt roofing products (shingles, roll roofing, siding, or saturated felt).~~

~~(e) "Asphalt storage tank" means any tank used to store asphalt at asphalt roofing plants, petroleum refineries, and asphalt processing plants. Storage tanks containing cutback asphalt (asphalts diluted with solvents to reduce viscosity for low temperature applications) and emulsified asphalts (asphalts dispersed in water with an emulsifying agent) are not subject to this regulation.~~

~~(f) "Blowing still" means the equipment in which air is blown through asphalt flux to change the softening point and penetration rate.~~

~~(g) "Catalyst" means a substance which when added to asphalt flux in a blowing still alters the penetrating softening point relationship or increases the rate of oxidation of the flux.~~

~~(h) "Coating blow" means the process in which air is blown through hot asphalt flux to produce coating asphalt. The coating blow starts when the air is turned on and stops when the air is turned off.~~

~~(i) "Electrostatic precipitator (ESP)" means an air pollution control device in which solid or liquid particulates in a gas stream are charged as they pass through an electric field and precipitated on a collection surface.~~

~~(j) "High velocity air filter (HVAF)" means an air pollution control filtration device for the removal of sticky, oily, or liquid aerosol particulate matter from exhaust gas streams.~~

~~(k) "Mineral handling and storage facility" means the areas in asphalt roofing plants in which minerals are unloaded from a carrier, the conveyor transfer points between the carrier and the storage silos, and the storage silos.~~

~~(l) "Saturator" means the equipment in which asphalt is applied to felt to make asphalt roofing products. The term saturator includes the saturator, wet looper, and coater.~~

~~(3) Standards for particulate matter~~

~~(a) On and after the date on which 1200-3-16-.01(5)(b) requires a performance test to be completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any saturator:~~

~~1. Particulate matter in excess of:~~

~~(i) 0.04 kilograms of particulate per megagram (0.04 lb/1000 lb) of asphalt shingle or mineral-surfaced roll roofing produced; or~~

~~(ii) 0.4 kilograms per megagram (0.4 lb/1000 lb) of saturated felt or smooth-surfaced~~

roll-roofing produced.

- ~~2. Exhaust gases with opacity greater than 20 percent; and~~
  - ~~3. Any visible emissions from a saturator capture system for more than 20 percent of any period of consecutive valid observations totaling 60 minutes. Saturators that were constructed before November 6, 1988, and that have not been reconstructed since that date and that become subject to these standards through modification are exempt from the visible emissions standards. Saturators that have been newly constructed or reconstructed since November 6, 1988 are subject to the visible emissions standard.~~
- ~~(b) On and after the date on which 1200-3-16-.01(5)(b) requires a performance test to be completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any blowing still:~~
- ~~1. Particulate matter in excess of 0.67 kilograms of particulate per megagram (0.67 lb/1000 lb) of asphalt charged to the still when a catalyst is added to the still; and~~
  - ~~2. Particulate matter in excess of 0.71 kilograms of particulate per megagram (0.71 lb/1000 lb) of asphalt charged to the still when a catalyst is added to the still and when No. 6 fuel oil is fired in the afterburner; and~~
  - ~~3. Particulate matter in excess of 0.60 kilograms of particulate per megagram (0.6 lb/1000 lb) of asphalt charged to the still during blowing without a catalyst; and~~
  - ~~4. Particulate matter in excess of 0.64 kilograms of particulate per megagram (0.64 lb/1000 lb) of asphalt charged to the still during blowing without a catalyst and when No. 6 fuel oil is fired in the afterburner; and~~
  - ~~5. Exhaust gases with an opacity greater than 0 percent unless an opacity limit for the blowing still when fuel oil is used to fire the afterburner has been established by the Technical Secretary in accordance with the procedures in subparagraph (5)(k) of this rule.~~
- ~~(c) Within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any asphalt storage tank exhaust gases with opacity greater than 0 percent, except for one consecutive 15-minute period in any 24-hour period when the transfer lines are being blown for clearing. The control device shall not be bypassed during this 15-minute period. If, however, the emissions from any asphalt storage tank(s) are ducted to a control device for a saturator, the combined emissions shall meet the emission limit contained in subparagraph (a) of this paragraph during the time the saturator control device is operating. At any other time the asphalt storage tank(s) must meet the opacity limit specified above for storage tanks.~~
- ~~(d) Within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any mineral handling and storage facility emissions with opacity greater than 1 percent.~~
- ~~(4) Monitoring of operations~~
- ~~(a) The owner or operator subject to the provisions of this rule, and using either an electrostatic precipitator or a high velocity air filter to meet the emission limit in part (3)(a)1 and/or (3)(b)1 of this rule shall continuously monitor and record the temperature of the gas at the inlet of the control device. The temperature monitoring instrument shall have an accuracy of  $\pm 15^{\circ}\text{C}$  ( $\pm 27^{\circ}\text{F}$ ) over its range.~~
  - ~~(b) The owner or operator subject to the provisions of this rule and using an afterburner to meet the emission limit in (3)(a)1 and/or (3)(b)1 of this rule shall continuously monitor and record the temperature in the combustion zone of the afterburner. The monitoring instrument shall have an accuracy of  $\pm 10^{\circ}\text{C}$  ( $\pm 18^{\circ}\text{F}$ ) over its range.~~

~~(c) An owner or operator subject to the provisions of this rule and using a control device not mentioned in subparagraphs (a) and (b) of this paragraph shall provide to the Technical Secretary information describing the operation of the control device and the process parameter(s) which would indicate proper operation and maintenance of the device. The Technical Secretary may require continuous monitoring and will determine the process parameters to be monitored.~~

~~(d) The industry is exempted from the quarterly reports required under 1200-3-16-.01(7)(c). The owner/operator is required to record and report the operating temperature of the control device during the performance test and, as required by 1200-3-16.01(7)(d), maintain a file of the temperature monitoring results for at least two years.~~

~~(5) Test methods and procedures~~

~~(a) Reference methods in 1200-3-16-.01(5)(g), except as provided in 1200-3-16-.01(5)(b), shall be used to determine compliance with the standards prescribed in paragraph (3) of this rule as follows:~~

- ~~1. Method 5A as specified in 1200-3-16-.01(5)(g)5(ii) for the concentration of particulate matter.~~
- ~~2. Method 1 as specified in 1200-3-16-.01(5)(g)1 for sample and velocity traverses;~~
- ~~3. Method 2 as specified in 1200-3-16-.01(5)(g)2 for velocity and volumetric flow rate;~~
- ~~4. Method 3 as specified in 1200-3-16-.01(5)(g)3 for gas analysis; and~~
- ~~5. Method 9 as specified in 1200-3-16.01(5)(g)9 for opacity.~~

~~(b) The Technical Secretary will determine compliance with the standards prescribed in part (3)(a)3 of this rule by using Method 22, as specified in 1200-3-16-.01(5)(g)22, modified so that readings are recorded every 15 seconds for a period of consecutive observations during representative conditions (in accordance with 1200-3-16-.01(5)(c)) totaling 60 minutes. A performance test shall consist of one run.~~

~~(c) For Method 5A as specified in 1200-3-16-.01(5)(g)5(ii), the sampling time for each run on a saturator shall be at least 120 minutes, and the sampling volume shall be at least 3 dscm. Method 5A shall be used to measure the emissions from the saturator while 106.6-kg (235-lb) asphalt shingle is being produced if the final product is shingle or mineral-surfaced roll roofing or while 6.8-kg (15-lb) saturated felt is being produced if the final product is saturated felt or smooth-surfaced roll roofing. If the saturator produces only fiberglass shingles, Method 5A shall be used to measure saturator emissions while a nominal 100-kg (220-lb) shingle is being produced. Method 5A shall be used to measure emissions from the blowing still for at least 90 minutes or for the duration of the coating blow, whichever is greater. If the blowing still is not used to blow coating asphalt, Method 5A shall be used to measure emissions from the blowing still for at least 90 minutes or for the duration of the blow, whichever is greater.~~

~~(d) The particulate emission rate, E, shall be computed as follows:~~

$$~~E = Q_{sd} \times C_s~~$$

~~Where:~~

- ~~1. E is the particulate emission rate, Kg/hr (lb/hr);~~
- ~~2. Q<sub>sd</sub> is the average volumetric flow rate, dscm/hr (dscf/hr), as determined by Method 2; and~~
- ~~3. C<sub>s</sub> is the average concentration, Kg/dscm (lb/dscf), of particulate matter as determined by Method 5A.~~

~~(e) The asphalt roofing production rate, P, Mg/hr (TPH), shall be determined by dividing the weight of roofing produced on the shingle or saturated felt process lines during the performance test by the~~

number of hours required to conduct the performance test. The roofing production shall be obtained by direct measurement.

- ~~(f) The production rate of asphalt from the blowing still,  $P_s$ , Mg/hr (TPH), shall be determined by dividing the weight of asphalt charged to the still by the time required for the performance test during an asphalt blow. The weight of asphalt charged to the still shall be determined at the starting temperature of the blow. The weight of asphalt shall be converted from the volume measurement as follows:~~

$$M = \frac{Vd}{e}$$

~~M = weight of asphalt in megagrams (English Units: tons)~~

~~V = volume of asphalt in cubic meters (English Units: ft<sup>3</sup>)~~

~~d = density of asphalt in kilograms per cubic meter (English Units: lb/ft<sup>3</sup>)~~

~~e = conversion factor 1,000 kilograms per megagram (English Units: 2,000 lb/ton)~~

~~The density of asphalt at any measured temperature is calculated by using the following equation:~~

$$d = 1056.1 - (0.6176 \times ^\circ\text{C}) \text{ (Metric Units) or}$$

$$d = 65.92 - (0.0214 \times ^\circ\text{F}) \text{ (English Units)}$$

~~The method of measurement shall have an accuracy of +10 percent.~~

- ~~(g) The saturator emission rate shall be computed as follows:  $R = E/P$ .~~

- ~~(h) The blowing still emission rate shall be computed as follows:  $R_s = E/P_s$  where:~~

~~1. R is the saturator emission rate, Kg/Mg (lb/ton);~~

~~2.  $R_s$  is blowing still emission rate, Kg/Mg (lb/ton);~~

~~3. E is the particulate emission rate, Kg/hr (lb/hr), from subparagraph (c) of this paragraph;~~

~~4. P is the asphalt roofing production rate, Mg/hr (TPH); and~~

~~5.  $P_s$  is the asphalt charging rate, Mg/hr (TPH).~~

- ~~(i) Temperature shall be measured and continuously recorded with the monitor required under subparagraph (4)(a) or (b) of this rule during the measurement of particulate by Method 5A and reported to the Technical Secretary with the performance test results.~~

- ~~(j) If at a later date the owner or operator believes the emission limits in subparagraphs (3)(a) and (b) of this rule are being met even though the temperature measured in accordance with subparagraph (4) of this rule is exceeding that measured during the performance test, he may submit a written request to the Technical Secretary to repeat the performance test and procedure outlined in subparagraph (h) of this paragraph.~~

- ~~(k) If fuel oil is to be used to fire an afterburner used to control a blowing still, the owner or operator may petition the Technical Secretary in accordance with 1200-3-16-.01(6) to establish an opacity standard for the blowing still that will be the opacity standard when fuel oil is used to fire the afterburner. To obtain this opacity standard, the owner or operator must request the Technical Secretary to determine opacity during an initial, or subsequent, performance test when fuel oil is used to fire the afterburner. Upon receipt of the results of the performance test, the Technical Secretary will make a finding concerning compliance with the mass standard for the blowing still. If the Technical Secretary finds that the facility was in compliance with the mass standard during the performance test but failed to meet the zero opacity standard, the Technical Secretary will establish~~

~~as a condition on the operating permit of the source an opacity standard for the blowing still that will be the opacity standard when fuel oil is used to fire the afterburner. When the afterburner is fired with natural gas, the zero percent opacity remains the applicable opacity standard.~~

~~Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.~~

~~1200-03-16-.36 Industrial Surface Coating: Large Appliances~~

~~(1) Applicability~~

- ~~(a) The provisions of this rule apply to each surface coating operation in a large appliance surface coating line.~~
- ~~(b) The provisions of this rule apply to each affected facility identified in subparagraph (a) of this paragraph that commences construction, modification, or reconstruction after November 6, 1988.~~

~~(2) Definitions and Symbols~~

~~(a) Definitions~~

- ~~1. "Applied coating solids" means the coating solids that adhere to the surface of the large appliance part being coated.~~
- ~~2. "Large appliance part" means any organic surface-coated metal lid, door, casing, panel, or other interior or exterior metal part or accessory that is assembled to form a large appliance product. Parts subject to in-use temperatures in excess of 250°F are not included in this definition.~~
- ~~3. "Large appliance product" means any organic surface-coated metal range, oven, microwave oven, refrigerator, freezer, washer, dryer, dishwasher, water heater, or trash compactor manufactured for household, commercial, or recreational use.~~
- ~~4. "Large appliance surface coating line" means that portion of a large appliance assembly plant engaged in the application and curing of organic surface coatings on large appliance parts or products.~~
- ~~5. "Coating application station" means that portion of the large appliance surface coating operation where a prime coat or a top coat is applied to large appliance parts or products (e.g., dip tank, spray booth, or flow coating unit).~~
- ~~6. "Curing oven" means a device that uses heat to dry or cure the coating(s) applied to large appliance parts or products.~~
- ~~7. "Electrodeposition" (EDP) means a method of coating application in which the large appliance part or product is submerged in a tank filled with coating material suspended in water and an electrical potential is used to enhance deposition of the material on the part or product.~~
- ~~8. "Flashoff area" means the portion of a surface coating line between the coating application station and the curing oven.~~
- ~~9. "Organic coating" means any coating used in a surface coating operation, including dilution solvents, from which VOC emissions occur during the application or the curing process. For the purpose of this regulation, powder coatings are not included in this definition.~~
- ~~10. "Powder coating" means any surface coating that is applied as a dry powder and is fused into a continuous coating film through the use of heat.~~
- ~~11. "Spray booth" means the structure housing automatic or manual spray application equipment where a coating is applied to large appliance parts or products.~~

- ~~12. "Surface coating operation" means the system on a large appliance surface coating line used to apply and dry or cure an organic coating on the surface of large appliance parts or products. The surface coating operation may be a prime coat or a topcoat operation and includes the coating application station(s), flashoff area, and curing oven.~~
- ~~13. "Transfer efficiency" means the ratio of the amount of coating solids deposited onto the surface of a large appliance part or product to the total amount of coating solids used.~~
- ~~14. "VOC content" means the proportion of a coating that is volatile organic compounds (VOC's), expressed as kilograms of VOC's per liter of coating solids.~~
- ~~15. "VOC emissions" means the mass of volatile organic compounds (VOC's), expressed as kilograms of VOC's per liter of applied coating solids, emitted from a surface coating operation.~~

~~(b) Symbols~~

- ~~Ca = the concentration of VOC's in a gas stream leaving a control device and entering the atmosphere (parts per million by volume, as carbon).~~
- ~~Cb = the concentration of VOC's in a gas stream entering a control device (parts per million by volume, as carbon).~~
- ~~Cf = the concentration of VOC's in a gas stream emitted directly to the atmosphere (parts per million by volume, as carbon).~~
- ~~Dc = density of coating (or input stream), as received (kilograms per liter).~~
- ~~Dd = density of a VOC solvent added to coatings (kilograms per liter).~~
- ~~Dr = density of a VOC solvent recovered by an emission control device (kilograms per liter).~~
- ~~E = the VOC destruction efficiency of a control device (fraction).~~
- ~~F = the proportion of total VOC's emitted by an affected facility that enters a control device (fraction).~~
- ~~G = the volume-weighted average mass of VOC's in coatings consumed in a calendar month per unit volume of applied coating solids (kilograms per liter).~~
- ~~Lc = the volume of coating consumed, as received (liters).~~
- ~~Ld = the volume of VOC solvent added to coatings (liters).~~
- ~~Lr = the volume of VOC solvent recovered by an emission control device (liters).~~
- ~~Ls = the volume of coating solids consumed (liters).~~
- ~~Md = the mass of VOC solvent added to coatings (kilograms).~~
- ~~Mo = the mass of VOC's in coatings consumed, as received (kilograms).~~
- ~~Mr = the mass of VOC's recovered by an emission control device (kilograms).~~
- ~~N = the volume-weighted average mass of VOC's emitted to the atmosphere per unit volume of applied coating solids (kilograms per liter).~~
- ~~Qa = the volumetric flow rate of a gas stream leaving a control device and entering the atmosphere (dry standard cubic meters per hour).~~

~~Q<sub>b</sub> = the volumetric flow rate of a gas stream entering a control device (dry standard cubic meters per hour).~~

~~Q<sub>f</sub> = the volumetric flow rate of a gas stream emitted directly to the atmosphere (dry standard cubic meters per hour).~~

~~R = the overall VOC emission reduction achieved for an affected facility (fraction).~~

~~T = the transfer efficiency (fraction).~~

~~V<sub>s</sub> = the proportion of solids in a coating (or input stream), as received (fraction by volume).~~

~~W<sub>o</sub> = the proportion of VOC's in a coating (or input stream), as received (fraction by weight).~~

~~(3) Standard for volatile organic compounds~~

~~On or after the date on which the performance test required by 1200-3-16-.01(5) is completed, no owner or operator of an affected facility subject to the provisions of this rule shall discharge or cause the discharge of VOC emissions that exceed 0.90 kilogram of VOC's per liter of applied coating solids from any surface coating operation on a large appliance surface coating line.~~

~~(4) Performance test and compliance provisions~~

~~(a) Subparagraphs 1200-3-16-.01(5)(d) and (f) do not apply to the performance test procedures required by this rule.~~

~~(b) The owner or operator of an affected facility shall conduct an initial performance test as required under 1200-3-16-.01(5)(a) and thereafter a performance test each calendar month for each affected facility according to the procedures in this subparagraph.~~

~~1. An owner or operator shall use the following procedures for any affected facility that does not use a capture system and control device to comply with the emissions limit specified under paragraph (3) of this rule. The owner or operator shall determine the composition of the coatings by formulation data supplied by the coating manufacturer or by analysis of each coating, as received, using Reference Method 24 as specified in rule 1200-3-16-.01(5)(g). The Technical Secretary may require the owner or operator who uses formulation data supplied by the coating manufacturer to determine the VOC content of coatings using Reference Method 24. The owner or operator shall determine the volume of coating and the mass of VOC solvent used for thinning purposes from company records on a monthly basis. If a common coating distribution system serves more than one affected facility or serves both affected and existing facilities, the owner or operator shall estimate the volume of coatings used at each facility, by using the average dry weight of coating and the surface area coated by each affected and existing facility or by other procedures acceptable to the Technical Secretary.~~

~~(i) Except as provided in subpart (b)1(iv) of this paragraph, the weighted average of the total mass of VOC's consumed per unit volume of coating solids applied each calendar month will be determined as follows:~~

~~(I) Calculate the mass of VOC's consumed (M<sub>o</sub> + M<sub>d</sub>) during the calendar month for each affected facility by the following equation:~~

$$\underline{M_o + M_d = \sum_{i=1}^n L_{ci} D_{ci} W_{oi} + \sum_{j=1}^m L_{dj} D_{dj}} \text{ Equation (1)}$$

~~(Sum L<sub>dj</sub> D<sub>dj</sub> will be 0 if no VOC solvent is added to the coatings, as received)~~



where

n is the number of different coatings used during the month, and

m is the the number of different VOC-solvents added to coatings during the calendar month.

- (II) Calculate the total volume of coatings solids used ( $L_s$ ) in the calendar month for each affected facility by the following equation:

$$L_s = \sum_{i=1}^n L_{ci} V_{si} \quad \text{Equation (2)}$$

where

n is the number of different coatings used during the calendar month.

- (III) Select the appropriate transfer efficiency from Table 1. If the owner or operator can demonstrate to the satisfaction of the Technical Secretary that transfer efficiencies other than those shown are appropriate, the Technical Secretary will approve their use on a case-by-case basis. Transfer efficiencies for application methods not listed shall be determined by the Technical Secretary on a case-by-case basis. An owner or operator must submit sufficient data for the Technical Secretary to judge the accuracy of the transfer efficiency claims.

TABLE 1. TRANSFER EFFICIENCIES

| Application Method                          | Transfer efficiency (Tk) |
|---|--------------------------|
| Air-atomized spray                          | 0.40                     |
| Airless spray                               | 0.45                     |
| Manual electrostatic spray                  | 0.60                     |
| Flow coat                                   | 0.85                     |
| Dip coat                                    | 0.85                     |
| Nonrotational automatic electrostatic spray | 0.85                     |
| Rotating head automatic electrostatic spray | 0.90                     |
| Electrodeposition                           | 0.95                     |

Where more than one application method is used within a single surface coating operation, the owner or operator shall determine the composition and volume of each coating applied by each method through a means acceptable to the Technical Secretary and compute the weighted average transfer efficiency by the following equation:

$$T = \frac{\sum_{i=1}^n L_{cik} V_{sik} T_k}{\sum_{k=1}^p L_s} \quad \text{Equation (3)}$$

where

n is the number of coatings (or input streams) used, and

m is the number of application methods used.

~~(IV) Calculate the volume-weighted average mass of VOC's consumed per unit volume of coating solids applied (G) during the calendar month for each affected facility by the following equation:~~

$$G = \frac{M_o + M_d}{L_s T} \text{ Equation (4)}$$

~~(ii) Calculate the volume-weighted average of VOC emissions to the atmosphere (N) during the calendar month for each affected facility by the following equation:~~

$$N = G \text{ Equation (5)}$$

~~(iii) Where the volume-weighted average mass of VOC's discharged to the atmosphere per unit volume of coating solids applied (N) is equal to or less than 0.90 kilogram per liter, the affected facility is in compliance.~~

~~(iv) If each individual coating used by an effected facility has a VOC content, as received, which when divided by the lowest transfer efficiency at which the coating is applied, results in a value equal to or less than 0.90 kilogram per liter, the affected facility is in compliance, provided no VOC's are added to the coating during distribution or application.~~

~~2. An owner or operator shall use the following procedures for any affected facility that uses a capture system and a control device that destroys VOC's (e.g., incinerator) to comply with the emission limit specified under paragraph (3) of this rule.~~

~~(i) Determine the overall reduction efficiency (R) for the capture system and control device. For the initial performance test the overall reduction efficiency (R) shall be determined as prescribed in (I), (II), and (III) below. In subsequent months, the owner or operator may use the most recently determined overall reduction efficiency (R) for the performance test, providing control device and capture system operating conditions have not changed. The procedures in (I), (II), and (III) below, shall be repeated when directed by the Technical Secretary or when the owner or operator elects to operate the control device or capture system at conditions different from the initial performance test.~~

~~(I) Determine the fraction (F) of total VOC's emitted by an affected facility that enters the control device using the following equation:~~

$$F = \frac{\sum_{i=1}^n C_{bi} Q_{bi}}{\sum_{i=1}^n C_{bi} Q_{bi} + \sum_{k=1}^p C_{fk} Q_{fk}} \text{ Equation (6)}$$

~~Where~~

~~n is the number of gas streams entering the control device~~

~~p is the number of gas streams emitted directly to the atmosphere.~~

~~(II) Determine the destruction efficiency of the control device (E) using values of the volumetric flow rate of each of the gas streams and the VOC content (as carbon) of each of the gas streams in and out of the device by the following equation:~~

$$E = \frac{\sum_{i=1}^n Q_{bi} C_{bi} - \sum_{j=1}^m Q_{aj} C_{aj}}{\sum_{i=1}^n Q_{bi} C_{bi}} \text{ Equation (7)}$$

Where

n is the number of gas streams entering the control device, and

m is the number of gas streams leaving the control device and entering the atmosphere.

(III) Determine overall reduction efficiency (R) using the following equation:

$$R = EF \text{ Equation (8)}$$

(ii) Calculate the volume-weighted average for the total mass of VOC's per unit volume of applied coating solids (G) during each calendar month for each affected facility using equations (1), (2), (3) if applicable, and (4).

(iii) Calculate the volume-weighted average of VOC emissions to the atmosphere (N) during each calendar month by the following equation:

$$N = G (1 - R) \text{ Equation (9)}$$

(iv) If the volume-weighted average mass of VOC's emitted to the atmosphere for each calendar month (N) is equal to or less than 0.90 kilogram per liter of applied coating solids, the affected facility is in compliance.

3. An owner or operator shall use the following procedure for any affected facility that uses a control device for VOC recovery (e.g., carbon adsorber) to comply with the applicable emission limit specified under paragraph (3) of this rule.

(i) Calculate the total mass of VOC's consumed (Mo + Md) and the volume-weighted average of the total mass of VOC's per unit volume of applied coating solids (G) during each calendar month for each affected facility using equations (1), (2), (3) if applicable, and (4).

(ii) Calculate the total mass of VOC's recovered (Mr) during each calendar month using the following equation:

$$Mr = Lr Dr \text{ Equation (10)}$$

(iii) Calculate overall reduction efficiency of the control device (R) for each calendar month for each affected facility using the following equation:

$$R = \frac{Mr}{Mo + Md} \text{ Equation (11)}$$

(iv) Calculate the volume-weighted average mass of VOC's emitted to the atmosphere (N) for each calendar month for each affected facility using equation (9).

(v) If the volume-weighted average mass of VOC's emitted to the atmosphere for each calendar month (N) is equal to or less than 0.90 kilogram per liter of applied coating solids, the affected facility is in compliance. Each monthly calculation is considered a performance test.

(5) Monitoring of emissions and operations

~~(a) The owner or operator of an affected facility that uses a capture system and an incinerator to comply with the emission limits specified under paragraph (3) of this rule shall install, calibrate, maintain, and operate temperature measurement devices as prescribed below:~~

- ~~1. Where thermal incineration is used, a temperature measurement device shall be installed in the firebox. Where catalytic incineration is used, a temperature measurement device shall be installed in the gas stream immediately before and after the catalyst bed.~~
- ~~2. Each temperature measurement device shall be installed, calibrated, and maintained according to the manufacturer's specifications. The device shall have an accuracy of the greater of 0.75 percent of the temperature being measured expressed in degrees Celsius or  $\pm 2.5^{\circ}\text{C}$ .~~
- ~~3. Each temperature measurement device shall be equipped with a recording device so that a permanent continuous record is produced.~~

~~(6) Reporting and recordkeeping requirements~~

~~(a) The reporting requirements of 1200-3-16-.01(5)(a) apply only to the initial performance test. Each owner or operator subject to the provisions of this rule shall include the following data in the report of the initial performance test required under 1200-3-16-.01(5)(a):~~

- ~~1. Except as provided in part (a)2 of this paragraph, the volume-weighted average mass of VOC's emitted to the atmosphere per volume of applied coating solids (N) for a period of 1 calendar month from each affected facility.~~
- ~~2. For each affected facility where compliance is determined under the provisions of subpart (4)(b)1(iv) of this rule, a list of the coatings used during a period of 1 calendar month, the VOC content of each coating calculated from data determined using Reference Method 24 (as specified in 1200-3-16-.01(5)(g)), or supplied by the coating manufacturer, and the minimum transfer efficiency of any coating application equipment used during the month.~~
- ~~3. For each affected facility where compliance is achieved through use of an incineration system, the following additional information will be reported:
  - ~~(i) The proportion of total VOC's emitted that enters the control device (F),~~
  - ~~(ii) The VOC reduction efficiency of the control device (E),~~
  - ~~(iii) The average combustion temperature (or the average temperature upstream and downstream of the catalyst bed), and~~
  - ~~(iv) A description of the method used to establish the amount of VOC's captured and sent to the incinerator.~~~~
- ~~4. For each affected facility where compliance is achieved through use of a solvent recovery system, the following additional information will be reported:
  - ~~(i) The volume of VOC-solvent recovered (Lr), and~~
  - ~~(ii) The overall VOC emission reduction achieved (R).~~~~

~~(b) Following the initial performance test, the owner or operator of an affected facility shall identify and record:~~

- ~~1. Each instance in which the volume-weighted average of the total mass of VOC's emitted to the atmosphere per volume of applied coating solids (N) is greater than the limit specified under paragraph (3) of this rule.~~
- ~~2. Where compliance with paragraph (3) of this rule is achieved through use of thermal incineration, each 3-hour period of coating operation during which the average temperature~~

~~of the device was more than 28°C below the average temperature of the device during the most recent performance test at which destruction efficiency was determined as specified under paragraph (4) of this rule.~~

~~3. Where compliance with paragraph (3) of this rule is achieved through use of catalytic incineration, each 3-hour period of coating operation during which the average temperature recorded immediately before the catalyst bed is more than 28°C below the average temperature at the same location during the most recent performance test at which destruction efficiency was determined as specified under paragraph (4) of this rule. Additionally, all 3-hour periods of coating operations during which the average temperature difference across the catalyst bed is less than 80 percent of the average temperature difference across the catalyst bed during the most recent performance test at which destruction efficiency was determined as specified under paragraph (4) of this rule will be recorded.~~

~~(c) Each owner or operator subject to the provisions of this rule shall maintain at the source, for a period of at least 2 years, records of all data and calculations used to determine VOC emissions from each affected facility. Where compliance is achieved through the use of thermal incineration, each owner or operator shall maintain at the source daily records of the incinerator combustion chamber temperature. If catalytic incineration is used, the owner or operator shall maintain at the source daily records of the gas temperature, both upstream and downstream of the incinerator catalyst bed. Where compliance is achieved through the use of a solvent recovery system, the owner or operator shall maintain at the source daily records of the amount of solvent recovered by the system for each affected facility.~~

~~(7) Test methods and procedures~~

~~(a) The reference methods in 1200-3-16-.01(5)(g), except as provided under 1200-3-16-.01(5)(b), shall be used to determine compliance with paragraph (3) of this rule as follows:~~

~~1. Method 24 or formulation data supplied by the coating manufacturer to determine the VOC content of a coating. In the event of dispute, Reference Method 24 shall be the reference method. For determining compliance only, results of Method 24 analyses of waterborne coatings shall be adjusted as described in Subsection 4.4 of Method 24. Procedures to determine VOC emissions are provided in paragraph (4) of this rule.~~

~~2. Method 25 for the measurement of the VOC concentration in the gas stream vent.~~

~~3. Method 1 for sample and velocity traverses.~~

~~4. Method 2 for velocity and volumetric flow rate.~~

~~5. Method 3 for gas analysis.~~

~~6. Method 4 for stack gas moisture.~~

~~(b) For Method 24, the coating sample must be a 1-liter sample taken into a 1-liter container at a point where the sample will be representative of the coating material.~~

~~(c) For Method 25, the sample time for each of three runs is to be at least 60 minutes and the minimum sample volume is to be at least 0.003 dscm except that shorter sampling times or smaller volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.~~

~~(d) The Technical Secretary will approve sampling of representative stacks on a case-by-case basis if the owner or operator can demonstrate to the satisfaction of the Technical Secretary that the testing of representative stacks would yield results comparable to those that would be obtained by testing all stacks.~~

~~Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.~~

~~(1) Applicability~~

- ~~(a) The affected facility to which the provisions of this rule apply is each metal furniture surface coating operation in which organic coatings are applied.~~
- ~~(b) This rule applies to each affected facility identified in subparagraph (a) of this paragraph on which construction, modification, or reconstruction is commenced after November 6, 1988.~~

~~(2) Definitions and symbols~~

~~(a) Definitions~~

- ~~1. "Bake oven" means a device which uses heat to dry or cure coatings.~~
- ~~2. "Dip coating" means a method of applying coatings in which the part is submerged in a tank filled with the coatings.~~
- ~~3. "Electrodeposition (EDP)" means a method of applying coatings in which the part is submerged in a tank filled with the coatings and in which an electrical potential is used to enhance deposition of the coatings on the part.~~
- ~~4. "Electrostatic spray application" means a spray application method that uses an electrical potential to increase the transfer efficiency of the coatings.~~
- ~~5. "Flash-off area" means the portion of a surface coating operation between the coating application area and bake oven.~~
- ~~6. "Flow coating" means a method of applying coatings in which the part is carried through a chamber containing numerous nozzles which direct unatomized streams of coatings from many different angles onto the surface of the part.~~
- ~~7. "Organic coating" means any coating used in a surface coating operation, including dilution solvents, from which volatile organic compound emissions occur during the application or the curing process. For the purpose of this rule, powder coatings are not included in this definition.~~
- ~~8. "Powder coating" means any surface coating which is applied as a dry powder and is fused into a continuous coating film through the use of heat.~~
- ~~9. "Spray application" means a method of applying coatings by atomizing and directing the atomized spray toward the part to be coated.~~
- ~~10. "Surface coating operation" means the system on a metal furniture surface coating line used to apply and dry or cure an organic coating on the surface of the metal furniture part or product. The surface coating operation may be a prime coat or a top coat operation and includes the coating application station(s), flash-off area, and curing oven.~~
- ~~11. "Transfer efficiency" means the ratio of the amount of coating solids deposited onto the surface of a part or product to the total amount of coating solids used.~~
- ~~12. "VOC content" means the proportion of a coating that is volatile organic compounds (VOC's), expressed as kilograms of VOC's per liter of coating solids.~~
- ~~13. "VOC emissions" means the mass of volatile organic compounds (VOC's), expressed as kilograms of VOC's per liter of applied coating solids, emitted from a metal furniture surface coating operation.~~

~~(b) Symbols~~

- ~~G<sub>a</sub> = the VOC concentration in each gas stream leaving the control device and entering the atmosphere (parts per million by volume, as carbon).~~
- ~~G<sub>b</sub> = the VOC concentration in each gas stream entering the control device (parts per million by volume, as carbon).~~
- ~~G<sub>f</sub> = the VOC concentration in each gas stream emitted directly to the atmosphere (parts per million by volume, as carbon).~~
- ~~D<sub>c</sub> = density of each coating, as received (kilograms per liter).~~
- ~~D<sub>d</sub> = density of each diluent VOC solvent (kilograms per liter).~~
- ~~D<sub>r</sub> = density of VOC solvent recovered by an emission control device (kilograms per liter).~~
- ~~E = VOC destruction efficiency of the control device (fraction).~~
- ~~F = the proportion of total VOC's emitted by an affected facility that enters the control device (fraction).~~
- ~~G = the volume-weighted average mass of VOC's in coatings consumed in a calendar month per unit volume of coating solids applied (kilograms per liter).~~
- ~~L<sub>c</sub> = the volume of each coating consumed, as received (liters).~~
- ~~L<sub>d</sub> = the volume of each diluent VOC solvent added to coatings (liters).~~
- ~~L<sub>r</sub> = the volume of VOC solvent recovered by an emission control device (liters).~~
- ~~L<sub>s</sub> = the volume of coating solids consumed (liters).~~
- ~~M<sub>d</sub> = the mass of diluent VOC solvent consumed (kilograms).~~
- ~~M<sub>o</sub> = the mass of VOC's in coatings consumed, as received (kilograms).~~
- ~~M<sub>r</sub> = the mass of VOC's recovered by an emission control device (kilograms).~~
- ~~N = the volume-weighted average mass of VOC emissions to the atmosphere per unit volume of coating solids applied (kilograms per liter).~~
- ~~Q<sub>a</sub> = the volumetric flow rate of each gas stream leaving the control device and entering the atmosphere (dry standard cubic meters per hour).~~
- ~~Q<sub>b</sub> = the volumetric flow rate of each gas stream entering the control device (dry standard cubic meters per hour).~~
- ~~Q<sub>f</sub> = the volumetric flow rate of each gas stream emitted directly to the atmosphere (dry standard cubic meters per hour).~~
- ~~R = the overall VOC emission reduction achieved for an affected facility (fraction).~~
- ~~T = the transfer efficiency (fraction).~~
- ~~V<sub>s</sub> = the proportion of solids in each coating (or input stream), as received (fraction by volume).~~
- ~~W<sub>o</sub> = the proportion of VOC's in each coating (or input stream), as received (fraction by weight).~~

~~(3) Standard for volatile organic compounds (VOC)~~

~~(a) On and after the date on which the initial performance test required to be conducted by 1200-3-16-.01(5)(a) is completed, no owner or operator subject to the provisions of this rule shall cause the discharge into the atmosphere of VOC emissions from any metal furniture surface coating operation in excess of 0.90 kilogram of VOC per liter of coating solids applied.~~

~~(4) Performance tests and compliance provisions~~

~~(a) Subparagraphs 1200-3-16-.01(5)(d) and (f) do not apply to the performance test procedures required by this rule.~~

~~(b) The owner or operator of an affected facility shall conduct an initial performance test as required under 1200-3-16-.01(5)(a) and thereafter a performance test each calendar month for each affected facility according to the procedures in this paragraph.~~

~~(c) The owner or operator shall use the following procedures for determining monthly volume-weighted average emissions of VOC's in kilograms per liter of coating solids applied (G).~~

~~1. An owner or operator shall use the following procedures for any affected facility which does not use a capture system and control device to comply with the emissions limit specified under paragraph (3) of this rule. The owner or operator shall determine the composition of the coatings by formulation data supplied by the manufacturer of the coating or by an analysis of each coating, as received, using Reference Method 24 (as specified in 1200-3-16-.01(5)(g)). The Technical Secretary may require the owner or operator who uses formulation data supplied by the manufacturer of the coating to determine the VOC content of coatings using Reference Method 24. The owner or operator shall determine the volume of coating and the mass of VOC solvent used for thinning purposes from company records on a monthly basis. If a common coating distribution system serves more than one affected facility or serves both affected and existing facilities, the owner or operator shall estimate the volume of coating used at each facility by using the average dry weight of coating and the surface area coated by each affected and existing facility or by other procedures acceptable to the Technical Secretary.~~

~~(i) Calculate the volume-weighted average of the total mass of VOC's consumed per unit volume of coating solids applied (G) during each calendar month for each affected facility, except as provided under parts 2 and 3 of this subparagraph. Each monthly calculation is considered a performance test. Except as provided in subpart (iv) of this part, the volume-weighted average of the total mass of VOC's consumed per unit volume of coating solids applied (G) each calendar month will be determined by the following procedures.~~

~~(I) Calculate the mass of VOC's used ( $M_o + M_d$ ) during each calendar month for each affected facility by the following equation:~~

$$M_o + M_d = \sum_{i=1}^n L_{ci} D_{ci} W_{oi} + \sum_{j=1}^m L_{dj} D_{dj}$$

~~(SUM  $L_{dj} D_{dj}$  will be 0 if no VOC solvent is added to the coatings, as received.)~~

~~Where:~~

~~n is the number of different coatings used during the calendar month and m is the number of different diluent VOC solvents used during the calendar month.~~

~~(II) Calculate the total volume of coating solids used ( $L_s$ ) in each calendar month for each affected facility by the following equation:~~



$$L_s = \sum_{i=1}^n L_{ci} V_{si}$$

Where:

n is the number of different coatings used during the calendar month.

Select the appropriate transfer efficiency from Table 1. If the owner or operator can demonstrate to the satisfaction of the Technical Secretary that transfer efficiencies other than those shown are appropriate, the Technical Secretary will approve their use on a case-by-case basis. Transfer efficiency values for application methods not listed below shall be determined by the Technical Secretary on a case-by-case basis. An owner or operator must submit sufficient data for the Technical Secretary to judge the accuracy of the transfer efficiency claims.

TABLE 1. Transfer Efficiencies

| Application methods                                      | Transfer efficiency (T) |
|--|-------------------------|
| Air atomized spray                                       | 0.25                    |
| Airless spray  | .25                     |
| Manual electrostatic spray                               | .60                     |
| Nonrotational automatic electrostatic spray              | .70                     |
| Rotating head electrostatic spray (manual and automatic) | .80                     |
| Dip coat and flow coat                                   | .90                     |
| Electrodeposition  | .95                     |

Where more than one application method is used within a single surface coating operation, the owner or operator shall determine the composition and volume of each coating applied by each method through a means acceptable to the Technical Secretary and compute the weighted average transfer efficiency by the following equation:

$$T = \frac{\sum_{i=1}^n L_{cik} V_{sik} T_k}{\sum_{k=1}^p L_s}$$

Where:

n is the number of coatings used and p is the number of application methods used.

(iii) Calculate the volume-weighted average mass of VOC's consumed per unit volume of coating solids applied (G) during the calendar month for each affected facility by the following equation:

$$G = \frac{M_o + M_d}{L_s T}$$

(ii) Calculate the volume-weighted average of VOC emissions to the atmosphere (N) during the calendar month for each affected facility by the following equation:

~~N = G~~

- ~~(iii) Where the volume-weighted average mass of VOC discharged to the atmosphere per unit volume of coating solids applied (N) is less than or equal to 0.90 kilogram per liter, the affected facility is in compliance.~~
- ~~(iv) If each individual coating used by an affected facility has a VOC content, as received, which when divided by the lowest transfer efficiency at which the coating is applied, results in a value equal to or less than 0.90 kilogram per liter, the affected facility is in compliance provided no VOC's are added to the coatings during distribution or application.~~

~~2. An owner or operator shall use the following procedures for any affected facility that uses a capture system and a control device that destroys VOC's (e.g., incinerator) to comply with the emission limit specified under paragraph (3) of this rule.~~

- ~~(i) Determine the overall reduction efficiency (R) for the capture system and control device. For the initial performance test the overall reduction efficiency (R) shall be determined as prescribed in items (i)(I), (II) and (III) of this part. In subsequent months, the owner or operator may use the most recently determined overall reduction efficiency (R) for the performance test providing control device and capture system operating conditions have not changed. The procedure in items (i)(I), (II) and (III) of this part shall be repeated when directed by the Technical Secretary or when the owner or operator elects to operate the control device or capture system at conditions different from the initial performance test.~~

- ~~(I) Determine the fraction (F) of total VOC's emitted by an affected facility that enters the control device using the following equation:~~

$$F = \frac{\sum_{i=1}^n C_{bi} Q_{bi}}{\sum_{i=1}^n C_{bi} Q_{bi} + \sum_{j=1}^m C_{fj} Q_{fj}}$$

~~Where:~~

~~n is the number of gas streams entering the control device and m is the number of gas streams emitted directly to the atmosphere.~~

- ~~(II) Determine the destruction efficiency of the control device (E) using values of the volumetric flow rate of each of the gas streams and the VOC content (as carbon) of each of the gas streams in and out of the device by the following equation:~~

$$E = \frac{\sum_{i=1}^n Q_{bi} C_{bi} - \sum_{j=1}^m Q_{aj} C_{aj}}{\sum_{i=1}^n Q_{bi} C_{bi}}$$

~~Where:~~

~~n is the number of gas streams entering the control device, and m is the number of gas streams leaving the control device and entering the atmosphere.~~

- ~~(III) Determine the overall reduction efficiency (R) using the following equation:~~

$$R = EF$$

~~(ii) Calculate the volume-weighted average of the total mass of VOC's per unit volume of coating solids applied (G) during each calendar month for each affected facility using equations in items 1(i)(I), (II) and (III) of this subparagraph.~~

~~(iii) Calculate the volume-weighted average of VOC emissions to the atmosphere (N) during each calendar month by the following equation:~~

$$N = G (1 - R)$$

~~(iv) If the volume-weighted average mass of VOC's emitted to the atmosphere for each calendar month (N) is less than or equal to 0.90 kilogram per liter of coating solids applied, the affected facility is in compliance. Each monthly calculation is a performance test.~~

~~3. An owner or operator shall use the following procedure for any affected facility which uses a control device that recovers the VOC's (e.g., carbon adsorber) to comply with the applicable emission limit specified under paragraph (3) of this rule.~~

~~(i) Calculate the total mass of VOC's consumed (Mo + Md) and the volume-weighted average of the total mass of VOC's per unit volume of coating solids applied (G) during each calendar month for each affected facility using equations in items 1(i)(I), (II) and (III) of this subparagraph.~~

~~(ii) Calculate the total mass of VOC's recovered (Mr) during each calendar month using the following equation:~~

$$Mr = Lr - Dr$$

~~(iii) Calculate overall reduction efficiency of the control device (R) for each calendar month for each affected facility using the following equation:~~

$$R = \frac{Mr}{Mo + Md}$$

~~(iv) Calculate the volume-weighted average mass of VOC's emitted to the atmosphere (N) for each calendar month for each affected facility using the equation in subpart 2(iii) of this subparagraph.~~

~~(v) If the weighted average mass of VOC's emitted to the atmosphere for each calendar month (N) is less than or equal to 0.90 kilogram per liter of coating solids applied, the affected facility is in compliance. Each monthly calculation is a performance test.~~

~~(5) Monitoring of emissions and operations~~

~~(a) The owner or operator of an affected facility which uses a capture system and an incinerator to comply with the emission limits specified under paragraph (3) of this rule shall install, calibrate, maintain, and operate temperature measurement devices according to the following procedures:~~

~~1. Where thermal incineration is used a temperature measurement device shall be installed in the firebox. Where catalytic incineration is used, a temperature measurement device shall be installed in the gas stream immediately before and after the catalyst bed.~~

~~2. Each temperature measurement device shall be installed, calibrated, and maintained according to the manufacturer's specifications. The device shall have an accuracy of the greater of 0.75 percent of the temperature being measured expressed in degrees Celsius or  $\pm 2.5^{\circ}\text{C}$ .~~

- ~~3. Each temperature measurement device shall be equipped with a recording device so that a permanent continuous record is produced.~~
- ~~(b) The owner or operator of an affected facility which uses a capture system and a solvent recovery system to comply with the emission limits specified under paragraph (3) of this rule shall install the equipment necessary to determine the total volume of VOC solvent recovered daily.~~
- ~~(6) Reporting and recordkeeping requirements~~
  - ~~(a) The reporting requirements of 1200-3-16-.01(5)(a) apply only to the initial performance test. Each owner or operator subject to the provisions of this rule shall include the following data in the report of the initial performance test required under 1200-3-16-.01(5)(a).~~
    - ~~1. Except as provided in part (a)2 of this paragraph, the volume-weighted average mass of VOC's emitted to the atmosphere per volume of applied coating solids (N) for a period of one calendar month from each affected facility.~~
    - ~~2. For each affected facility where compliance is determined under the provisions of subpart (4)(c)1(iv) of this rule, a list of the coatings used during a period of one calendar month, the VOC content of each coating calculated from data determined using Reference Method 24 or supplied by the manufacturer of the coating, and the minimum transfer efficiency of any coating application equipment used during the month.~~
    - ~~3. For each affected facility where compliance is achieved through the use of an incineration system, the following additional information will be reported:~~
      - ~~(i) The proportion of total VOC's emitted that enters the control device (F),~~
      - ~~(ii) The VOC reduction efficiency of the control device (E),~~
      - ~~(iii) The average combustion temperature (or the average temperature upstream and downstream of the catalyst bed), and~~
      - ~~(iv) A description of the method used to establish the amount of VOC's captured and sent to the incinerator.~~
    - ~~4. For each affected facility where compliance is achieved through the use of a solvent recovery system, the following additional information will be reported:~~
      - ~~(i) The volume of VOC solvent recovered (Lr), and~~
      - ~~(ii) The overall VOC emission reduction achieved (R).~~
  - ~~(b) Following the initial performance test, the owner or operator of an affected facility shall identify and record:~~
    - ~~1. Each instance in which the volume-weighted average of the total mass of VOC's emitted to the atmosphere per volume of applied coating solids (N) is greater than the limit specified under paragraph (3) of this rule.~~
    - ~~2. Where compliance with paragraph (3) of this rule is achieved through the use of thermal incineration, each 3-hour period when metal furniture is being coated during which the average temperature of the device was more than 28°C below the average temperature of the device during the most recent performance test at which destruction efficiency was determined as specified under paragraph (4) of this rule.~~
    - ~~3. Where compliance with paragraph (3) of this rule is achieved through the use of catalytic incineration, each 3-hour period when metal furniture is being coated during which the average temperature of the device immediately before the catalyst bed is more than 28°C below the average temperature of the device immediately before the catalyst bed during the most recent performance test at which destruction efficiency was determined as~~

~~specified under paragraph (4) of this rule. Additionally, when metal furniture is being coated, all 3-hour periods during which the average temperature difference across the catalyst bed is less than 80 percent of the average temperature difference across the catalyst bed during the most recent performance test at which destruction efficiency was determined as specified under paragraph (4) of this rule will be recorded.~~

- ~~(c) Each owner or operator subject to the provisions of this rule shall maintain at the source, for a period of at least 2 years, records of all data and calculations used to determine VOC emissions from each affected facility. Where compliance is achieved through the use of thermal incineration, each owner or operator shall maintain, at the source, daily records of the incinerator combustion chamber temperature. If catalytic incineration is used, the owner or operator shall maintain at the source daily records of the gas temperature, both upstream and downstream of the incinerator catalyst bed. Where compliance is achieved through the use of a solvent recovery system, the owner or operator shall maintain at the source daily records of the amount of solvent recovered by the system for each affected facility.~~

~~(7) Test methods and procedures~~

- ~~(a) The reference methods in 1200-3-16-.01(5)(g) except as provided under 1200-3-16-.01(5)(b) shall be used to determine compliance with paragraph (3) of this rule as follows:~~

- ~~1. Method 24, or coating manufacturer's formulation data, for use in the determination of VOC content of each batch of coating as applied to the surface of the metal parts. In case of an inconsistency between the Method 24 results and the formulation data, the Method 24 results will govern.~~
- ~~2. Method 25 for the measurement of VOC concentration.~~
- ~~3. Method 1 for sample and velocity traverses.~~
- ~~4. Method 2 for velocity and volumetric flow rate.~~
- ~~5. Method 3 for gas analysis.~~
- ~~6. Method 4 for stack gas moisture.~~

- ~~(b) For Method 24, the coating sample must be at least a 1 liter sample in a 1 liter container taken at a point where the sample will be representative of the coating material as applied to the surface of the metal part.~~

- ~~(c) For Method 25, the minimum sampling time for each of 3 runs is 60 minutes and the minimum sample volume is 0.003 dry standard cubic meters except that shorter sampling times or smaller volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.~~

- ~~(d) The Technical Secretary will approve testing of representative stacks on a case-by-case basis if the owner or operator can demonstrate to the satisfaction of the Technical Secretary that testing of representative stacks yields results comparable to those that would be obtained by testing all stacks.~~

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

~~1200-3-16-.38 Metal Coil Surface Coating~~

~~(1) Applicability~~

- ~~(a) The provisions of this rule apply to the following affected facilities in a metal coil surface coating operation: each prime coat operation, each finish coat operation, and each prime and finish coat operation combined when the finish coat is applied wet on wet over the prime coat and both coatings are cured simultaneously.~~

~~(b) This rule applies to any facility identified in subparagraph (a) of this paragraph that commences construction, modification or reconstruction after November 6, 1988.~~

~~(2) Definitions and Symbols~~

~~(a) Definitions~~

- ~~1. "Coating" means any organic material that is applied to the surface of metal coil.~~
- ~~2. "Coating application station" means that portion of the metal coil surface coating operation where the coating is applied to the surface of the metal coil. Included as part of the coating application station is the flashoff area between the coating application station and the curing oven.~~
- ~~3. "Curing oven" means the device that uses heat or radiation to dry or cure the coating applied to the metal coil.~~
- ~~4. "Finish coat operation" means the coating application station, curing oven, and quench station used to apply and dry or cure the final coating(s) on the surface of the metal coil. Where only a single coating is applied to the metal coil, that coating is considered a finish coat.~~
- ~~5. "Metal coil surface coating operation" means the application system used to apply an organic coating to the surface of any continuous metal strip with thickness of 0.15 millimeter (mm) (0.006 in.) or more that is packaged in a roll or coil.~~
- ~~6. "Prime coat operation" means the coating application station, curing oven, and quench station used to apply and dry or cure the initial coating(s) on the surface of the metal coil.~~
- ~~7. "Quench station" means that portion of the metal coil surface coating operation where the coated metal coil is cooled, usually by a water spray, after baking or curing.~~
- ~~8. "VOC content" means the quantity, in kilograms per liter of coating solids, of volatile organic compounds (VOC) in a coating.~~

~~(b) Symbols~~

- ~~$C_a$  = the VOC concentration in each gas stream leaving the control device and entering the atmosphere (parts per million by volume, as carbon).~~
- ~~$C_b$  = the VOC concentration in each gas stream entering the control device (parts per million by volume, as carbon).~~
- ~~$C_f$  = the VOC concentration in each gas stream emitted directly to the atmosphere (parts per million by volume, as carbon).~~
- ~~$D_c$  = density of each coating, as received (kilograms per liter).~~
- ~~$D_d$  = density of each VOC solvent added to coatings (kilograms per liter).~~
- ~~$D_r$  = density of VOC solvent recovered by an emission control device (kilograms per liter).~~
- ~~$E$  = VOC destruction efficiency of the control device (fraction).~~
- ~~$F$  = the proportion of total VOC's emitted by an affected facility that enters the control device (fraction).~~
- ~~$G$  = volume weighed average mass of VOC's in coatings consumed in a calendar month per unit volume of coatings solids applied (kilograms per liter).~~
- ~~$L_c$  = the volume of each coating consumed, as received (liters).~~

~~L<sub>d</sub> = the volume of each VOC-solvent added to coatings (liters).~~

~~L<sub>r</sub> = the volume of VOC-solvent recovered by an emission control device (liters).~~

~~L<sub>s</sub> = the volume of coatings solids consumed (liters).~~

~~M<sub>d</sub> = the mass of VOC-solvent added to coatings (kilograms).~~

~~M<sub>o</sub> = the mass of VOC's in coatings consumed, as received (kilograms).~~

~~M<sub>r</sub> = the mass of VOC's recovered by an emission control device (kilograms).~~

~~N = the volume-weighted average mass of VOC emissions to the atmosphere per unit volume of coating solids applied (kilograms per liter).~~

~~Q<sub>a</sub> = the volumetric flow rate of each gas stream leaving the control device and entering the atmosphere (dry standard cubic meters per hour).~~

~~Q<sub>b</sub> = the volumetric flow rate of each gas stream entering the control device (dry standard cubic meters per hour).~~

~~Q<sub>f</sub> = the volumetric flow rate of each gas stream emitted directly to the atmosphere (dry standard cubic meters per hour).~~

~~R = the overall VOC emission reduction achieved for an affected facility (fraction).~~

~~S = the calculated monthly allowable emission limit (kilograms of VOC per liter of coating solids applied).~~

~~V<sub>s</sub> = the proportion of solids in each coating, as received (fraction by volume).~~

~~W<sub>o</sub> = the proportion of VOC's in each coating, as received (fraction by weight).~~

~~(3) Standards for volatile organic compounds~~

~~(a) On and after the date on which paragraph 1200-3-16-.01(5) requires a performance test to be completed, each owner or operator subject to this rule shall not cause to be discharged into the atmosphere more than:~~

~~1. 0.28 kilogram VOC per liter (kg VOC/l) of coating solids applied for each calendar month for each affected facility that does not use an emission control device(s); or~~

~~2. 0.14 kg VOC/l of coating solids applied for each calendar month for each affected facility that continuously uses an emission control device(s) operated at the most recently demonstrated overall efficiency; or~~

~~3. 10 percent of the VOC's applied for each calendar month (90 percent emission reduction) for each affected facility that continuously uses an emission control device(s) operated at the most recently demonstrated overall efficiency; or~~

~~4. a value between 0.14 (or a 90 percent emission reduction) and 0.28 kg VOC/l of coating solids applied for each calendar month for each affected facility that intermittently uses an emission control device operated at the most recently demonstrated overall efficiency.~~

~~(4) Performance test and compliance provisions~~

~~(a) Subparagraphs 1200-3-16-.01(5)(d) and (f) do not apply to the performance test.~~

~~(b) The owner or operator of an affected facility shall conduct an initial performance test as required under subparagraph 1200-3-16-.01(5)(a) and thereafter a performance test for each calendar~~

month for each affected facility according to the procedures in this paragraph.

~~(c) The owner or operator shall use the following procedures for determining monthly volume-weighted average emissions of VOC's in kg/1 of coating solids applied.~~

~~1. An owner or operator shall use the following procedures for each affected facility that does not use a capture system and control device to comply with the emission limit specified under part (3)(a)1 of this rule. The owner or operator shall determine the composition of the coatings by formulation data supplied by the manufacturer of the coating or by an analysis of each coating, as received, using Reference Method 24 (as specified in 1200-3-16-.01(5)(g)24). The Technical Secretary may require the owner or operator who uses formulation data supplied by the manufacturer of the coatings to determine the VOC content of coatings using Reference Method 24 or an equivalent or alternative method. The owner or operator shall determine the volume of coating and the mass of VOC solvent added to coatings from company records on a monthly basis. If a common coating distribution system serves more than one affected facility or serves both affected and existing facilities, the owner or operator shall estimate the volume of coating used at each affected facility by using the average dry weight of coating and the surface area coated by each affected and existing facility or by other procedures acceptable to the Technical Secretary.~~

~~(i) Calculate the volume-weighted average of the total mass of VOC's consumed per unit volume of coatings solids applied during each calendar month for each affected facility, except as provided under subpart (iv) of this part. The weighted average of the total mass of VOC's used per unit volume of coatings solids applied each calendar month is determined by the following procedures.~~

~~(I) Calculate the mass of VOC's used ( $M_o + M_d$ ) during each calendar month for each affected facility by the following equation:~~

$$\underline{M_o + M_d = \sum_{i=1}^n L_{ci} D_{ci} W_{oi} + \sum_{j=1}^m L_{dj} D_{dj}} \quad \text{EQUATION 1}$$

~~(SUM  $L_{dj} D_{dj}$  will be 0 if no VOC solvent is added to the coatings, as received)~~

~~Where:~~

~~n is the number of different coatings used during the calendar month, and~~

~~m is the number of different VOC solvents added to coatings used during the calendar month.~~

~~(II) Calculate the total volume of coating solids used ( $L_s$ ) in each calendar month for each affected facility by the following equation:~~

$$\underline{L_s = \sum_{i=1}^n L_{ci} V_{si}} \quad \text{EQUATION 2}$$

~~Where:~~

~~n is the number of different coatings used during the calendar month.~~

~~(III) Calculate the volume-weighted average mass of VOC's used per unit volume of coatings solids applied ( $G$ ) during the calendar month for each affected facility by the following equation:~~



$$G = \frac{M_o + M_d}{L_s} \text{ EQUATION 3}$$

(ii) Calculate the volume-weighted average of VOC emissions to the atmosphere (N) during the calendar month for each affected facility by the following equation:

$$N = G \text{ EQUATION 4}$$

(iii) Where the volume-weighted average mass of VOC's discharged to the atmosphere per unit volume of coating solids applied (N) is equal to or less than 0.28 kg/l, the affected facility is in compliance.

(iv) If each individual coating used by an affected facility has a VOC content, as received, that is equal to or less than 0.28 kg/l of coating solids, the affected facility is in compliance provided no VOC's are added to the coating during distribution or application.

2. An owner or operator shall use the following procedures for each affected facility that continuously uses a capture system and a control device that destroys VOC's (e.g. incinerator) to comply with the emission limit specified under part (3)(a)2 or 3

(i) Determine the overall reduction efficiency (R) for the capture system and control device. For the initial performance test, the overall reduction efficiency (R) shall be determined as prescribed in items (c)2(i) (I), (II) and (III) of this paragraph. In subsequent months, the owner or operator may use the most recently determined overall reduction efficiency (R) for the performance test, providing control device and capture system operating conditions have not changed. The procedure in items (c)2(i) (I), (II) and (III) of this paragraph shall be repeated when directed by the Technical Secretary or when the owner or operator elects to operate the control device or capture system at conditions different from the initial performance test.

(I) Determine the fraction (F) of total VOC's emitted by an affected facility that enters the control device using the following equation:

$$F = \frac{\sum_{i=1}^l C_{bi} Q_{bi}}{\sum_{i=1}^l C_{bi} Q_{bi} + \sum_{j=1}^p C_{fj} Q_{fj}} \text{ EQUATION 5}$$

Where:

l is the number of gas streams entering the control device, and

p is the number of gas streams emitted directly to the atmosphere.

(II) Determine the destruction efficiency of the control device (E) using values of volumetric flow rate of each of the gas streams and the VOC content (as carbon) of each of the gas streams in and out of the device by the following equation:

$$E = \frac{\sum_{i=1}^n Q_{bi} C_{bi} - \sum_{j=1}^m Q_{aj} C_{aj}}{\sum_{i=1}^n Q_{bi} C_{bi}} \text{ EQUATION 6}$$

Where:

~~n is the number of gas streams entering the control device, and~~

~~m is the number of gas stream leaving the control device and entering the atmosphere.~~

~~The owner or operator of the affected facility shall construct the VOC emission reduction system so that all volumetric flow rates and total VOC emissions can be accurately determined by the applicable test methods and procedures specified in paragraph (7) of this rule. The owner or operator of the affected facility shall construct a temporary enclosure around the coating applicator and flashoff area during the performance test for the purpose of evaluating the capture efficiency of the system. The enclosure must be maintained at a negative pressure to ensure that all VOC emissions are measurable. If a permanent enclosure exists in the affected facility prior to the performance test and the Technical Secretary is satisfied that the enclosure is adequately containing VOC emissions, no additional enclosure is required for the performance test.~~

~~(III) Determine overall reduction efficiency (R) using the following equation:~~

$$~~R = \frac{EF}{G} \text{ EQUATION 7}~~$$

~~If the overall reduction efficiency (R) is equal to or greater than 0.90, the affected facility is in compliance and no further computations are necessary. If the overall reduction efficiency (R) is less than 0.90, the average total VOC emissions to the atmosphere per unit volume of coating solids applied (N) shall be computed as follows:~~

~~(ii) Calculate the volume-weighted average of the total mass of VOC's per unit volume of coating solids applied (G) during each calendar month for each affected facility using equations in items (c)1(i)(I), (II) and (III) of this paragraph.~~

~~(iii) Calculate the volume-weighted average of VOC emissions to the atmosphere (N) during each calendar month by the following equation:~~

$$~~N = G (1 - R) \text{ EQUATION 8}~~$$

~~(iv) If the volume-weighted average mass of VOC's emitted to the atmosphere for each calendar month (N) is less than or equal to 0.14 kg/l of coating solids applied, the affected facility is in compliance. Each monthly calculation is a performance test.~~

~~3. An owner or operator shall use the following procedure for each affected facility that uses a control device that recovers the VOC's (e.g. carbon adsorber) to comply with the applicable emission limit specified under part (3)(a)2 or 3 of this rule.~~

~~(i) Calculate the total mass of VOC's consumed (Mo + Md) during each calendar month for each affected facility using Equation 1 in item (c)1(i)(I) of this paragraph.~~

~~(ii) Calculate the total mass of VOC's recovered (Mr) during each calendar month using the following equation:~~

$$~~Mr = Lr Dr \text{ EQUATION 9}~~$$

~~(iii) Calculate the overall reduction efficiency of the control device (R) for each calendar month for each affected facility using the following equation:~~

$$~~R = \frac{Mr}{Mo + Md} \text{ EQUATION 10}~~$$

~~If the overall efficiency (R) is equal to or greater than 0.90, the affected facility is in compliance and no further computations are necessary. If the overall efficiency (R)~~

is less than 0.90, the average total VOC emissions to the atmosphere per unit volume of coating solids applied (N) must be computed as follows.

- ~~(iv) Calculate the total volume of coating solids consumed (L<sub>s</sub>) and the volume-weighted average of the total mass of VOC's per unit volume of coating solids applied (G) during each calendar month for each affected facility using equations in items (c)1(i)(II) and (III) of this paragraph.~~
  - ~~(v) Calculate the volume-weighted average mass of VOC's emitted to the atmosphere (N) for each calendar month for each affected facility using the equation in subpart (c)2(iii).~~
  - ~~(vi) If the weighted average mass of VOC's emitted to the atmosphere for each calendar month (N) is less than or equal to 0.14 kg/l of coating solids applied, the affected facility is in compliance. Each monthly calculation is a performance test.~~
- ~~4. An owner or operator shall use the following procedures for each affected facility that intermittently uses a capture system and a control device to comply with the emission limit specified in part (3)(a)4 of this rule.~~

- ~~(i) Calculate the total volume of coating solids applied without the control device in operation (L<sub>sn</sub>) during each calendar month for each affected facility using the following equation:~~

$$L_{sn} = \sum_{i=1}^n L_{ci} V_{si} \text{----- EQUATION 11}$$

~~Where:~~

~~n is the number of coatings used during the calendar month without the control device in operation.~~

- ~~(ii) Calculate the total volume of coating solids applied with the control device in operation (L<sub>sc</sub>) during each calendar month for each affected facility using the following equation:~~

$$L_{sc} = \sum_{i=1}^m L_{ci} V_{si} \text{----- EQUATION 12}$$

~~Where:~~

~~m is the number of coatings used during the calendar month with the control device in operation.~~

- ~~(iii) Calculate the mass of VOC's used without the control device in operation (M<sub>on</sub> + M<sub>dn</sub>) during each calendar month for each affected facility using the following equation:~~

$$M_{on} + M_{dn} = \sum_{i=1}^n L_{ci} D_{ci} W_{oi} + \sum_{j=1}^m L_{dj} D_{dj} \text{----- EQUATION 13}$$

~~Where:~~

~~n is the number of different coatings used without the control device in operation during the calendar month, and~~

~~m is the number of different VOC-solvents added to coatings used without the control device in operation during the calendar month.~~

- (iv) Calculate the volume-weighted average of the total mass of VOC's consumed per unit volume of coating solids applied without the control device in operation ( $G_n$ ) during each calendar month for each affected facility using the following equation:

$$G_n = \frac{M_{oc} + M_{dc}}{L_{sn}} \quad \text{EQUATION 14}$$

- (v) Calculate the mass of VOC's used with the control device in operation ( $M_{oc} + M_{dc}$ ) during each calendar month for each affected facility using the following equation:

$$M_{oc} + M_{dc} = \sum_{i=1}^n L_{ci} D_{ci} W_{oi} + \sum_{j=1}^m L_{dj} D_{dj} \quad \text{EQUATION 15}$$

Where:

$n$  is the number of different coatings used with the control device in operation during the calendar month, and

$m$  is the number of different VOC solvents added to coatings used with the control device in operation during the calendar month.

- (vi) Calculate the volume-weighted average of the total mass of VOC's used per unit volume of coating solids applied with the control device in operation ( $G_c$ ) during each calendar month for each affected facility using the following equation:

$$G_c = \frac{M_{oc} + M_{dc}}{L_{sc}} \quad \text{EQUATION 16}$$

- (vii) Determine the overall reduction efficiency ( $R$ ) for the capture system and control device using the procedures in items 2(i)(I), (II) and (III) or subparts 3(i),(ii) and (iii) of this subparagraph whichever is applicable.

- (viii) Calculate the volume-weighted average of VOC emissions to the atmosphere ( $N$ ) during each calendar month for each affected facility using the following equation:

$$N = \frac{G_n L_{sn} + G_c L_{sc} (1 - R)}{L_{sn} + L_{sc}} \quad \text{EQUATION 17}$$

- (ix) Calculate the emission limit(s) for each calendar month for each affected facility using the following equation:

$$S = \frac{0.28 L_{sn} + 0.1 G_c L_{sc}}{L_{sn} + L_{sc}} \quad \text{or} \quad \frac{0.28 L_{sn} + 0.14 L_{sc}}{L_{sn} + L_{sc}} \quad \text{EQUATION 18}$$

whichever is greater.

- (x) If the volume-weighted average mass of VOC's emitted to the atmosphere for each calendar month ( $N$ ) is less than or equal to the calculated emission limit ( $S$ ) for the calendar month, the affected facility is in compliance. Each monthly calculation is a performance test.

(5) Monitoring of emissions and operations

- (a) Where compliance with the numerical limit specified in part (3)(a)1 or 2 of this rule is achieved through the use of low VOC-content coatings without the use of emission control devices or through the use of higher VOC-content coatings in conjunction with emission control devices, the owner or operator shall compute and record the average VOC content of coatings applied during each calendar month for each affected facility, according to the equations provided in paragraph (4) of this rule.

- ~~(b) Where compliance with the limit specified in part (3)(a)4 of this rule is achieved through the intermittent use of emission control devices, the owner or operator shall compute and record for each affected facility the average VOC content of coatings applied during each calendar month according to the equations provided in paragraph (4) of this rule.~~
- ~~(c) If thermal incineration is used, each owner or operator subject to the provisions of this rule shall install, calibrate, operate, and maintain a device that continuously records the combustion temperature of any effluent gases incinerated to achieve compliance with part (3)(a)2, 3 or 4 of this rule. This device shall have an accuracy of  $\pm 2.5^{\circ}\text{C}$  or  $\pm 0.75$  percent of the temperature being measured expressed in degrees Celsius, whichever is greater. Each owner or operator shall also record all periods (during actual coating operations) in excess of 3 hours during which the average temperature in any thermal incinerator used to control emissions from an affected facility remains more than  $28^{\circ}\text{C}$  ( $50^{\circ}\text{F}$ ) below the temperature at which compliance with part (3)(a)2, 3 or 4 of this rule was demonstrated during the most recent measurement of incinerator efficiency required by paragraph 1200-3-16-.01(5). The records required by 1200-3-16-.01(7) shall identify each such occurrence and its duration. If catalytic incineration is used, the owner or operator shall install, calibrate, operate, and maintain a device to monitor and record continuously the gas temperature both upstream and downstream of the incinerator catalyst bed. This device shall have an accuracy of  $\pm 2.5^{\circ}\text{C}$  or  $\pm 0.75$  percent of the temperature being measured expressed in degrees Celsius, whichever is greater. During coating operations, the owner or operator shall record all periods in excess of 3 hours where the average difference between the temperature upstream and downstream of the incinerator catalyst bed remains below 80 percent of the temperature difference at which compliance was demonstrated during the most recent measurements of incinerator efficiency or when the inlet temperature falls more than  $28^{\circ}\text{C}$  ( $50^{\circ}\text{F}$ ) below the temperature at which compliance with part (3)(a)2, 3 or 4 of this rule was demonstrated during the most recent measurement of incinerator efficiency required by paragraph 1200-3-16-.01(5). The records required by paragraph 1200-3-16-.01(7) shall identify each such occurrence and its duration.~~

~~(6) Reporting and recordkeeping requirements~~

- ~~(a) Where compliance with the numerical limit specified in part (3)(a)1, 2 or 4 of this rule is achieved through the use of low VOC content coatings without emission control devices or through the use of higher VOC content coatings in conjunction with emission control devices, each owner or operator subject to the provisions of this rule shall include in the initial compliance report required by paragraph 1200-3-16-.01(5) the weighted average of the VOC content of coatings used during a period of one calendar month for each affected facility. Where compliance with part (3)(a)4 of this rule is achieved through the intermittent use of a control device, reports shall include separate values of the weighted average VOC content of coatings used with and without the control device in operation.~~
- ~~(b) Where compliance with part (3)(a)2, 3 or 4 of this rule is achieved through the use of an emission control device that destroys VOC's, each owner or operator subject to the provisions of this rule shall include the following data in the initial compliance report required by paragraph 1200-3-16-.01(5).~~
- ~~1. The overall VOC destruction rate used to attain compliance with part (3)(a)2, 3 or 4 of this rule and the calculated emission limit used to attain compliance with part (3)(a)4 of this rule; and~~
  - ~~2. The combustion temperature of the thermal incinerator or the gas temperature, both upstream and downstream of the incinerator catalyst bed, used to attain compliance with part (3)(a)2, 3 or 4 of this rule.~~
- ~~(c) Each owner or operator subject to the provisions of this rule shall maintain at the source, for a period of at least 2 years, records of all data and calculations used to determine monthly VOC emissions from each affected facility and to determine the monthly emission limit, where applicable. Where compliance is achieved through the use of thermal incineration, each owner or operator shall maintain, at the source, daily records of the incinerator combustion temperature. If catalytic incineration is used, the owner or operator shall maintain at the source daily records of the gas temperature, both upstream and downstream of the incinerator catalyst bed.~~

~~(7) Test methods and procedures~~

~~(a) The reference methods in subparagraph 1200-3-16-.01(5)(g) except as provided under subparagraph 1200-3-16-.01(5)(b) shall be used to determine compliance with paragraph (3) of this rule as follows:~~

- ~~1. Reference Method 24, or data provided by the formulator of the coating for determining the VOC content of each coating as applied to the surface of the metal coil. In the event of a dispute, Reference Method 24 shall be the reference method. When VOC content of waterborne coatings, determined by Reference Method 24, is used to determine compliance of affected facilities, the results of the Reference Method 24 analysis shall be adjusted as described in Section 4.4 of Reference Method 24;~~
- ~~2. Reference Method 25, both for measuring the VOC concentration in each gas stream entering and leaving the control device on each stack equipped with an emission control device and for measuring the VOC concentration in each gas stream emitted directly to the atmosphere;~~
- ~~3. Method 1 for sample and velocity traverses;~~
- ~~4. Method 2 for velocity and volumetric flow rate;~~
- ~~5. Method 3 for gas analysis; and~~
- ~~6. Method 4 for stack gas moisture.~~

~~(b) For Method 24, the coating sample must be at least a 1-liter sample taken at a point where the sample will be representative of the coating as applied to the surface of the metal coil.~~

~~(c) For Method 25, the sampling time for each of three runs is to be at least 60 minutes, and the minimum sample volume is to be at least 0.003 dry standard cubic meter (DSCM); however, shorter sampling times or smaller volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.~~

~~(d) The Technical Secretary will approve testing of representative stacks on a case-by-case basis if the owner or operator can demonstrate to the satisfaction of the Technical Secretary that testing of representative stacks yields results comparable to those that would be obtained by testing all stacks.~~

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

~~1200-03-16-.39 Graphic Arts Industry: Publication Rotogravure Printing~~

~~(1) Applicability~~

~~(a) Except as provided in subparagraph (b) of this paragraph, the affected facility to which the provisions of this rule apply is each publication rotogravure printing press.~~

~~(b) The provisions of this rule do not apply to proof presses.~~

~~(c) Any facility under subparagraph (a) of this paragraph that commences construction, modification, or reconstruction after November 6, 1988 is subject to the requirements of this rule.~~

~~(2) Definitions and notations~~

~~(a) Definitions~~

- ~~1. "Automatic temperature compensator" means a device that continuously senses the temperature of fluid flowing through a metering device and automatically adjusts the registration of the measured volume to the corrected equivalent volume at a base~~

temperature.

2. ~~“Base temperature” means an arbitrary reference temperature for determining liquid densities or adjusting the measured volume of a liquid quantity.~~
3. ~~“Density” means the mass of a unit volume of liquid, expressed as grams per cubic centimeter, kilograms per liter, or pounds per gallon, at a specified temperature.~~
4. ~~“Gravure cylinder” means a printing cylinder with an intaglio image consisting of minute cells or indentations specially engraved or etched into the cylinder’s surface to hold ink when continuously revolved through a fountain of ink.~~
5. ~~“Performance averaging period” means 30 calendar days, one calendar month, or four consecutive weeks as specified in paragraphs of this rule.~~
6. ~~“Proof press” means any device used only to check the quality of the image formation of newly engraved or etched gravure cylinders and prints only nonsaleable items.~~
7. ~~“Publication rotogravure printing press” means any number of rotogravure printing units capable of printing simultaneously on the same continuous web or substrate and includes any associated device for continuously cutting and folding the printed web, where the following saleable paper products are printed:~~
  - (i) ~~Catalogues, including mail order and premium,~~
  - (ii) ~~Direct mail advertisements, including circulars, letters, pamphlets, cards, and printed envelopes,~~
  - (iii) ~~Display advertisements, including general posters, outdoor advertisements, car cards, window posters, counter and floor displays, point-of-purchase, and other printed display material,~~
  - (iv) ~~Magazines,~~
  - (v) ~~Miscellaneous advertisements, including brochures, pamphlets, catalogue sheets, circular folders, announcements, package inserts, book jackets, market circulars, magazine inserts, and shopping news,~~
  - (vi) ~~Newspapers, magazine and comic supplements for newspapers, and preprinted newspaper inserts, including hi-fi and spectacolor rolls and sections,~~
  - (vii) ~~Periodicals, and~~
  - (viii) ~~Telephone and other directories, including business reference services.~~
8. ~~“Raw ink” means all purchased ink.~~
9. ~~“Related coatings” means all non-ink purchased liquids and liquid-solid mixtures containing VOC solvent, usually referred to as extenders or varnishes, that are used at publication rotogravure printing presses.~~
10. ~~“Rotogravure printing unit” means any device designed to print one color ink on one side of a continuous web or substrate using a gravure cylinder.~~
11. ~~“Solvent-borne ink systems” means ink and related coating mixtures whose volatile portion consists essentially of VOC solvent with not more than five weight percent water, as applied to the gravure cylinder.~~
12. ~~“Solvent recovery system” means an air pollution control system by which VOC solvent vapors in air or other gases are captured and directed through a condenser(s) or a vessel(s) containing beds of activated carbon or other adsorbents. For the condensation~~

method, the solvent is recovered directly from the condenser. For the adsorption method, the vapors are adsorbed, then desorbed by steam or other media, and finally condensed and recovered.

13. ~~“VOC” means volatile organic compound.~~

14. ~~“VOC solvent” means an organic liquid or liquid mixture consisting of VOC components.~~

15. ~~“Waterborne ink systems” means ink and related coating mixtures whose volatile portion consists of a mixture of VOC solvent and more than five weight percent water, as applied to the gravure cylinder.~~

(b) ~~Symbols~~

~~DB = the density at the base temperature of VOC solvent used or recovered during one performance averaging period.~~

~~Dci = the density of each color of raw ink and each related coating (i) used at the subject facility (or facilities), at the coating temperature when the volume of coating used is measured.~~

~~Ddi = the density of each VOC solvent (i) added to the ink for dilution at the subject facility (or facilities), at the solvent temperature when the volume of solvent used is measured.~~

~~Dgi = the density of each VOC solvent (i) used as a cleaning agent at the subject facility (or facilities), at the solvent temperature when the volume of cleaning solvent used is measured.~~

~~Dhi = the density of each quantity of water (i) added at the subject facility (or facilities) for dilution of waterborne ink systems at the water temperature when the volume of dilution water used is measured.~~

~~Dmi = the density of each quantity of VOC solvent and miscellaneous solvent-borne waste inks and waste VOC solvents (i) recovered from the subject facility (or facilities), at the solvent temperature when the volume of solvent recovered is measured.~~

~~Doi = the density of the VOC solvent contained in each raw ink and related coating (i) used at the subject facility (or facilities), at the coating temperature when the volume of coating used is measured.~~

~~Dwi = the density of the water contained in each waterborne raw ink and related coating (i) used at the subject facility (or facilities), at the coating temperature when the volume of coating used is measured.~~

~~Lci = the measured liquid volume of each color of raw ink and each related coating (i) used at the facility of a corresponding VOC content,  $V_{oi}$  or  $W_{oi}$ , with a VOC density,  $D_{oi}$ , and a coating density  $D_{ci}$ .~~

~~Ldi = the measured liquid volume of each VOC solvent (i) with corresponding density  $D_{di}$ , added to dilute the ink used at the subject facility (or facilities).~~

~~Lgi = the measured liquid volume of each VOC solvent (i) used as a cleaning agent at the subject facility (or facilities), at the solvent temperature when the volume of cleaning solvent used is measured.~~

~~Lhi = the measured liquid volume of each quantity of water (i) added at the subject facility (or facilities) for dilution of waterborne ink systems at the water temperature when the volume of dilution water used is measured.~~



- ~~L<sub>mi</sub> = the measured liquid volume of each quantity of VOC solvent and miscellaneous solvent-borne waste inks and waste VOC solvents (i) recovered from the subject facility (or facilities), at the solvent temperature when the volume of solvent recovered is measured.~~
- ~~L<sub>o</sub> = the corrected liquid volume of VOC in the raw inks and related coatings used.~~
- ~~L<sub>t</sub> = the total corrected liquid volume of VOC used.~~
- ~~L<sub>r</sub> = the total corrected liquid volume of VOC solvent recovered.~~
- ~~M<sub>ci</sub> = the mass, determined by direct weighing, of each color of raw ink and each related coating (i) used at the subject facility (or facilities).~~
- ~~M<sub>d</sub> = the mass, determined by direct weighing, of VOC solvent added to dilute the ink used at the subject facility (or facilities) during one performance averaging period.~~
- ~~M<sub>g</sub> = the mass, determined by direct weighing, of VOC solvent used as a cleaning agent at the subject facility (or facilities) during one performance averaging period.~~
- ~~M<sub>h</sub> = the mass, determined by direct weighing, of water added for dilution with waterborne ink systems used at the subject facility (or facilities) during one performance averaging period.~~
- ~~M<sub>m</sub> = the mass, determined by direct weighing, of VOC solvent and miscellaneous solvent-borne waste inks and waste VOC solvents recovered from the subject facility (or facilities) during one performance averaging period.~~
- ~~M<sub>o</sub> = the total mass of VOC solvent contained in the raw inks and related coatings used at the subject facility (or facilities) during one performance averaging period.~~
- ~~M<sub>r</sub> = the total mass of VOC solvent recovered from the subject facility (or facilities) during one performance averaging period.~~
- ~~M<sub>t</sub> = the total mass of VOC solvent used at the subject facility (or facilities) during one performance averaging period.~~
- ~~M<sub>v</sub> = the total mass of water used with waterborne ink systems at the subject facility (or facilities) during one performance averaging period.~~
- ~~M<sub>w</sub> = the total mass of water contained in the waterborne raw inks and related coatings used at the subject facility (or facilities) during one performance averaging period.~~
- ~~P = the average VOC emission percentage for the subject facility (or facilities) for one performance averaging period.~~
- ~~P<sub>a</sub> = the average VOC emission percentage for the affected facility.~~
- ~~P<sub>b</sub> = the average VOC emission percentage for both affected and existing facilities controlled in common by the same air pollution control equipment.~~
- ~~P<sub>e</sub> = the average VOC emission percentage for the existing facility.~~
- ~~P<sub>f</sub> = the average VOC emission percentage for all affected and existing facilities located within the same plant boundary.~~
- ~~V<sub>oi</sub> = the liquid VOC content, expressed as a volume fraction of VOC volume per total volume of coating, of each color of raw ink and related coating (i) used at the subject facility (or facilities).~~
- ~~V<sub>wi</sub> = the water content, expressed as a volume fraction of water volume per total volume~~

~~of coating, of each color of waterborne raw ink and related coating (i) used at the subject facility (or facilities).~~

~~Woi = the VOC content, expressed as a weight fraction of mass of VOC per total mass of coating, of each color of raw ink and related coating (i) used at the subject facility (or facilities).~~

~~Wwi = the water content, expressed as a weight fraction of mass of water per total mass of coating, of each color of waterborne raw ink and related coating (i) used at the subject facility (or facilities).~~

~~(c) Subscripts~~

~~a = affected facility.~~

~~b = both affected and existing facilities controlled in common by the same air pollution control equipment.~~

~~e = existing facility.~~

~~f = all affected and existing facilities located within the same plant boundary.~~

~~(3) Standard for volatile organic compounds~~

~~During the period of the performance test required to be conducted by 1200-3-16-.01(5) and after the date required for completion of the test, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility VOC equal to more than 16 percent of the total mass of VOC solvent and water used at that facility during any one performance averaging period. The water used includes only that water contained in the waterborne raw inks and related coatings and the water added for dilution with waterborne ink systems.~~

~~(4) Performance test and compliance provisions~~

~~(a) The owner or operator of any affected facility (or facilities) shall conduct performance tests in accordance with 1200-3-16-.01(5) under the following conditions:~~

~~1. The performance averaging period for each test is 30 consecutive calendar days and not an average of three separate runs as prescribed under subparagraph 1200-3-16-.01(5)(f).~~

~~2. Except as provided under subparagraphs (f) and (g) of this paragraph, if affected facilities routinely share the same raw ink storage/handling system with existing facilities, then temporary measurement procedures for segregating the raw inks, related coatings, VOC solvent, and water used at the affected facilities must be employed during the test. For this case, an overall emission percentage for the combined facilities as well as for only the affected facilities must be calculated during the test.~~

~~3. For the purpose of measuring bulk storage tank quantities of each color of raw ink and each related coating used, the owner or operator of any affected facility shall install, calibrate, maintain, and continuously operate during the test one or more:~~

~~(i) Non-resettable totalizer metering device(s) for indicating the cumulative liquid volume used at each affected facility; or~~

~~(ii) Segregated storage tanks for each affected facility to allow determination of the liquid quantities used by measuring devices other than the press meters required under subpart (i) of this part; or~~

~~(iii) Storage tanks to serve more than one facility with the liquid quantities used determined by measuring devices other than press meters, if facilities are combined as described under subparagraph (d), (f) or (g) of this paragraph.~~

- ~~4. The owner or operator may choose to install an automatic temperature compensator with any liquid metering device used to measure the raw inks, related coatings, water or VOC solvent used, or VOC solvent recovered.~~
  - ~~5. Records of the measured amounts used at the affected facility and the liquid temperature at which the amounts were measured are maintained for each shipment of all purchased material or on at least a weekly basis for:
 
    - ~~(i) The raw inks and related coatings used;~~
    - ~~(ii) The VOC and water content of each raw ink and related coatings used as determined according to paragraph (6) of this rule;~~
    - ~~(iii) The VOC solvent and water added to the inks used;~~
    - ~~(iv) The VOC solvent used as a cleaning agent; and~~
    - ~~(v) The VOC solvent recovered.~~~~
  - ~~6. The density variations with temperature of the raw inks, related coatings, VOC solvents used, and VOC solvent recovered are determined by the methods stipulated in subparagraph (6)(d) of this rule.~~
  - ~~7. The calculated emission percentage may be reported as rounded-off to the nearest whole number.~~
  - ~~8. Printing press startups and shutdowns are not included in the exemption provisions under 1200-3-16-.01(5)(c). Frequent periods of press startups and shutdowns are normal operations and constitute representative conditions for the purpose of a performance test.~~
- ~~(b) If an affected facility uses waterborne ink systems or a combination of waterborne and solvent-borne ink systems with a solvent recovery system, compliance is determined by the following procedures, except as provided in subparagraphs (d), (e), (f), and (g) of this paragraph.~~
- ~~1. The mass of VOC in the solvent-borne and waterborne raw inks and related coatings used is determined by the following equation:~~

$$\underline{(M_o)_a = \sum_{i=1}^k (M_{ci})_a (W_{oi})_a + \sum_{i=1}^m (L_{ci})_a (D_{ci})_a (W_{oi})_a + \sum_{i=1}^n (L_{ci})_a (V_{oi})_a (D_{oi})_a}$$

~~Where:~~

~~k is the total number of raw inks and related coatings measured as used in direct mass quantities with different amounts of VOC content.~~

~~m is the total number of raw inks and related coatings measured as used by volume with different amounts of VOC content or different densities.~~

~~n is the total number of raw inks and related coatings measured as used by volume with different amounts of VOC content or different VOC solvent densities.~~

- ~~2. The total mass of VOC used is determined by the following equation:~~

$$\underline{(M_t)_a = (M_o)_a + \sum_{i=1}^m (L_{di})_a (D_{di})_a + (M_d)_a + \sum_{i=1}^n (L_{gi})_a (D_{gi})_a + (M_g)_a}$$

~~Where "m" and "n" are the respective total numbers of VOC dilution and cleaning solvents measured as used by volume with different densities.~~

3. ~~The mass of water in the waterborne raw inks and related coatings used is determined by the following equation:~~

$$\underline{(M_w)_a = \sum_{i=1}^k (M_{ci})_a (W_{wi})_a + \sum_{i=1}^m (L_{ci})_a (D_{ci})_a (W_{wi})_a + \sum_{i=1}^n (L_{ci})_a (V_{wi})_a (D_{wi})_a}$$

~~k is the total number of raw inks and related coatings measured as used in direct mass quantities with different amounts of water content.~~

~~m is the total number of raw inks and related coatings measured as used by volume with different amounts of water content or different densities.~~

~~n is the total number of raw inks and related coatings measured as used by volume with different amounts of water content or different water densities.~~

4. ~~The total mass of water used is determined by the following equation:~~

$$\underline{(M_v)_a = (M_w)_a + (M_h)_a + \sum_{i=1}^m (L_{hi})_a (D_{hi})_a}$$

~~Where "m" is the total number of water dilution additions measured as used by volume with different densities.~~

5. ~~The total mass of VOC solvent recovered is determined by the following equation:~~

$$\underline{(M_r)_a = (M_m)_a + \sum_{i=1}^k (L_{mi})_a (D_{mi})_a}$$

~~Where "k" is the total number of VOC solvents, miscellaneous solvent borne waste inks, and waste VOC solvents measured as recovered by volume with different densities.~~

6. ~~The average VOC emission percentage for the affected facility is determined by the following equation:~~

$$\underline{P_a = \left[ \frac{((M_t)_a - (M_r)_a)}{((M_t)_a + (M_v)_a)} \right] \times 100}$$

- (c) ~~If an affected facility controlled by a solvent recovery system uses only solvent-borne ink systems, the owner or operator may choose to determine compliance on a direct mass or a density-corrected liquid volume basis. Except as provided in subparagraphs (d), (e), (f) and (g) of this paragraph, compliance is determined as follows:~~

1. ~~On a direct mass basis, compliance is determined according to subparagraph (b) of this paragraph, except that the water term, Mv, does not apply.~~

2. ~~On a density-corrected liquid volume basis, compliance is determined by the following procedures:~~

(i) ~~A base temperature corresponding to that for the largest individual amount of VOC solvent used or recovered from the affected facility, or other reference temperature, is chosen by the owner or operator.~~

(ii) ~~The corrected liquid volume of VOC in the raw inks and related coatings used is determined by the following equation:~~

$$(L_o)_a = \sum_{i=1}^k \frac{(M_{ci})_a (W_{oi})_a}{DB} + \sum_{i=1}^m \frac{(L_{ci})_a (D_{ci})_a (W_{oi})_a}{DB} + \sum_{i=1}^n \frac{(L_{ci})_a (V_{oi})_a (D_{oi})_a}{DB}$$

Where:

~~k is the total number of raw inks and related coatings measured as used in direct mass quantities with different amounts of VOC content.~~

~~m is the total number of raw inks and related coatings measured as used by volume with different amounts of VOC content or different densities.~~

~~n is the total number of raw inks and related coatings measured as used by volume with different amounts of VOC content or different VOC solvent densities.~~

~~(iii) The total corrected liquid volume of VOC used is determined by the following equation:~~

$$(L_t)_a = (L_o)_a + \sum_{i=1}^m \frac{(L_{di})_a (D_{di})_a}{DB} + \frac{(M_d)_a}{DB} + \sum_{i=1}^n \frac{(L_{gi})_a (D_{gi})_a}{DB} + \frac{(M_g)_a}{DB}$$

~~Where "m" and "n" are the respective total numbers of VOC dilution and cleaning solvents measured as used by volume with different densities.~~

~~(iv) The total corrected liquid volume of VOC solvent recovered is determined by the following equation:~~

$$(L_r)_a = \frac{(M_m)_a}{DB} + \sum_{i=1}^k \frac{(L_{mi})_a (D_{mi})_a}{DB}$$

~~Where "k" is the total number of VOC solvents, miscellaneous solvent-borne waste inks, and waste VOC solvents measured as recovered by volume with different densities.~~

~~(v) The average VOC emission percentage for the affected facility is determined by the following equation:~~

$$Pe = \frac{(L_t)e - (L_r)e}{(L_t)e} \times 100$$

~~(d) If two or more affected facilities are controlled by the same solvent recovery system, compliance is determined by the procedures specified in subparagraph (b) or (c) of this paragraph, whichever applies, except that (L<sub>t</sub>)<sub>a</sub> and (L<sub>r</sub>)<sub>a</sub>, (M<sub>t</sub>)<sub>a</sub>, (M<sub>r</sub>)<sub>a</sub>, and (M<sub>v</sub>)<sub>a</sub>, are the collective amounts of VOC solvent and water corresponding to all the affected facilities controlled by that solvent recovery system. The average VOC emission percentage for each of the affected facilities controlled by that same solvent recovery system is assumed to be equal.~~

~~(e) Except as provided under subparagraph (f) of this paragraph, if an existing facility (or facilities) and an affected facility (or facilities) are controlled in common by the same solvent recovery system, the owner or operator shall determine compliance by conducting a separate emission test on the existing facility (or facilities) and then conducting a performance test on the combined facilities as follows:~~

~~1. Before the initial startup of the affected facility (or facilities) and at any other time as requested by the Technical Secretary, the owner or operator shall conduct emission test(s) on the existing facility (or facilities) controlled by the subject solvent recovery system. The solvent recovery system must handle VOC emissions from only the subject existing facility (or facilities), not from affected facilities, during the emission test.~~

~~2. During the emission test, the affected facilities are subject to the standard stated in~~

paragraph (3) of this rule.

- ~~3. The emission test is conducted over a 30 consecutive calendar day averaging period according to the conditions stipulated in parts (a)1 through (a)5 of this paragraph except that the conditions pertain to only existing facilities instead of affected facilities.~~
- ~~4. The owner or operator of the existing facility (or facilities) shall provide the Technical Secretary at least 30 days prior notice of the emission test to afford the Technical Secretary the opportunity to have an observer present.~~
- ~~5. The emission percentage for the existing facility (or facilities) during the emission test is determined by one of the following procedures:
  - ~~(i) If the existing facility (or facilities) uses a combination of waterborne and solvent-borne ink systems, the average VOC emission percentage must be determined on a direct mass basis according to subparagraph (b) or (d) of this paragraph, whichever applies, with the following equation:~~~~

$$Pe = \frac{(Mt)e - (Mr)e}{(Mt)e + (Mv)e} \times 100$$

~~where the water and VOC solvent amounts pertain to only existing facilities.~~

- ~~(ii) If the existing facility (or facilities) uses only solvent-borne ink systems, the owner or operator may choose to determine the emission percentage either on a direct mass basis or a density-corrected liquid volume basis according to subparagraph (c) or (d) of this paragraph, whichever applies. On a direct mass basis, the average VOC emission percentage is determined by the equation presented in subpart (i) of this part. On a density-corrected liquid volume basis, the average VOC emission percentage is determined by the following equation:~~

$$Pa = \frac{(Lt)a - (Lr)a}{(Lt)a} \times 100$$

~~where the VOC solvent amounts pertain to only existing facilities.~~

- ~~6. The owner or operator of the existing facility (or facilities) shall furnish the Technical Secretary a written report of the results of the emission test.~~
- ~~7. After completion of the separate emission test on the existing facility (or facilities), the owner or operator shall conduct performance test(s) on the combined facilities with the solvent recovery system handling VOC emissions from both the existing and affected facilities.~~
- ~~8. During performance test(s), the emission percentage for the existing facility (or facilities),  $Pe$ , is assumed to be equal to that determined in the latest emission test. The Technical Secretary may request additional emission tests if any physical or operational changes occur to any of the subject existing facilities.~~
- ~~9. The emission percentage for the affected facility (or facilities) during performance test(s) with both existing and affected facilities connected to the solvent recovery system is determined by one of the following procedures:
  - ~~(i) If any of the combined facilities uses both waterborne and solvent-borne ink systems, the average VOC emission percentage must be determined on a direct mass basis according to subparagraph (b) or (d) of this paragraph, whichever applies, with the following equation:~~~~

$$Pa = \frac{(Mt)b - (Mr)b - \frac{(Pe)}{100} ((Mt)e + (Mv)e)}{((Mt)b - (Mr)b)} \times 100$$

$$(Mt)a + (Mv)a$$

where (Mt)a and (Mr)b are the collective VOC solvent amounts pertaining to all the combined facilities.

- (ii) ~~If all of the combined facilities use only solvent-borne ink systems, the owner or operator may choose to determine performance of the affected facility (or facilities) either on a direct mass basis or a density-corrected liquid volume basis according to subparagraph (c) or (d) of this paragraph, whichever applies. On a direct mass basis, the average VOC emission percentage is determined by the equation presented in subpart (i) of this part. On a density-corrected liquid volume basis, the average VOC emission percentage is determined by the following equation:~~

$$Pa = \frac{(Lt)b - (Lr)e - (Pe)}{(Lt)a} \times 100$$

where (Lt)b and (Lr)b are the collective VOC solvent amounts pertaining to all the combined facilities.

- (f) ~~The owner or operator may choose to show compliance of the combined performance of existing and affected facilities controlled in common by the same solvent recovery system. A separate emission test for existing facilities is not required for this option. The combined performance is determined by one of the following procedures:~~

1. ~~If any of the combined facilities uses both waterborne and solvent-borne ink systems, the combined average VOC emission percentage must be determined on a direct mass basis according to subparagraph (b) or (d) of this paragraph, whichever applies, with the following equation:~~

$$Pb = \frac{(Mt)b + (Mr)b}{(Mt)b + (Mv)b} \times 100$$

2. ~~If all of the combined facilities use only solvent-borne ink systems, the owner or operator may choose to determine performance either on a direct mass basis or a density-corrected liquid volume basis according to subparagraph (c) or (d) of this paragraph, whichever applies. On a direct mass basis, the average VOC emission percentage is determined by the equation presented in part 1 of this subparagraph. On a density-corrected liquid volume basis, the average VOC emission percentage is determined by the following equation:~~

$$Pb = \frac{(Lt)b - (Lr)b}{(Lt)b} \times 100$$

- (g) ~~If all existing and affected facilities located within the same plant boundary use waterborne ink systems or solvent-borne ink systems with solvent recovery systems, the owner or operator may choose to show compliance on a plantwide basis for all the existing and affected facilities together. No separate emission tests on existing facilities and no temporary segregated liquid measurement procedures for affected facilities are required for this option. The plantwide performance is determined by one of the following procedures:~~

1. ~~If any of the facilities use waterborne ink systems, the total plant average VOC emission percentage must be determined on a direct mass basis according to subparagraph (b) of this paragraph with the following equation:~~

$$Pf = \frac{(Mt)f - (Mr)a - (Mr)e - (Mr)b}{(Mt)f + (Mv)f} \times 100$$

where (Mt)f and (Mv)f are the collective VOC solvent and water amounts used at all the subject plant facilities during the performance test.

- ~~2. If all of the plant facilities use only solvent-borne ink systems, the owner or operator may choose to determine performance either on a direct mass basis or a density-corrected liquid volume basis according to subparagraph (c) of this paragraph. On a direct mass basis, the total plant average VOC emission percentage is determined by the equation presented in part 1 of this subparagraph. On a density-corrected liquid volume basis, the total plant average VOC emission percentage is determined by the following equation:~~

$$Pf = \frac{\cancel{(Lt)f} - \cancel{(Lr)a} - \cancel{(Lr)e} - \cancel{(Lr)b}}{\cancel{(Lt)f}} \times 100$$

~~Where (Lt)f is the collective VOC solvent amount used at all the subject plant facilities during the performance test.~~

~~(5) Monitoring of operations and recordkeeping~~

- ~~(a) After completion of the performance test required under 1200-3-16-.01(5), the owner or operator of any affected facility using waterborne ink systems or solvent-borne ink systems with solvent recovery systems shall record the amount of solvent and water used, solvent recovered, and estimated emission percentage for each performance averaging period and shall maintain these records for 2 years. The emission percentage is estimated as follows:~~

- ~~1. The performance averaging period for monitoring of proper operation and maintenance is a calendar month or 4 consecutive weeks, at the option of the owner or operator.~~
- ~~2. If affected facilities share the same raw ink storage/handling system with existing facilities, solvent and water used, solvent recovered, and emission percentages for the combined facilities may be documented. Separate emission percentages for only the affected facilities are not required in this case. The combined emission percentage is compared to the overall average for the existing and affected facilities' emission percentage determined during the most recent performance test.~~
- ~~3. Except as provided in part 4 of this subparagraph, temperatures and liquid densities determined during the most recent performance test are used to calculate corrected volumes and mass quantities.~~
- ~~4. The owner or operator may choose to measure temperatures for determination of actual liquid densities during each performance averaging period. A different base temperature may be used for each performance averaging period if desired by the owner or operator.~~
- ~~5. The emission percentage is calculated according to the procedures under subparagraphs (4)(b) through (g) of this rule, whichever applies, or by a comparable calculation which compares the total solvent recovered to the total solvent used at the affected facility.~~

~~(6) Test methods and procedures~~

- ~~(a) The owner or operator of any affected facility using solvent-borne ink systems shall determine the VOC content of the raw inks and related coatings used at the affected facility by:~~
- ~~1. Analysis using Reference Method 24A, of routine weekly samples of raw ink and related coatings in each respective storage tank; or~~
  - ~~2. Analysis using Reference Method 24A of samples of each shipment of all purchased raw inks and related coatings; or~~
  - ~~3. Determination of the VOC content from the formulation data supplied by the ink manufacturer with each shipment of raw inks and related coatings used.~~
- ~~(b) The owner or operator of any affected facility using solvent-borne ink systems shall use the results of verification analyses by Reference Method 24A to determine compliance when discrepancies with ink manufacturer's formulation data occur.~~



- ~~(c) The owner or operator of any affected facility using waterborne ink systems shall determine the VOC and water content of raw inks and related coatings used at the facility by:~~
- ~~1. Determination of the VOC and water content from the formulation data supplied by the ink manufacturer with each shipment of purchased raw inks and related coatings used; or~~
  - ~~2. Analysis of samples of each shipment of purchased raw inks and related coatings using a test method approved by the Technical Secretary in accordance with 1200-3-16-.01(5)(b).~~
- ~~(d) The owner or operator of any affected facility shall determine the density of raw inks, related coatings, and VOC solvents by:~~
- ~~1. Making a total of three determinations for each liquid sample at specified temperatures using the procedure outlined in ASTM D 1475-60 (Reapproved 1980). It is available from the American Society of Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103 or by writing to the Tennessee Division of Air Pollution Control, 4th Floor, Customs House, 701 Broadway, Nashville, Tennessee 37219. Be sure and specify which method is desired. The temperature and density is recorded as the arithmetic average of three determinations; or~~
  - ~~2. Using literature values, at specified temperatures, acceptable to the Technical Secretary.~~
- ~~(e) If compliance is determined according to subparagraph (4)(e), (f), or (g) of this rule, the existing as well as affected facilities are subject to the requirements of subparagraphs (a) through (d) of this paragraph.~~

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

#### ~~1200-03-16-.40 Beverage Can Surface Coating~~

##### ~~(1) Applicability~~

- ~~(a) The provisions of this rule apply to the following affected facilities in beverage can surface coating lines: each exterior base coat operation, each overvarnish coating operation, and each inside spray coating operation.~~
- ~~(b) The provisions of this rule apply to each affected facility which is identified in subparagraph (a) of this paragraph and commences construction, modification, or reconstruction after November 6, 1988.~~

##### ~~(2) Definitions and Symbols~~

###### ~~(a) Definitions~~

- ~~1. "Beverage can" means any two-piece steel or aluminum container in which soft drinks or beer, including malt liquor, are packaged. The definition does not include containers in which fruit or vegetable juices are packaged.~~
- ~~2. "Exterior base coating operation" means the system on each beverage can surface coating line used to apply a coating to the exterior of a two-piece beverage can body. The exterior base coat provides corrosion resistance and a background for lithography or printing operations. The exterior base coat operation consists of the coating application station, flashoff area, and curing oven. The exterior base coat may be pigmented or clear (unpigmented).~~
- ~~3. "Inside spray coating operating" means the system on each beverage can surface coating line used to apply a coating to the interior of a two-piece beverage can body. This coating provides a protective film between the contents of the beverage can and the metal can body. The inside spray coating operation consists of the coating application station, flashoff area, and curing oven. Multiple applications of an inside spray coating are considered to~~

be a single coating operation.

4. ~~“Overvarnish coating operation” means the system on each beverage can surface coating line used to apply a coating over ink which reduces friction for automated beverage can filling equipment, provides gloss, and protects the finished beverage can body from abrasion and corrosion. The overvarnish coating is applied to two-piece beverage can bodies. The overvarnish coating operation consists of the coating application station, flashoff area, and curing oven.~~
5. ~~“Two-piece can” means any beverage can that consists of a body manufactured from a single piece of steel or aluminum and a top. Coatings for a two-piece can are usually applied after fabrication of the can body.~~
6. ~~“VOC content” means all volatile organic compounds (VOC) that are in a coating. VOC content is expressed in terms of kilograms of VOC per litre of coating solids.~~

~~(b) Symbols~~

- ~~Ca = the VOC concentration in each gas stream leaving the control device and entering the atmosphere (parts per million as carbon)~~
- ~~Cb = the VOC concentration in each gas stream entering the control device (parts per million as carbon)~~
- ~~Dc = density of each coating, as received (kilograms per litre)~~
- ~~Dd = density of each VOC solvent added to coatings (kilogram per litre)~~
- ~~Dr = density of VOC solvent recovered by an emission control device (kilograms per litre)~~
- ~~E = VOC destruction efficiency of the control device (fraction)~~
- ~~F = the proportion of total VOC emitted by an affected facility which enters the control device to total emissions (fraction)~~
- ~~G = the volume-weighted average of VOC in coatings consumed in a calendar month per volume of coating solids applied (kilograms per litre of coating solids)~~
- ~~He = the fraction of VOC emitted at the coater and flashoff areas captured by a collection system~~
- ~~Hh = the fraction of VOC emitted at the cure oven captured by a collection system~~
- ~~Lc = the volume of each coating consumed, as received (litres)~~
- ~~Ld = the volume of each VOC solvent added to coatings (litres)~~
- ~~Lr = the volume of VOC solvent recovered by an emission control device (litres)~~
- ~~Ls = the volume of coating solids consumed (litres)~~
- ~~Md = the mass of VOC solvent added to coatings (kilograms)~~
- ~~Mo = the mass of VOC solvent in coatings consumed, as received (kilograms)~~
- ~~Mr = the mass of VOC solvent recovered by emission control device (kilograms)~~
- ~~N = the volume-weighted average mass of VOC emissions to atmosphere per unit volume of coating solids applied (kilograms per litre of coating solids)~~

~~Qa = the volumetric flow rate of each gas stream leaving the control device and entering the atmosphere (dry standard cubic meters per hour)~~

~~Qb = the volumetric flow of each gas stream entering the control device (dry standard cubic meters per hour)~~

~~R = the overall emission reduction efficiency for an affected facility (fraction)~~

~~Se = the fraction of VOC in coating and diluent VOC solvent emitted at the coater and flashoff area for a coating operation~~

~~Sh = the fraction of VOC in coating and diluent solvent emitted at the cure oven for a coating operation~~

~~Vs = the proportion of solids in each coating, as received (fraction by volume)~~

~~Wo = the proportion of VOC in each coating, as received (fraction by weight).~~

~~(3) Standards for volatile organic compounds~~

~~On or after the date on which the initial performance test required by 1200-3-16-.01(5)(a) is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge of VOC emissions to the atmosphere that exceed the following volume-weighted calendar-month average emissions:~~

~~(a) 0.29 kilogram of VOC per litre of coating solids from each two-piece can exterior base coating operation, except clear base coat;~~

~~(b) 0.46 kilogram of VOC per litre of coating solids from each two-piece can clear base coating operation and from each overvarnish coating operation; and~~

~~(c) 0.89 kilogram of VOC per litre of coating solids from each two-piece can inside spray coating operation.~~

~~(4) Performance test and compliance provisions~~

~~(a) 1200-3-16-.01(5)(d) does not apply to monthly performance tests and 1200-3-16-.01(5)(f) does not apply to the performance test procedures required by this rule.~~

~~(b) The owner or operator of an affected facility shall conduct an initial performance test as required under 1200-3-16-.01(5)(a) and thereafter a performance test each calendar month for each affected facility.~~

~~1. The owner or operator shall use the following procedures for each affected facility that does not use a capture system and a control device to comply with the emission limit specified under paragraph (3) of this rule. The owner or operator shall determine the VOC content of the coatings from formulation data supplied by the manufacturer of the coating or by an analysis of each coating, as received, using Reference Method 24 (as specified in rule 1200-3-16-.01(5)(g)24). The Technical Secretary may require the owner or operator who uses formulation data supplied by the manufacturer of the coating to determine the VOC content of coatings using Reference Method 24 or an equivalent or alternative method. The owner or operator shall determine from company records the volume of coating and the mass of VOC solvent added to coatings. If a common coating distribution system serves more than one affected facility or serves both affected and existing facilities, the owner or operator shall estimate the volume of coating used at each facility by using the average dry weight of coating, number of cans, and size of cans being processed by each affected and existing facility or by other procedures acceptable to the Technical Secretary.~~

~~(i) Calculate the volume-weighted average of the total mass of VOC per volume of coating solids used during the calendar month for each affected facility, except as provided under subpart (iv) of this part. The volume-weighted average of the total~~

~~mass of VOC per volume of coating solids used each calendar month will be determined by the following procedures.~~

- ~~(I) Calculate the mass of VOC used ( $M_o + M_d$ ) during the calendar month for the affected facility by the following equation:~~

$$\underline{M_o + M_d = \sum_{i=1}^n L_{ci} D_{ci} W_{oi} + \sum_{j=1}^m L_{dj} D_{dj}} \quad \text{Equation (1)}$$

~~(Sum  $L_{dj} D_{dj}$  will be 0 if no VOC solvent is added to the coatings, as received.) where n is the number of different coatings used during the calendar month and m is the number of different diluent VOC solvents used during the calendar month.~~

- ~~(II) Calculate the total volume of coating solids used ( $L_s$ ) in the calendar month for the affected facility by the following equation:~~

$$\underline{L_s = \sum_{i=1}^n L_{ci} V_{si}} \quad \text{Equation (2)}$$

~~where n is the number of different coatings used during the calendar month.~~

- ~~(III) Calculate the volume-weighted average mass of VOC per volume of solids used ( $G$ ) during the calendar month for the affected facility by the following equation:~~

$$\underline{G = \frac{M_o + M_d}{L_s}} \quad \text{Equation (3)}$$

- ~~(ii) Calculate the volume-weighted average of VOC emissions discharged to the atmosphere ( $N$ ) during the calendar month for the affected facility by the following equation:~~

$$\underline{N = G} \quad \text{Equation (4)}$$

- ~~(iii) Where the value of the volume-weighted average of mass of VOC per volume of solids discharged to the atmosphere ( $N$ ) is equal to or less than the applicable emission limit specified under paragraph (3) of this rule, the affected facility is in compliance.~~

- ~~(iv) If each individual coating used by an affected facility has a VOC content equal to or less than the limit specified in paragraph (3) of this rule, the affected facility is in compliance provided no VOC solvents are added to the coating during distribution or application.~~

- ~~2. An owner or operator shall use the following procedures for each affected facility that uses a capture system and control device that destroys VOC (e.g., incinerator) to comply with emissions limit specified in paragraph (3) of this rule.~~

- ~~(i) Determine the overall reduction efficiency ( $R$ ) for the capture system and control device.~~

~~For the initial performance test, the overall reduction efficiency ( $R$ ) shall be determined as prescribed in items (I), (II), and (III) below. In subsequent months, the owner or operator may use the most recently determined overall reduction efficiency for the performance test providing control device and capture system operating conditions have not changed. The procedure in items (I), (II) and (III) below, shall be repeated when directed by the Technical Secretary or when the~~

~~owner or operator elects to operate the control device or capture system at conditions different from the initial performance test.~~

- ~~(I) Determine the fraction (F) of total VOC used by the affected facility that enters the control device using the following equation:~~

$$F = \frac{Se}{He} + \frac{Sh}{Hh} \text{ Equation (5)}$$

~~where He and Hh shall be determined by a method that has been previously approved by the Technical Secretary. The owner or operator may use the values of Se and Sh specified in Table 1 or other values determined by a method that has been previously approved by the Technical Secretary.~~

~~Table 1. — Distribution of VOC Emissions~~

| Coating operation                | Emission distribution            |      |
|----------------------------------|----------------------------------|------|
|                                  | Coater/Curing flashoff oven (Se) | (Sh) |
| Two-piece aluminum or steel can: |                                  |      |
| Exterior base coat operation     | 0.75                             | 0.25 |
| Overvarnish coating operation    | 0.75                             | 0.25 |
| Inside spray coating operation   | 0.80                             | 0.20 |

- ~~(II) Determine the destruction efficiency of the control device (E) using values of the volumetric flow rate of each of the gas streams and the VOC content (as carbon) of each of the gas streams in and out of the device by the following equation:~~

$$E = \frac{\sum_{i=1}^n Q_{bi} C_{bi} - \sum_{j=1}^m Q_{aj} C_{aj}}{\sum_{i=1}^n Q_{bi} C_{bi}} \text{ Equation (6)}$$

~~where n is the number of vents before the control device, and m is the number of vents after the control device.~~

- ~~(III) Determine overall reduction efficiency (R) using the following equation:~~

$$R = EF \text{ Equation (7)}$$

- ~~(ii) Calculate the volume-weighted average of the total mass of VOC per volume of coating solids (G) used during the calendar month for the affected facility using equations (1), (2) and (3).~~

- ~~(iii) Calculate the volume-weighted average of VOC emissions discharged to the atmosphere (N) during the calendar month by the following equation:~~

$$N = G \times (1 - R) \text{ Equation (8)}$$

- ~~(iv) If the volume-weighted average of mass of VOC emitted to the atmosphere for the calendar month (N) is equal to or less than the applicable emission limit specified in paragraph (3) of this rule, the affected facility is in compliance.~~

~~3. An owner or operator shall use the following procedure for each affected facility that uses a capture system and a control device that recovers the VOC (e.g., carbon adsorber) to comply with the applicable emission limit specified in paragraph (3) of this rule.~~

- ~~(i) Calculate the volume-weighted average of the total mass of VOC per unit volume of coating solids applied (G) used during the calendar month for the affected facility using equations (1), (2) and (3).~~

- ~~(ii) Calculate the total mass of VOC recovered (Mr) during each calendar month using the following equation:~~

$$\text{Mr} = \text{Lr} \text{ Dr} \quad \text{Equation (9)}$$

- ~~(iii) Calculate overall reduction efficiency of the control device (R) for the calendar month for the affected facility using the following equation:~~

$$R = \frac{\text{Mr}}{\text{Mo} + \text{Md}} \quad \text{Equation (10)}$$

- ~~(iv) Calculate the volume-weighted average mass of VOC discharged to the atmosphere (N) for the calendar month for the affected facility using equation (8).~~

- ~~(v) If the weighted average of VOC emitted to the atmosphere for the calendar month (N) is equal to or less than the applicable emission limit specified in paragraph (3) of this rule, the affected facility is in compliance.~~

~~(5) Monitoring of emissions and operations~~

~~The owner or operator of an affected facility that uses a capture system and an incinerator to comply with the emission limits specified under paragraph (3) of this rule shall install, calibrate, maintain, and operate temperature measurement devices as prescribed below.~~

- ~~(a) Where thermal incineration is used, a temperature measurement device shall be installed in the firebox. Where catalytic incineration is used, temperature measurement devices shall be installed in the gas stream immediately before and after the catalyst bed.~~
- ~~(b) Each temperature measurement device shall be installed, calibrated, and maintained according to the manufacturer's specifications. This device shall have an accuracy the greater of  $\pm 0.75$  percent of the temperature being measured expressed in degrees Celsius or  $\pm 2.5^\circ\text{C}$ .~~
- ~~(c) Each temperature measurement device shall be equipped with a recording device so that a permanent continuous record is produced.~~

~~(6) Reporting and recordkeeping requirements~~

- ~~(a) The owner or operator of an affected facility shall include the following data in the initial compliance report required under rule 1200-3-16-.01(5)(a).~~
- ~~1. Where only coatings which individually have a VOC content equal to or less than the limits specified in paragraph (3) of this rule are used, and no VOC is added to the coating during the application or distribution process, the owner or operator shall provide a list of the coatings used for each affected facility and the VOC content of each coating calculated from data determined using either Reference Method 24 (as specified in 1200-3-16-.01(5)(g)24) or data supplied by the manufacturer of the coatings.~~
  - ~~2. Where one or more coatings which individually have a VOC content greater than the limits specified under paragraph (3) of this rule are used or where VOC are added or used in the coating process, the owner or operator shall report for each affected facility the volume-weighted average of the total mass of VOC per volume of coating solids.~~
  - ~~3. Where compliance is achieved through the use of incineration, the owner or operator shall include in the initial performance test required under 1200-3-16-.01(5)(a) the combustion temperature (or the gas temperature upstream and downstream of the catalyst bed), the total mass of VOC per volume of coating solids before and after the incinerator, capture efficiency, and the destruction efficiency of the incinerator used to attain compliance with the applicable emission limit specified under paragraph (3) of this rule. The owner or operator shall also include a description of the method used to establish the amount of VOC captured by the capture system and sent to the control device.~~

~~(b) Following the initial performance test, each owner or operator shall submit for each semiannual period ending June 30 and December 31 a written report to the Technical Secretary of exceedances of VOC content and incinerator operating temperatures when compliance with paragraph (3) of this rule is achieved through the use of incineration. All semiannual reports shall be postmarked by the 30th day following the end of each semiannual period. For the purposes of these reports, exceedances are defined as:~~

- ~~1. Each performance period in which the volume-weighted average of the total mass of VOC per volume of coating solids, after the control device, if capture devices and control systems are used, is greater than the limit specified under paragraph (3) of this rule.~~
- ~~2. Where compliance with paragraph (3) of this rule is achieved through the use of thermal incineration, each 3-hour period when cans are processed, during which the average temperature of the device was more than 28°C below the average temperature of the device during the most recent performance test at which destruction efficiency was determined as specified under paragraph (4) of this rule.~~
- ~~3. Where compliance with paragraph (3) of this rule is achieved through the use of catalytic incineration, each 3-hour period when cans are being processed during which the average temperature of the device immediately before the catalyst bed is more than 28°C below the average temperature of the device immediately before the catalyst bed during the most recent performance test at which destruction efficiency was determined as specified under paragraph (4) of this rule and all 3-hour periods, when cans are being processed, during which the average temperature difference across the catalyst bed is less than 80 percent of the average temperature difference across the catalyst bed during the most recent performance test at which destruction efficiency was determined as specified under paragraph (4) of this rule.~~

~~(c) Each owner or operator subject to the provisions of this rule shall maintain at the source, for a period of at least 2 years, records of all data and calculations used to determine VOC emissions from each affected facility in the initial and monthly performance tests. Where compliance is achieved through the use of thermal incineration, each owner or operator shall maintain, at the source, daily records of the incinerator combustion chamber temperature. If catalytic incineration is used, the owner or operator shall maintain at the source daily records of the gas temperature, both upstream and downstream of the incinerator catalyst bed. Where compliance is achieved through the use of a solvent recovery system, the owner or operator shall maintain at the source daily records of the amount of solvent recovered by the system for each affected facility.~~

~~(7) Test methods and procedures~~

~~(a) The reference methods in 1200-3-16-.01(5)(g) except as provided in 1200-3-16-.01(5)(b), shall be used to conduct performance tests.~~

- ~~1. Reference Method 24 (as specified in 1200-3-16-.01(5)(g)24), an equivalent or alternative method approved by the Technical Secretary, or manufacturers formulation for data from which the VOC content of the coatings used for each affected facility can be calculated. In the event of dispute, Reference Method 24 shall be the reference method. When VOC content of waterborne coatings, determined from data generated by Reference Method 24, is used to determine compliance of affected facilities, the results of the Method 24 analysis shall be adjusted as described in Section 4.4 of Method 24.~~
- ~~2. Reference Method 25 or an equivalent or alternative method for the determination of the VOC concentration in the effluent gas entering and leaving the control device for each stack equipped with an emission control device. The owner or operation shall notify the Technical Secretary 30 days in advance of any test using Reference Method 25. The following reference methods are to be used in conjunction with Reference Method 25:
  - ~~(i) Method 1 for sample and velocity traverses,~~
  - ~~(ii) Method 2 for velocity and volumetric flow rate,~~~~

- ~~(iii) — Method 3 for gas analysis, and~~
- ~~(iv) — Method 4 for stack gas moisture.~~
- ~~(b) — For Reference Method 24, the coating sample must be a 1-liter sample collected in a 1-liter container at a point where the sample will be representative of the coating material.~~
- ~~(c) — For Reference Method 25, the sampling time for each of three runs must be at least 1 hour. The minimum sample volume must be 0.003 dscm except that shorter sampling times or smaller volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary. The Technical Secretary will approve the sampling of representative stacks on a case-by-case basis if the owner or operator can demonstrate to the satisfaction of the Technical Secretary that the testing of representative stacks would yield results comparable to those that would be obtained by testing all stacks.~~

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

#### ~~1200-03-16-.41 Metallic Mineral Processing Plants~~

##### ~~(1) — Applicability~~

- ~~(a) — The provisions of this rule are applicable to the following affected facilities in metallic mineral processing plants: Each crusher and screen in open-pit mines; each crusher, screen, bucket elevator, conveyor belt transfer point, thermal dryer, product packaging station, storage bin, enclosed storage area, truck loading station, truck unloading station, railcar loading station, and railcar unloading station at the mill or concentrator with the following exceptions. All facilities located in underground mines are exempted from the provisions of this rule. At uranium ore processing plants, all facilities subsequent to and including the beneficiation of uranium ore are exempted from the provisions of this rule.~~
- ~~(b) — An affected facility under subparagraph (a) of this paragraph that commences construction or modification after November 6, 1988 is subject to the requirements of this rule.~~

##### ~~(2) — Definitions~~

- ~~(a) — “Bucket elevator” means a conveying device for metallic minerals consisting of a head and foot assembly that supports and drives an endless single or double strand chain or belt to which buckets are attached.~~
- ~~(b) — “Capture system” means the equipment used to capture and transport particulate matter generated by one or more affected facilities to a control device.~~
- ~~(c) — “Control device” means the air pollution control equipment used to reduce particulate matter emissions released to the atmosphere from one or more affected facilities at a metallic mineral processing plant.~~
- ~~(d) — “Conveyor belt transfer point” means a point in the conveying operation where the metallic mineral or metallic mineral concentrate is transferred to or from a conveyor belt except where the metallic mineral is being transferred to a stockpile.~~
- ~~(e) — “Crusher” means a machine used to crush any metallic mineral and includes feeders or conveyors located immediately below the crushing surfaces. Crushers include, but are not limited to, the following types: jaw, gyratory, cone, and hammermill.~~
- ~~(f) — “Enclosed storage area” means any area covered by a roof under which metallic minerals are stored prior to further processing or loading.~~
- ~~(g) — “Metallic mineral concentrate” means a material containing metallic compounds in concentrations higher than naturally occurring in ore but requiring additional processing if pure metal is to be isolated. A metallic mineral concentrate contains at least one of the following metals in any of its~~



~~oxidation states and at a concentration that contributes to the concentrate's commercial value: aluminum, copper, gold, iron, lead, molybdenum, silver, titanium, tungsten, uranium, zinc, and zirconium. This definition shall not be construed as requiring that material containing metallic compounds be refined to a pure metal in order for the material to be considered a metallic mineral concentrate to be covered by the standards.~~

- ~~(h) "Metallic mineral processing plant" means any combination of equipment that produces metallic mineral concentrates for ore. Metallic mineral processing commences with the mining of ore and includes all operations either up to and including the loading of wet or dry concentrates or solutions of metallic minerals for transfer to facilities at nonadjacent locations that will subsequently process metallic concentrates into purified metals (or other products), or up to and including all material transfer and storage operations that precede the operations that produce refined metals (or other products) from metallic mineral concentrates at facilities adjacent to the metallic mineral processing plant. This definition shall not be construed as requiring that mining of ore be conducted in order for the combination of equipment to be considered a metallic mineral processing plant.~~
- ~~(i) "Process fugitive emissions" means particulate matter emissions from an affected facility that are not collected by a capture system.~~
- ~~(j) "Product packaging station" means the equipment used to fill containers with metallic compounds or metallic mineral concentrates.~~
- ~~(k) "Railcar loading station" means that portion of a metallic mineral processing plant where metallic minerals or metallic mineral concentrates are loaded by a conveying system into railcars.~~
- ~~(l) "Railcar unloading station" means that portion of a metallic mineral processing plant where metallic ore is unloaded from a railcar into a hopper, screen, or crusher.~~
- ~~(m) "Screen" means a device for separating material according to size by passing undersize material through one or more mesh surfaces (screens) in series and retaining oversize materials on the mesh surfaces (screens).~~
- ~~(n) "Stack emissions" means the particulate matter captured and released to the atmosphere through a stack, chimney, or flue.~~
- ~~(o) "Storage bin" means a facility for storage (including surge bins and hoppers) of metallic minerals prior to further processing or loading.~~
- ~~(p) "Surface moisture" means water that is not chemically bound to a metallic mineral or metallic mineral concentrate.~~
- ~~(q) "Thermal dryer" means a unit in which the surface moisture content of a metallic mineral or a metallic mineral concentrate is reduced by direct or indirect contact with a heated gas stream.~~
- ~~(r) "Truck loading station" means that portion of a metallic mineral processing plant where metallic minerals or metallic mineral concentrates are loaded by a conveying system into trucks.~~
- ~~(s) "Truck unloading station" means that portion of a metallic mineral processing plant where metallic ore is unloaded from a truck into a hopper, screen, or crusher.~~

### ~~(3) Standards~~

- ~~(a) On and after the date on which the performance test required to be conducted by paragraph 1200-3-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from an affected facility any stack emissions that:
  - ~~1. Contain particulate matter in excess of 0.05 grams per dry standard cubic meter.~~
  - ~~2. Exhibit greater than 7 percent opacity, unless the stack emissions are discharged from an affected facility using a wet scrubbing emission control device.~~~~

~~(b) On and after the sixtieth day after achieving the maximum production rate at which the affected facility will be operated, but no later than 180 days after initial startup, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from an affected facility any process fugitive emissions that exhibit greater than 10 percent opacity.~~

~~(4) Reconstruction~~

~~(a) The cost of replacement of ore-contact surfaces on processing equipment shall not be considered in calculating either the "fixed capital cost of the new components" or the "fixed capital cost that would be required to construct a comparable new facility" under subparagraph 1200-3-16-.01(9)(b). Ore-contact surfaces are: Crushing surfaces; screen meshes, bars, and plates; conveyor belts; elevator buckets; and pan feeders.~~

~~(b) Under subparagraph 1200-3-16-.01(9)(b), the "fixed capital cost of the new components" includes the fixed capital cost of all depreciable components (except components specified in subparagraph (a) of this paragraph) that are or will be replaced pursuant to all continuous programs of component replacement commenced within any 2-year period following November 6, 1988.~~

~~(5) Monitoring~~

~~(a) The owner or operator subject to the provisions of this rule shall install, calibrate, maintain, and operate a monitoring device for the continuous measurement of the change in pressure of the gas stream through the scrubber for any affected facility using a wet scrubbing emission control device. The monitoring device must be certified by the manufacturer to be accurate within  $\pm 250$  pascals ( $\pm 1$  inch water) gauge pressure and must be calibrated on an annual basis in accordance with manufacturer's instructions.~~

~~(b) The owner or operator subject to the provisions of this rule shall install, calibrate, maintain, and operate a monitoring device for the continuous measurement of the scrubbing liquid flow rate to a wet scrubber for any affected facility using any type of wet scrubbing emission control device. The monitoring device must be certified by the manufacturer to be accurate within  $\pm 5$  percent of design scrubbing liquid flow rate and must be calibrated on at least an annual basis in accordance with manufacturer's instructions.~~

~~(6) Recordkeeping and reporting~~

~~(a) The owner or operator subject to the provisions of this rule shall conduct a performance test and submit to the Technical Secretary a written report of the results of the test as specified in subparagraph 1200-3-16-.01(5)(a).~~

~~(b) During the initial performance test of a wet scrubber, and at least weekly thereafter, the owner or operator shall record the measurements of both the change in pressure of the gas stream across the scrubber and the scrubbing liquid flow rate.~~

~~(c) After the initial performance test of a wet scrubber, the owner or operator shall submit semiannual reports to the Technical Secretary of occurrences when the measurements of the scrubber pressure loss (or gain) and liquid flow differ by more than  $\pm 30$  percent from those measurements recorded during the most recent performance test.~~

~~(d) The reports required under subparagraph (c) of this paragraph shall be postmarked within 30 days following the end of the second and fourth calendar quarters.~~

~~(7) Test methods and procedures~~

~~(a) Reference Methods in subparagraph 1200-3-16-.01(5)(g) except as provided under 1200-3-16-.01(5)(b), shall be used to determine compliance with the standards prescribed under paragraph (3) of this rule as follows:~~

- ~~1. Method 5 or Method 17 for concentration of particulate matter and associated moisture content;~~

- ~~2. Method 1 for sample and velocity traverses;~~
- ~~3. Method 2 for velocity and volumetric flow rate;~~
- ~~4. Method 3 for gas analysis;~~
- ~~5. Method 9 for measuring opacity from stack emissions and process fugitive emissions.~~

~~(b) For Method 5, the following stipulations shall apply:~~

- ~~1. The sampling probe and filter holder may be operated without heaters if the gas stream being sampled is at ambient temperature;~~
- ~~2. For gas streams above ambient temperature, the sampling train shall be operated with a probe and filter temperature slightly above the effluent temperature (up to a maximum filter temperature of 121°C (250°F)) in order to prevent water condensation on the filter;~~
- ~~3. The minimum sample volume shall be 1.7 dscm (60 dscf).~~

~~(c) For Method 9, the following stipulation shall apply; the observer shall read opacity only when emissions are clearly identified as emanating solely from the affected facility being observed.~~

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

#### ~~1200-03-16-.42 Pressure Sensitive Tape and Label Surface Coating Operations~~

~~(1) Applicability~~

~~(a) The affected facility to which the provisions of this rule apply is each coating line used in the manufacture of pressure sensitive tape and label materials.~~

~~(b) Any affected facility which inputs to the coating process 45 Mg of VOC or less per 12 month period is not subject to the emission limits of subparagraph (3)(a) of this rule, however, the affected facility is subject to the requirements of all other applicable paragraphs of this rule. If the amount of VOC input exceeds 45 Mg per 12 month period, the coating line will become subject to subparagraph (3)(a) of this rule and all other paragraphs of this rule.~~

~~(c) This rule applies to any affected facility which begins construction, modification, or reconstruction after November 6, 1988.~~

~~(2) Definitions and Symbols~~

~~(a) Definitions~~

- ~~1. "Coating applicator" means an apparatus used to apply a surface coating to a continuous web.~~
- ~~2. "Coating line" means any number or combination of adhesive, release, or precoat coating applicators, flashoff areas, and ovens which coat a continuous web, located between a web-unwind station and a web-rewind station, to produce pressure sensitive tape and label materials.~~
- ~~3. "Coating solids applied" means the solids content of the coated adhesive, release, or precoat as measured by Reference Method 24 (as specified in 1200-3-16-.01(5)(g)24).~~
- ~~4. "Flashoff area" means the portion of a coating line after the coating applicator and usually before the oven entrance.~~
- ~~5. "Fugitive volatile organic compounds" means any volatile organic compounds which are emitted from the coating applicator and flashoff areas and are not emitted in the oven.~~

- ~~6. "Hood or enclosure" means any device used to capture fugitive volatile organic compounds.~~
- ~~7. "Oven" means a chamber which uses heat or irradiation to bake, cure, polymerize, or dry a surface coating.~~
- ~~8. "Precoat" means a coating operation in which a coating other than an adhesive or release is applied to a surface during the production of a pressure sensitive tape or label product.~~
- ~~9. "Solvent applied in the coating" means all organic solvent contained in the adhesive, release, and precoat formulations that is metered into the coating applicator from the formulation area.~~
- ~~10. "Total enclosure" means a structure or building around the coating applicator and flashoff area or the entire coating line for the purpose of confining and totally capturing fugitive VOC emissions.~~
- ~~11. "VOC" means volatile organic compound.~~

~~(b) Symbols~~

~~"a" means the gas stream vents exiting the emission control device.~~

~~"b" means the gas stream vents entering the emission control device.~~

~~"C<sub>aj</sub>" means the concentration of VOC (carbon equivalent) in each gas stream (j) exiting the emission control device, in parts per million by volume.~~

~~"C<sub>bi</sub>" means the concentration of VOC (carbon equivalent) in each gas stream (i) entering the emission control device, in parts per million by volume.~~

~~"C<sub>fk</sub>" means the concentration of VOC (carbon equivalent) in each gas stream (k) emitted directly to the atmosphere in parts per million by volume.~~

~~"G" means the calculated weighted average mass (kg) of VOC per mass (kg) of coating solids applied each calendar month.~~

~~"M<sub>ci</sub>" means the total mass (kg) of each coating (i) applied during the calendar month as determined from facility records.~~

~~"M<sub>r</sub>" means the total mass (kg) of solvent recovered for a calendar month.~~

~~"Q<sub>aj</sub>" means the volumetric flow rate of each effluent gas stream (j) exiting the emission control device, in dry standard cubic meters per hour.~~

~~"Q<sub>bi</sub>" means the volumetric flow rate of each effluent gas stream (i) entering the emission control device, in dry standard cubic meters per hour.~~

~~"Q<sub>fk</sub>" means the volumetric flow rate of each effluent gas stream (k) emitted to the atmosphere, in dry standard cubic meters per hour.~~

~~"R" means the overall VOC emission reduction achieved for a calendar month (in percent).~~

~~"R<sub>q</sub>" means the required overall VOC emission reduction (in percent).~~

~~"W<sub>oi</sub>" means the weight fraction of organics applied of each coating (i) applied during a calendar month as determined from Reference Method 24 or coating manufacturer's formulation data.~~

~~"W<sub>si</sub>" means the weight fraction of solids applied of each coating (i) applied during a calendar month as determined from Reference Method 24 or coating manufacturer's formulation data.~~

data.

~~(3) Standard for volatile organic compounds~~

~~(a) On and after the date on which the performance test required by paragraph 1200-3-16-.01(5) has been completed each owner or operator subject to this rule shall:~~

~~1. Cause the discharge into the atmosphere from an affected facility not more than 0.20 kg VOC/kg of coating solids applied as calculated on a weighted average basis for one calendar month; or~~

~~2. Demonstrate for each affected facility:~~

~~(i) a 90 percent overall VOC emission reduction as calculated over a calendar month; or~~

~~(ii) the percent overall VOC emission reduction specified in subparagraph (4)(b) of this rule as calculated over a calendar month.~~

~~(4) Compliance provisions~~

~~(a) To determine compliance with paragraph (3) of this rule the owner or operator of the affected facility shall calculate a weighted average of the mass of solvent used per mass of coating solids applied for a one calendar month period according to the following procedures:~~

~~1. Determine the weight fraction of organics and the weight fraction of solids of each coating applied by using Reference Method 24 (as specified in 1200-3-16-.01(5)(g)) or by the coating manufacturer's formulation data.~~

~~2. Compute the weighted average by the following equation:~~

$$G = \frac{\sum_{i=1}^n W_{oi} M_{ci}}{\sum_{i=1}^n W_{si} M_{ci}}$$

~~Where:~~

~~n = the number of coatings~~

~~3. For each affected facility where the value of G is less than or equal to 0.20 kg VOC per kg of coating solids applied, the affected facility is in compliance with part (3)(a)1 of this rule.~~

~~(b) To determine compliance with part (3)(a)2 of this rule, the owner or operator shall calculate the required overall VOC emission reduction according to the following equation:~~

$$R_q = \frac{G - 0.20}{G} \times 100$$

~~If Rq is less than or equal to 90 percent, then the required overall VOC emission reduction is Rq. If Rq is greater than 90 percent, then the required overall VOC emission reduction is 90 percent.~~

~~(c) Where compliance with the emission limits specified in part (3)(a)2 of this rule is achieved through the use of a solvent recovery system, the owner or operator shall determine the overall VOC emission reduction for a one calendar month period by the following equation:~~

$$R = \sum_{i=1}^n \frac{M_r}{W_{oi} M_{ci}} \times 100$$

Where:

~~n = the number of coatings~~

~~If the R value is equal to or greater than the R<sub>q</sub> value specified in subparagraph (b) of this paragraph, then compliance with part (3)(a)2 of this rule is demonstrated.~~

- ~~(d) Where compliance with emission limit specified in part (3)(a)2 of this rule is achieved through the use of a solvent destruction device, the owner or operator shall determine calendar monthly compliance by comparing the monthly required overall VOC emission reduction specified in subparagraph (b) of this paragraph to the overall VOC emission reduction demonstrated in the most recent performance test which complied with part (3)(a)2 of this rule. If the monthly required overall VOC emission reduction is less than or equal to the overall VOC reduction of the most recent performance test, the affected facility is in compliance with part (3)(a)2 of this rule.~~
- ~~(e) Where compliance with part (3)(a)2 of this rule is achieved through the use of a solvent destruction device, the owner or operator shall continuously record the destruction device combustion temperature during coating operations for thermal incineration destruction devices or the gas temperature upstream and downstream of the incinerator catalyst bed during coating operations for catalytic incineration destruction devices. For thermal incineration destruction devices the owner or operator shall record all 3-hour periods (during actual coating operations) during which the average temperature of the device is more than 28°C (50°F) below the average temperature of the device during the most recent performance test complying with part (3)(a)2 of this rule. For catalytic incineration destruction devices, the owner or operator shall record all 3-hour periods (during actual coating operations) during which the average temperature of the device immediately before the catalyst bed is more than 28°C (50°F) below the average temperature of the device during the most recent performance test complying with part (3)(a)2 of this rule, and all 3-hour periods (during actual coating operations) during which the average temperature difference across the catalyst bed is less than 80 percent of the average temperature difference of the device during the most recent performance test complying with part (3)(a)2 of this rule.~~
- ~~(f) After the initial performance test required for all affected facilities under paragraph 1200-3-16-.01(5), compliance with the VOC emission limitation and percentage reduction requirements under paragraph (3) of this rule is based on the average emission reduction for one calendar month. A separate compliance test is completed at the end of each calendar month after the initial performance test, and a new calendar month's average VOC emission reduction is calculated to show compliance with the standard.~~
- ~~(g) If a common emission control device is used to recover or destroy solvent from more than one affected facility, the performance of that control device is assumed to be equal for each of the affected facilities. Compliance with part (3)(a)2 of this rule is determined by the methods specified in subparagraphs (c) and (d) of this paragraph and is performed simultaneously on all affected facilities.~~
- ~~(h) If a common emission control device is used to recover solvent from an existing facility (or facilities) as well as from an affected facility (or facilities), the overall VOC emission reduction for the affected facility (or facilities), for the purpose of compliance, shall be determined by the following procedures:
  - ~~1. The owner or operator of the existing facility (or facilities) shall determine the mass of solvent recovered for a calendar month period from the existing facility (or facilities) prior to the connection of the affected facility (or facilities) to the emission control device.~~
  - ~~2. The affected facility (or facilities) shall then be connected to the emission control device.~~
  - ~~3. The owner or operator shall determine the total mass of solvent recovered from both the existing and affected facilities over a calendar month period. The mass of solvent determined in part (h)1 of this paragraph from the existing facility shall be subtracted from the total mass of recovered solvent to obtain the mass of solvent recovered from the affected facility (or facilities). The overall VOC emission reduction of the affected facility (or~~~~

facilities) can then be determined as specified in subparagraph (c) of this paragraph.

- ~~(i) If a common emission control device is used to destruct solvent from an existing facility (or facilities) as well as from an affected facility (or facilities), the overall VOC emission reduction for the affected facility (or facilities), for the purpose of compliance, shall be determined by the following procedures:
  - ~~1. The owner or operator shall operate the emission control device with both the existing and affected facilities connected.~~
  - ~~2. The concentration of VOC (in parts per million by volume) after the common emission control device shall be determined as specified in subparagraph (5)(c) of this rule. This concentration is used in the calculation for both the existing and affected facilities.~~
  - ~~3. The volumetric flow out of the common control device attributable to the affected facility (or facilities) shall be calculated by first determining the ratio of the volumetric flow entering the common control device attributable to the affected facility (facilities) to the total volumetric flow entering the common control device from both existing and affected facilities. The multiplication of this ratio by the total volumetric flow out of the common control device yields the flow attributable to the affected facility (facilities). Compliance is determined by the use of the equation specified in subparagraph (5)(c) of this rule.~~~~
- ~~(j) Startups and shutdowns are normal operation for this source category. Emissions from these operations are to be included when determining if the standard specified at part (3)(a)2 of this rule is being attained.~~

~~(5) Performance test procedures~~

- ~~(a) The performance test for affected facilities complying with paragraph (3) of this rule without the use of add-on controls shall be identical to the procedures specified in subparagraph (4)(a) of this rule.~~
- ~~(b) The performance test for affected facilities controlled by a solvent recovery device shall be conducted as follows:
  - ~~1. The performance test shall be a one calendar month test and not the average of three runs as specified in subparagraph 1200-3-16-.01(5)(f).~~
  - ~~2. The weighted average mass of VOC per mass of coating solids applied for a one calendar month period shall be determined as specified in parts (4)(a)1 and 2 of this rule.~~
  - ~~3. Calculate the required percent overall VOC emission reduction as specified in subparagraph (4)(b) of this rule.~~
  - ~~4. Inventory VOC usage and VOC recovery for a one calendar month period.~~
  - ~~5. Determine the percent overall VOC emission reduction as specified in subparagraph (4)(c) of this rule.~~~~
- ~~(c) The performance test for affected facilities controlled by a solvent destruction device shall be conducted as follows:
  - ~~1. The performance of the solvent destruction device shall be determined by averaging the results of three test runs as specified in subparagraph 1200-3-16-.01(5)(f).~~
  - ~~2. Determine for each affected facility prior to each test run the weighted average mass of VOC per mass of coating solids applied being used at the facility. The weighted average shall be determined as specified in subparagraph (4)(a) of this rule. In this application the quantities of Woi, Wsi and Mci shall be determined for the time period of each test run and not a calendar month as specified in paragraph (2) of this rule.~~
  - ~~3. Calculate the required percent overall VOC emission reduction as specified in~~~~

~~subparagraph (4)(b) of this rule.~~

- ~~4. Determine the percent overall VOC emission reduction of the solvent destruction device by the following equation and procedures:~~

$$R = \frac{\sum_{i=1}^n Q_{bi} C_{bi} - \sum_{j=1}^m Q_{aj} C_{aj}}{\sum_{i=1}^n Q_{bi} C_{bi} + \sum_{k=1}^p Q_{fk} C_{fk}} \times 100$$

~~Where:~~

~~m = the number of effluent gas streams (j) exiting the emission control device.~~

~~n = the number of effluent gas streams (i) entering the emission control device.~~

~~p = the number of effluent gas streams (k) that emit to the atmosphere.~~

~~(i) The owner or operator of the affected facility shall construct the overall VOC emission reduction system so that all volumetric flow rates and total VOC emissions can be accurately determined by the applicable test methods and procedures specified in subparagraph (7)(b) of this rule.~~

~~(ii) The owner or operator of an affected facility shall construct a temporary total enclosure around the coating line applicator and flashoff area during the performance test for the purpose of capturing fugitive VOC emissions. If a permanent total enclosure exists in the affected facility prior to the performance test and the Technical Secretary is satisfied that the enclosure is totally capturing fugitive VOC emissions, then no additional total enclosure will be required for the performance test.~~

~~(iii) For each affected facility where the value of R is greater than or equal to the value of Rq, calculated in subparagraph (4)(b) of this rule, compliance with part (3)(a)2 of this rule is demonstrated.~~

~~(6) Monitoring of operations and recordkeeping~~

~~(a) The owner or operator of an affected facility subject to this rule shall maintain a calendar month record of all coatings used and the results of the reference test method specified in subparagraph (7)(a) of this rule or the manufacturer's formulation data used for determining the VOC content of those coatings.~~

~~(b) The owner or operator of an affected facility controlled by a solvent recovery device shall maintain a calendar month record of the amount of solvent applied in the coating at each affected facility.~~

~~(c) The owner or operator of an affected facility controlled by a solvent recovery device shall install, calibrate, maintain, and operate a monitoring device for indicating the cumulative amount of solvent recovered by the device over a calendar month period. The monitoring device shall be accurate within  $\pm 2.0$  percent. The owner or operator shall maintain a calendar month record of the amount of solvent recovered by the device.~~

~~(d) The owner or operator of an affected facility operating at the conditions specified in subparagraph (1)(b) of this rule shall maintain a 12 month record of the amount of solvent applied in the coating at the facility.~~

~~(e) The owner or operator of an affected facility controlled by a thermal incineration solvent destruction device shall install, calibrate, maintain, and operate a monitoring device which continuously indicates and records the temperature of the solvent destruction device's exhaust gases. The monitoring device shall have an accuracy of the greater of  $\pm 0.75$  percent of the temperature being~~



~~measured expressed in degrees Celsius or  $\pm 2.5^{\circ}\text{C}$ .~~

- ~~(f) The owner or operator of an affected facility controlled by a catalytic incineration solvent destruction device shall install, calibrate, maintain, and operate a monitoring device which continuously indicates and records the gas temperature both upstream and downstream of the catalyst bed.~~
- ~~(g) The owner or operator of an affected facility controlled by a solvent destruction device which uses a hood or enclosure to capture fugitive VOC emissions shall install, calibrate, maintain, and operate a monitoring device which continuously indicates that the hood or enclosure is operating. No continuous monitor shall be required if the owner or operator can demonstrate that the hood or enclosure system is interlocked with the affected facility's oven recirculation air system.~~
- ~~(h) Records of the measurements required in paragraphs (4) and (6) of this rule must be retained for at least two years following the date of the measurements.~~

~~(7) Test methods and procedures~~

- ~~(a) The VOC content per unit of coating solids applied and compliance with part (3)(a)1 of this rule shall be determined by either Reference Method 24 and the equations specified in paragraph (4) of this rule or by manufacturer's formulation data. In the event of any inconsistency between a Method 24 test and manufacturer's formulation data, the Method 24 test will govern. The Technical Secretary may require an owner or operator to perform Method 24 tests during such months as he deems appropriate. For Reference Method 24, the coating sample must be a one liter sample taken into a one liter container at a point where the sample will be representative of the coating applied to the web substrate.~~
- ~~(b) Reference Method 25 shall be used to determine the VOC concentration, in parts per million by volume, of each effluent gas stream entering and exiting the solvent destruction device or its equivalent, and each effluent gas stream emitted directly to the atmosphere. Reference Methods 1, 2, 3, and 4 shall be used to determine the sampling location, volumetric flowrate, molecular weight, and moisture of all sampled gas streams. For Reference Method 25, the sampling time for each of three runs must be at least 1 hour. The minimum sampling volume must be 0.003 dscm except that shorter sampling times or smaller volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.~~

~~(8) Reporting requirements~~

- ~~(a) For all affected facilities subject to compliance with paragraph (3) of this rule, the performance test data and results from the performance test shall be submitted to the Technical Secretary as specified in subparagraph 1200-3-16-.01(5)(a).~~
- ~~(b) The owner or operator of each affected facility shall submit semiannual reports to the Technical Secretary of exceedances of the following:
  - ~~1. The VOC emission limits specified in paragraph (3) of this rule; and~~
  - ~~2. The incinerator temperature drops as defined under subparagraph (4)(e) of this rule. The reports required under subparagraph (b) shall be postmarked within 30 days following the end of the second and fourth calendar quarters.~~~~

~~Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.~~

~~1200-03-16-.43 Reserved.~~

~~Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.~~

~~1200-03-16-.44 Bulk Gasoline Terminals~~

~~(1) Applicability~~

- ~~(a) The affected facility to which the provisions of this rule apply is the total of all the loading racks at~~

~~a bulk gasoline terminal which deliver liquid product into gasoline tank trucks.~~

~~(b) Each facility under subparagraph (a) of this paragraph, the construction, reconstruction, or modification of which is commenced after November 6, 1988 is subject to the provisions of this rule.~~

~~(2) Definitions~~

~~(a) "Bulk gasoline terminal" means any gasoline facility which receives gasoline by pipeline, ship or barge, and has a gasoline throughput greater than 75,700 liters per day. Gasoline throughput shall be the maximum calculated design throughput as may be limited by compliance with an enforceable condition under Federal, State or local law and discoverable by the Technical Secretary and any other person.~~

~~(b) "Continuous vapor processing system" means a vapor processing system that treats total organic compounds vapors collected from gasoline tank trucks on a demand basis without intermediate accumulation in a vapor holder.~~

~~(c) "Existing vapor processing system" means a vapor processing system (capable of achieving emissions to the atmosphere no greater than 80 milligrams of total organic compounds per liter of gasoline loaded), the construction or refurbishment of which was commenced before November 6, 1988 and which was not constructed or refurbished after that date.~~

~~(d) "Gasoline" means any petroleum distillate or petroleum distillate/alcohol blend having a Reid vapor pressure of 27.6 kilopascals or greater which is used as a fuel for internal combustion engines.~~

~~(e) "Gasoline tank truck" means a delivery tank truck used at bulk gasoline terminals which is loading gasoline or which has loaded gasoline on the immediately previous load.~~

~~(f) "Intermittent vapor processing system" means a vapor processing system that employs an intermediate vapor holder to accumulate total organic compounds vapors collected from gasoline tank trucks, and treats the accumulated vapors only during automatically controlled cycles.~~

~~(g) "Loading rack" means the loading arms, pumps, meters, shutoff valves, relief valves, and other piping and valves necessary to fill delivery tank trucks.~~

~~(h) "Refurbishment" means with reference to a vapor processing system replacement of components of, or addition of components to, the system within any 2-year period such that the fixed capital cost of the new components required for such component replacement or addition exceeds 50 percent of the cost of a comparable entirely new system.~~

~~(i) "Total organic compounds" means those compounds measured according to the procedures in paragraph (4) of this rule.~~

~~(j) "Vapor collection system" means any equipment used for containing total organic compounds vapors displaced during the loading of gasoline tank trucks.~~

~~(k) "Vapor processing system" means all equipment used for recovering or oxidizing total organic compounds vapors displaced from the affected facility.~~

~~(l) "Vapor-tight gasoline tank truck" means a gasoline tank truck which has demonstrated within the 12 preceding months that its product delivery tank will sustain a pressure change of not more than 750 pascals (75 mm of water) within 5 minutes after it is pressurized to 4,500 pascals (450 mm of water). This capability is to be demonstrated using the pressure test procedure specified in Reference Method 27 (as specified in 1200-3-16-.01(5)(g)27).~~

~~(3) Standard for Volatile Organic Compound (VOC) emissions~~

~~On and after the date on which 1200-3-16-.01(5) requires a performance test to be completed, the owner or operator of each bulk gasoline terminal containing an affected facility shall comply with the requirements of this paragraph.~~

- ~~(a) Each affected facility shall be equipped with a vapor collection system designed to collect the total organic compounds vapors displaced from tank trucks during product loading.~~
- ~~(b) The emissions to the atmosphere from the vapor collection system due to the loading of liquid product into gasoline tank trucks are not to exceed 35 milligrams of total organic compounds per liter of gasoline loaded, except as noted in subparagraph (c) of this paragraph.~~
- ~~(c) For each affected facility equipped with an existing vapor processing system, the emissions to the atmosphere from the vapor collection system due to the loading of liquid product into gasoline tank trucks are not to exceed 80 milligrams of total organic compounds per liter of gasoline loaded.~~
- ~~(d) Each vapor collection system shall be designed to prevent any total organic compounds vapors collected at one loading rack from passing to another loading rack.~~
- ~~(e) Loadings of liquid product into gasoline tank trucks shall be limited to vapor-tight gasoline tank trucks using the following procedures:~~
- ~~1. The owner or operator shall obtain the vapor tightness documentation described in subparagraph (5)(b) of this rule for each gasoline tank truck which is to be loaded at the affected facility.~~
  - ~~2. The owner or operator shall require the tank identification number to be recorded as each gasoline tank truck is loaded at the affected facility.~~
  - ~~3. The owner or operator shall cross-check each tank identification number obtained in part (2) of this subparagraph with the file of tank vapor tightness documentation within 2 weeks after the corresponding tank is loaded.~~
  - ~~4. The terminal owner or operator shall notify the owner or operator of each nonvapor-tight gasoline tank truck loaded at the affected facility within 3 weeks after the loading has occurred.~~
  - ~~5. The terminal owner or operator shall take steps assuring that the nonvapor-tight gasoline tank truck will not be reloaded at the affected facility until vapor tightness documentation for that tank is obtained.~~
  - ~~6. Alternate procedures to those described in parts 1 through 5 of this subparagraph for limiting gasoline tank truck loadings may be used upon application to, and approval by, the Technical Secretary.~~
- ~~(f) The owner or operator shall act to assure that loadings of gasoline tank trucks at the affected facility are made only into tanks equipped with vapor collection equipment that is compatible with the terminal's vapor collection system.~~
- ~~(g) The owner or operator shall act to assure that the terminal's and the tank truck's vapor collection systems are connected during each loading of a gasoline tank truck at the affected facility. Examples of actions to accomplish this include training drivers in the hookup procedures and posting visible reminder signs at the affected loading racks.~~
- ~~(h) The vapor collection and liquid loading equipment shall be designed and operated to prevent gauge pressure in the delivery tank from exceeding 4,500 pascals (450 mm of water) during product loading. This level is not to be exceeded when measured by the procedures specified in subparagraph (4)(b) of this rule.~~
- ~~(i) No pressure-vacuum vent in the bulk gasoline terminal's vapor collection system shall begin to open at a system pressure less than 4,500 pascals (450 mm of water).~~
- ~~(j) Each calendar month, the vapor collection system, the vapor processing system, and each loading rack handling gasoline shall be inspected during the loading of gasoline tank trucks for total organic compounds liquid or vapor leaks. For purposes of this subparagraph, detection methods incorporating sight, sound, or smell are acceptable. Each detection of a leak shall be recorded and~~

~~the source of the leak repaired within 15 calendar days after it is detected.~~

~~(4) Test methods and procedures~~

- ~~(a) 1200-3-16-.01(5)(f) does not apply to the performance test procedures required by this rule.~~
- ~~(b) For the purpose of determining compliance with subparagraph (3)(h) of this rule, the following procedures shall be used:~~
- ~~1. Calibrate and install a pressure measurement device (liquid manometer, magnehelic gauge, or equivalent instrument), capable of measuring up to 500 mm of water gauge pressure with  $\pm 2.5$  mm of water precision.~~
  - ~~2. Connect the pressure measurement device to a pressure tap in the terminal's vapor collection system, located as close as possible to the connection with the gasoline tank truck.~~
  - ~~3. During the performance test, record the pressure every 5 minutes while a gasoline tank truck is being loaded, and record the highest instantaneous pressure that occurs during each loading. Every loading position must be tested at least once during the performance test.~~
- ~~(c) For the purpose of determining compliance with the mass emission limitations of subparagraphs (3)(b) and (c) of this rule, the following reference methods shall be used:~~
- ~~1. For the determination of volume at the exhaust vent:
    - ~~(i) Method 2B (as specified in 1200-3-16-.01(5)(g)) for combustion vapor processing systems.~~
    - ~~(ii) Method 2A for all other vapor processing systems.~~~~
  - ~~2. For the determination of total organic compounds concentration at the exhaust vent, Method 25A or 25B. The calibration gas shall be either propane or butane.~~
- ~~(d) Immediately prior to a performance test required for determination of compliance with subparagraph (3)(b), (c) and (h) of this rule, all potential sources of vapor leakage in the terminal's vapor collection system equipment shall be monitored for leaks using Method 21. The monitoring shall be conducted only while a gasoline tank truck is being loaded. A reading of 10,000 ppmv or greater as methane shall be considered a leak. All leaks shall be repaired prior to conducting the performance test.~~
- ~~(e) The test procedure for determining compliance with subparagraphs (3)(b) and (c) of this rule is as follows:~~
- ~~1. All testing equipment shall be prepared and installed as specified in the appropriate test methods.~~
  - ~~2. The time period for a performance test shall be not less than 6 hours, during which at least 300,000 liters of gasoline are loaded. If the throughput criterion is not met during the initial 6 hours, the test may be either continued until the throughput criterion is met, or resumed the next day with another complete 6 hours of testing. As much as possible, testing should be conducted during the 6-hour period in which the highest throughput normally occurs.~~
  - ~~3. For intermittent vapor processing systems:
    - ~~(i) The vapor holder level shall be recorded at the start of the performance test. The end of the performance test shall coincide with a time when the vapor holder is at its original level.~~
    - ~~(ii) At least two startups and shutdowns of the vapor processor shall occur during the~~~~

~~performance test. If this does not occur under automatically controlled operation, the system shall be manually controlled.~~

~~4. The volume of gasoline dispensed during the performance test period at all loading racks whose vapor emissions are controlled by the processing system being tested shall be determined. This volume may be determined from terminal records or from gasoline dispensing meters at each loading rack.~~

~~5. An emission testing interval shall consist of each 5-minute period during the performance test. For each interval:~~

~~(i) The reading from each measurement instrument shall be recorded, and~~

~~(ii) The volume exhausted and the average total organic compounds concentration in the exhaust vent shall be determined, as specified in the appropriate test method. The average total organic compounds concentration shall correspond to the volume measurement by taking into account the sampling system response time.~~

~~6. The mass emitted during each testing interval shall be calculated as follows:~~

$$~~M_{ei} = 10^{-6} * K * V_{es} * C_e~~$$

~~where:~~

~~Mei = mass of total organic compounds emitted during testing interval i, mg.~~

~~Ves = volume of air-vapor mixture exhausted, m<sup>3</sup>, at standard conditions.~~

~~Ce = total organic compounds concentration (as measured) at the exhaust vent, ppmv.~~

~~K = density of calibration gas, mg/m<sup>3</sup>, at standard conditions = 1.83 x 10<sup>6</sup>, for propane; = 2.41 x 10<sup>6</sup> for butane.~~

~~s = standard conditions, 20°C and 760 mm Hg.~~

~~7. The total organic compounds mass emissions shall be calculated as follows:~~

$$~~E = \frac{\sum_{i=1}^n M_{ei}}{L}~~$$

~~where:~~

~~E = mass of total organic compounds emitted per volume of gasoline loaded, mg/liter.~~

~~Mei = mass of total organic compounds emitted during testing interval i, mg.~~

~~L = total volume of gasoline loaded, liters.~~

~~n = number of testing intervals.~~

~~(f) The owner or operator may adjust the emission results to exclude the methane and ethane content in the exhaust vent by any method approved by the Technical Secretary.~~

~~(5) Reporting and Recordkeeping~~

~~(a) The tank truck vapor tightness documentation required under part (3)(e)1 of this rule shall be kept~~

on file at the terminal in a permanent form available for inspection.

~~(b) The documentation file for each gasoline tank truck shall be updated at least once per year to reflect current test results as determined by Method 27. This documentation shall include, as a minimum, the following information:~~

- ~~1. Test Title: Gasoline Delivery Tank Pressure Test - EPA Reference Method 27.~~
- ~~2. Tank Owner and Address.~~
- ~~3. Tank Identification Number.~~
- ~~4. Testing Location.~~
- ~~5. Date of Test.~~
- ~~6. Tester Name and Signature.~~
- ~~7. Witnessing Inspector, if any: Name, Signature, and Affiliation.~~
- ~~8. Test Results: Actual Pressure Change in 5 minutes, mm of water (average for 2 runs).~~

~~(c) A record of each monthly leak inspection required under subparagraph (3)(j) of this rule shall be kept on file at the terminal for at least 2 years. Inspection records shall include, as a minimum, the following information:~~

- ~~1. Date of Inspection.~~
- ~~2. Findings (may indicate no leaks discovered; or location, nature and severity of each leak).~~
- ~~3. Leak determination method.~~
- ~~4. Corrective Action (date each leak repaired; reasons for any repair interval in excess of 15 days).~~
- ~~5. Inspector Name and Signature.~~

~~(d) The terminal owner or operator shall keep documentation of all notifications required under part (3)(e)4 of this rule on file at the terminal for at least 2 years.~~

~~(e) Reserved~~

~~(f) The owner or operator of an affected facility shall keep records of all replacements or additions of components performed on an existing vapor processing system for at least 3 years.~~

~~(6) Reconstruction~~

~~For purposes of this rule:~~

~~(a) The cost of the following frequently replaced components of the affected facility shall not be considered in calculating either the "fixed capital cost of the new components" or the "fixed capital costs that would be required to construct a comparable entirely new facility": pump seals, loading arm gaskets and swivels, coupler gaskets, overfill sensor couplers and cables, flexible vapor hoses, and grounding cables and connectors.~~

~~(b) The "fixed capital cost of the new components" includes the fixed capital of all depreciable components (except components specified in subparagraph (a) of this paragraph) which are or will be replaced pursuant to all continuous programs of component replacement which are commenced within any 2-year period following November 6, 1988. For purposes of this subparagraph, "commenced" means that an owner or operator has undertaken a continuous program of component replacement or that an owner or operator has entered into a contractual obligation to~~

~~undertake and complete within a reasonable time, a continuous program of component replacement.~~

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

#### ~~1200-03-16-.45 Synthetic Fiber Production Facilities~~

##### ~~(1) Applicability~~

- ~~(a) Except as provided in subparagraph (b) this paragraph, the affected facility to which the provisions of the rule apply is each solvent-spun synthetic fiber process that produces more than 500 megagrams of fiber per year.~~
- ~~(b) The provisions of this rule do not apply to any facility that uses the reaction spinning process to produce spandex fiber or the viscose process to produce rayon fiber.~~
- ~~(c) The provisions of this rule apply to each facility as identified in subparagraph (a) of this paragraph and that commences construction or reconstruction after November 6, 1988. The provisions of this rule do not apply to facilities that commence modification but not reconstruction after November 6, 1988.~~

##### ~~(2) Definitions~~

- ~~(a) "Acrylic fiber" means a manufactured synthetic fiber in which the fiber forming substance is any long-chain synthetic polymer composed of at least 85 percent by weight of acrylonitrile units.~~
- ~~(b) "Makeup solvent" means the solvent introduced into the affected facility that compensates for solvent lost from the affected facility during the manufacturing process.~~
- ~~(c) "Nongaseous losses" means the solvent that is not volatilized during fiber production, and that escapes the process and is unavailable for recovery, or is in a form or concentration unsuitable for economical recovery.~~
- ~~(d) "Polymer" means any of the natural or synthetic compounds of usually high molecular weight that consist of many repeated links, each link being a relatively light and simple molecule.~~
- ~~(e) "Precipitation bath" means the water, solvent, or other chemical bath into which the polymer or prepolymer (partially reacted material) solution is extruded, and that causes physical or chemical changes to occur in the extruded solution to result in a semihardened polymer fiber.~~
- ~~(f) "Rayon fiber" means a manufactured fiber composed of regenerated cellulose, as well as manufactured fibers composed of regenerated cellulose in which substituents have replaced not more than 15 percent of the hydrogens of the hydroxyl groups.~~
- ~~(g) "Reaction spinning process" means the fiber-forming process where a prepolymer is extruded into a fluid medium and solidification takes place by chemical reaction to form the final polymeric material.~~
- ~~(h) "Recovered solvent" means the solvent captured from liquid and gaseous process streams that is concentrated in a control device and that may be purified for reuse.~~
- ~~(i) "Solvent feed" means the solvent introduced into the spinning solution preparation system or precipitation bath. This feed stream includes the combination of recovered solvent and makeup solvent.~~
- ~~(j) "Solvent inventory variation" means the normal changes in the total amount of solvent contained in the affected facility.~~
- ~~(k) "Solvent recovery system" means the equipment associated with capture, transportation, collection, concentration, and purification of organic solvents. It may include enclosures, hoods, ducting, piping, scrubbers, condensers, carbon absorbers, distillation equipment, and associated~~

storage vessels.

- ~~(l) “Solvent-spun synthetic fiber” means any synthetic fiber produced by a process that uses an organic solvent in the spinning solution, the precipitation bath, or processing of the spun fiber.~~
- ~~(m) “Solvent-spun synthetic fiber process” means the total of all equipment having a common spinning solution preparation system or a common solvent recovery system, and that is used in the manufacture of solvent-spun synthetic fiber. It includes spinning solution preparation, spinning, fiber processing and solvent recovery, but does not include the polymer production equipment.~~
- ~~(n) “Spandex fiber” means a manufactured fiber in which the fiber-forming substance is a long-chain synthetic polymer comprised of at least 85 percent of a segmented polyurethane.~~
- ~~(o) “Spinning solution” means the mixture of polymer, prepolymer, or copolymer and additives dissolved in solvent. The solution is prepared at a viscosity and solvent-to-polymer ratio that is suitable for extrusion into fibers.~~
- ~~(p) “Spinning solution preparation system” means the equipment used to prepare spinning solutions; the system includes equipment for mixing, filtering, blending, and storage of the spinning solutions.~~
- ~~(q) “Synthetic fiber” means any fiber composed partially or entirely of materials made by chemical synthesis, or made partially or entirely from chemically-modified naturally-occurring materials.~~
- ~~(r) “Viscose process” means the fiber-forming process where cellulose and concentrated caustic soda are reacted to form soda or alkali cellulose. This reacts with carbon disulfide to form sodium cellulose xanthate, which is then dissolved in a solution of caustic soda. After ripening, the solution is spun into an acid-coagulating bath. This precipitates the cellulose in the form of a regenerate cellulose filament.~~

~~(3) Standard for volatile organic compounds~~

- ~~(a) On and after the date on which the initial performance test required to be conducted by paragraph 1200-3-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall cause the discharge into the atmosphere from any affected facility that produces acrylic fibers, VOC emissions that exceed 10 kilograms (kg) VOC per megagram (Mg) solvent feed to the spinning solution preparation system or precipitation bath. VOC emissions from affected facilities that produce both acrylic and nonacrylic fiber types shall not exceed 10 kg VOC per Mg solvent feed. VOC emissions from affected facilities that produce only nonacrylic fiber types shall not exceed 17 kg VOC per Mg solvent feed. Compliance with the emission limitations is determined on a 6-month rolling average basis as described in paragraph (4) of this rule.~~

~~(4) Performance test and compliance provisions~~

- ~~(a) Subparagraph 1200-3-16-.01(5)(f) does not apply to the performance test procedures required by this rule.~~
- ~~(b) Each owner or operator of an affected facility shall determine compliance with the applicable standard in subparagraph (3)(a) of this rule by determining and recording monthly the VOC emissions per Mg solvent feed from each affected facility for the current and preceding 5 consecutive calendar months and using these values to calculate the 6-month average emissions. Each calculation is considered a performance test. The owner or operator of an affected facility shall use the following procedure to determine VOC emissions for each calendar month:
  - ~~1. Install, calibrate, maintain, and operate monitoring devices that continuously measure and permanently record for each calendar month the amount of makeup solvent and solvent feed. These values shall be used in calculating VOC emissions according to part (4)(b)2 of this rule. All monitoring devices, meters, and peripheral equipment shall be calibrated and any error recorded. Total compounded error of the flow measuring and recording devices shall not exceed 1 percent accuracy over the operating range. As an alternative to measuring solvent feed, the owner or operator may:~~~~



~~(i) Measure the amount of recovered solvent returned to the solvent feed storage tanks, and use the following equation to determine the amount of solvent feed:~~

$$\text{Solvent Feed} = \text{Makeup Solvent} + \text{Recovered Solvent} + \text{Change in the Amount of Solvent Contained in the Solvent Feed Holding Tank.}$$

~~(ii) Measure and record the amount of polymer introduced into the affected facility and the solvent-to-polymer ratio of the spinning solutions, and use the following equation to determine the amount of solvent feed:~~

$$\text{Solvent Feed} = \sum_{i=1}^n (\text{Polymer Used})_i \times (\text{Solvent-to-Polymer Ratio})_i$$

~~where subscript “i” denotes each particular spinning solution used during the test period; values of “i” vary from one to the total number of spinning solutions “n,” used during the calendar month.~~

~~2. VOC emissions shall be determined each calendar month by use of the following equations:~~

$$E = \frac{M_w}{S_w} - N - I \text{ and } M_w = M_v S_p D$$

$$S_w = \frac{S_p S_v D}{1000} \text{ and } I = \frac{I_E - I_S}{S_w}$$

~~where all values are for the calendar month only and where~~

~~E = Emissions in kg per Mg solvent feed;~~

~~S<sub>v</sub> = Measured or calculated volume of solvent feed in liters;~~

~~S<sub>w</sub> = Weight of solvent feed in Mg;~~

~~M<sub>v</sub> = Measured volume of makeup solvent in liters;~~

~~M<sub>w</sub> = Weight of makeup in kg;~~

~~N = Allowance for nongaseous losses per Mg solvent feed: (13 kg/Mg);~~

~~S<sub>p</sub> = Fraction of measured volume that is actual solvent (excludes water);~~

~~D = Density of the solvent in kg/liter;~~

~~I = Allowance for solvent inventory variation or changes in the amount of solvent contained in the affected facility per Mg solvent feed (may be positive or negative);~~

~~I<sub>s</sub> = Amount in kg of solvent contained in the affected facility at the beginning of test period, as determined by owner or operator;~~

~~I<sub>e</sub> = Amount in kg of solvent contained in the affected facility at the close of test period, as determined by owner or operator.~~

~~(i) N, as used in the equation in this part, equals 13 kg per Mg solvent feed to the spinning solution preparation system and precipitation bath. This value shall be used in all cases unless an owner or operator demonstrates to the satisfaction of the Technical Secretary that greater nongaseous losses occur at the affected~~

facility. In this case, the greater value may be substituted in the equation.

~~(5) Reporting requirements~~

- ~~(a) The owner or operator of an affected facility shall submit a written report to the Technical Secretary of the following:~~
- ~~1. The results of the initial performance test; and~~
  - ~~2. The results of subsequent performance tests that indicate that VOC emissions exceed the standards in paragraph (3) of this rule. These reports shall be submitted semiannually, at six-month intervals after the initial performance test.~~
- ~~(b) Solvent-spun synthetic fiber producing facilities exempted from these standards in subparagraph (1)(a) of this rule (those producing less than 500 megagrams annually) shall report to the Technical Secretary within 30 days whenever extruded fiber for the preceding 12 calendar months exceeds 500 megagrams.~~

~~Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.~~

~~1200-03-16-.46 Lead Acid Battery Manufacturing Plants~~

~~(1) Applicability~~

- ~~(a) The provisions of this rule are applicable to the affected facilities listed in subparagraph (b) of this paragraph at any lead-acid battery manufacturing plant that produces or has the design capacity to produce in one day (24 hours) batteries containing an amount of lead equal to or greater than 5.9 Mg (6.5 tons).~~
- ~~(b) The provisions of this rule are applicable to the following affected facilities used in the manufacture of lead-acid storage batteries:~~
- ~~1. Grid-casting facility.~~
  - ~~2. Paste mixing facility.~~
  - ~~3. Three-process operation facility.~~
  - ~~4. Lead-oxide manufacturing facility.~~
  - ~~5. Lead-reclamation facility.~~
  - ~~6. Other lead-emitting operations.~~
- ~~(c) Any facility under subparagraph (b) of this paragraph the construction or modification of which is commenced after November 6, 1988, is subject to the requirements of this rule.~~

~~(2) Definitions~~

- ~~(a) "Grid-casting facility" means the facility which includes all lead-melting pots and machines used for casting the grid used in battery manufacturing.~~
- ~~(b) "Lead-acid battery manufacturing plant" means any plant that produces a storage battery using lead and lead compounds for the plates and sulfuric acid for the electrolyte.~~
- ~~(c) "Lead-oxide manufacturing facility" means a facility that produces lead oxide from lead, including product recovery.~~
- ~~(d) "Lead-reclamation facility" means the facility that remelts lead scrap and casts it into lead ingots for use in the battery manufacturing process, and which is not a furnace affected under rule 1200-3-16-.12.~~

- ~~(e) "Other lead-emitting operation" means any lead-acid battery manufacturing plant operation from which lead emissions are collected and ducted to the atmosphere and which is not part of a grid casting, lead oxide manufacturing, lead reclamation, paste mixing, or three-process operation facility, or a furnace affected under rule 1200-3-16-.12.~~
- ~~(f) "Paste mixing facility" means the facility including lead oxide storage, conveying, weighing, metering, and charging operations; paste blending, handling, and cooling operations; and plate pasting, takeoff, cooling, and drying operations.~~
- ~~(g) "Three-process operation facility" means the facility including those processes involved with plate stacking, burning or strap casting, and assembly of elements into the battery case.~~

~~(3) Standards for Lead~~

- ~~(a) On and after the date on which the performance test required to be conducted by paragraph 1200-3-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere:
 
  - ~~1. From any grid casting facility any gases that contain lead in excess of 0.40 milligram of lead per dry standard cubic meter of exhaust (0.000176 gr/dscf).~~
  - ~~2. From any paste mixing facility any gases that contain in excess of 1.00 milligram of lead per dry standard cubic meter of exhaust (0.00044 gr/dscf).~~
  - ~~3. From any three-process operation facility any gases that contain in excess of 1.00 milligram of lead per dry standard cubic meter of exhaust (0.00044 gr/dscf).~~
  - ~~4. From any lead oxide manufacturing facility any gases that contain in excess of 5.0 milligrams of lead per kilogram of lead feed (0.010 lb/ton).~~
  - ~~5. From any lead reclamation facility any gases that contain in excess of 4.50 milligrams of lead per dry standard cubic meter of exhaust (0.00198 gr/dscf).~~
  - ~~6. From any other lead-emitting operation any gases that contain in excess of 1.00 milligram of lead per dry standard cubic meter of exhaust (0.00044 gr/dscf).~~
  - ~~7. From any affected facility other than a lead reclamation facility any gases with greater than 0 percent opacity (measured according to Method 9 (as specified in 1200-3-16-.01(5)(g)), and rounded to the nearest whole percentage).~~
  - ~~8. From any lead reclamation facility any gases with greater than 5 percent opacity (measured according to Method 9 and rounded to the nearest whole percentage).~~~~
- ~~(b) When two or more facilities at the same plant (except the lead oxide manufacturing facility) are ducted to a common control device, an equivalent standard for the total exhaust from the commonly controlled facilities shall be determined as follows:~~

$$S_e = \sum_{a=1}^N S_a \left( \frac{Q_{sda}}{Q_{sdr}} \right)$$

~~Where:~~

~~Se = is the equivalent standard for the total exhaust stream.~~

~~Sa = is the actual standard for each exhaust stream ducted to the control device.~~

~~N = is the total number of exhaust streams ducted to the control device.~~

~~Qsda = is the dry standard volumetric flow rate of the effluent gas stream from each facility ducted to the control device.~~

~~QsdT = is the total dry standard volumetric flow rate of all effluent gas streams ducted to the control device.~~

~~(4) Monitoring of emissions and operations~~

~~The owner or operator of any lead-acid battery manufacturing facility subject to the provisions of this rule and controlled by a scrubbing system(s) shall install, calibrate, maintain, and operate a monitoring device(s) that measures and records the pressure drop across the scrubbing system(s) at least once every 15 minutes. The monitoring device shall have an accuracy of  $\pm 5$  percent over its operating range.~~

~~(5) Test methods and procedures~~

~~(a) Reference methods in subparagraph 1200-3-16-.01(5)(g), except as provided under subparagraph 1200-3-16-.01(5)(b), shall be used to determine compliance according to paragraph 1200-3-16-.01(5) as follows:~~

- ~~1. Method 12 for the measurement of lead concentrations,~~
- ~~2. Method 1 for sample and velocity traverses,~~
- ~~3. Method 2 for velocity and volumetric flow rate, and~~
- ~~4. Method 4 for stack gas moisture.~~

~~(b) For Method 12, the sampling time for each run shall be at least 60 minutes and the sampling rate shall be at least 0.85 dscm/h (0.53 dscf/min.), except that shorter sampling times, when necessitated by process variables or other factors, may be approved by the Technical Secretary.~~

~~(c) When different operations in a three-process operation facility are ducted to separate control devices, the lead emission concentration from the facility shall be determined using the equation:~~

$$\underline{C_{pbT} = \frac{\sum_{a=1}^N C_{pb_a} Q_{sda}}{Q_{sdT}}}$$

~~Where:~~

~~CpbT = is the facility emission concentration for the entire facility.~~

~~N = is the number of control devices to which separate operations in the facility are ducted.~~

~~Cpba = is the emission concentration from each control device.~~

~~Qsda = is the dry standard volumetric flow rate of the effluent gas stream from each control device.~~

~~QsdT = is the total dry standard volumetric flow rate from all of the control devices.~~

~~(d) For lead oxide manufacturing facilities, the average lead feed rate to a facility, expressed in kilograms per hour, shall be determined for each test run as follows:~~

- ~~1. Calculate the total amount of lead charged to the facility during the run by multiplying the number of lead pigs (ingots) charged during the run by the average mass of a pig in kilograms or by another suitable method.~~
- ~~2. Divide the total amount of lead charged to the facility during the run by the duration of the run in hours.~~

~~(e) Lead emissions from lead oxide manufacturing facilities, expressed in milligrams per kilogram of lead charged, shall be determined using the following equation:~~

$$\text{Epb} = \text{Cpb} \cdot \text{Qsd} / \text{F}$$

~~Where:~~

~~Epb is the lead emission rate from the facility in milligrams per kilogram of lead charged.~~

~~Cpb is the concentration of lead in the exhaust stream in milligrams per dry standard cubic meter as determined according to part (a)1 of this paragraph.~~

~~Qsd is the dry standard volumetric flow rate in dry standard cubic meters per hour as determined according to part (a)3 of this paragraph.~~

~~F is the lead feed rate to the facility in kilograms per hour as determined according to subparagraph (d) of this paragraph.~~

~~Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.~~

### ~~1200-3-16-.47 Equipment Leaks of VOC in Petroleum Refineries~~

#### ~~(1) Applicability~~

~~(a) 1. The provisions of this rule apply to affected facilities in petroleum refineries.~~

~~2. The group of all equipment within a process unit is an affected facility.~~

~~3. A compressor is an affected facility.~~

~~(b) Any affected facility under subparagraph (a) of this paragraph that commences construction or modification after November 6, 1988, shall be subject to the requirements of this rule.~~

~~(c) Addition or replacement of equipment for the purpose of process improvement which is accomplished without a capital expenditure shall not by itself be considered a modification under this rule.~~

~~(d) Facilities subject to rule 1200-3-16-.43 are not subject to this rule.~~

#### ~~(2) Definitions~~

~~(a) "Capital expenditure" means, in addition to the definition in part 1200-3-16-.01(4)(a)2, an expenditure for a physical or operational change to an existing facility that:~~

~~1. Exceeds P, the product of the facility's replacement cost, R, and an adjusted annual asset guideline repair allowance, A, as reflected by the following equation:  $P = R \times A$ , where~~

~~(i) The adjusted annual asset guideline repair allowance, A, is the product of the percent of the replacement cost, Y, and the applicable basic annual asset guideline repair allowance, B, as reflected by the following equation:  $A = Y \times (B - 100)$ ;~~

~~(ii) The percent Y is determined from the following equation:  $Y = 1.0 - 0.575 \log X$ , where X is 1982 minus the year of construction; and~~

~~(iii) The applicable basic annual asset guideline repair allowance, B, is 7.0.~~

~~(b) "Closed vent system" means a system that is not open to the atmosphere and that is composed of piping, connections, and if necessary, flow inducing devices that transport gas or vapor from a piece or pieces of equipment to a control device.~~

- ~~(c) — “Connector” means flanged, screwed, welded, or other joined fittings used to connect two pipe lines or a pipe line and a piece of process equipment.~~
- ~~(d) — “Control device” means an enclosed combustion device, vapor recovery system or flare.~~
- ~~(e) — “Distance piece” means an open or enclosed casing through which the piston rod travels, separating the compressor cylinder from the crankcase.~~
- ~~(f) — “Double block and bleed system” means two block valves connected in series with a bleed valve or line that can vent the line between the two block valves.~~
- ~~(g) — “Equipment” means each valve, pump, pressure relief device, sampling connection system, open-ended valve or line, valve, and flange or other connector in VOC service. For the purpose of record-keeping and reporting only, compressors are considered equipment.~~
- ~~(h) — “First attempt at repair” means to take rapid action for the purpose of stopping or reducing leakage of organic material to atmosphere using best practices.~~
- ~~(i) — “In gas/vapor service” means that the piece of equipment contains process fluid that is in the gaseous state at operating conditions.~~
- ~~(j) — “In heavy liquid service” means that the piece of equipment is not in gas/vapor service or in light liquid service.~~
- ~~(k) — “In Hydrogen Service” means that a compressor contains a process fluid that meets the conditions specified in subparagraph (9)(b) of this rule.~~
- ~~(l) — “In Light Liquid Service” means that the piece of equipment contains a liquid that meets the conditions specified in subparagraph (9)(d) of this rule.~~
- ~~(m) — “Liquids dripping” means any visible leakage from the seal including spraying, misting, clouding, and ice formation.~~
- ~~(n) — “Open-ended valve or line” means any valve, except safety relief valves, having one side of the valve seat in contact with process fluid and one side open to the atmosphere, either directly or through open piping.~~
- ~~(o) — “Petroleum” means the crude oil removed from the earth and the oils derived from tar sands, shale, and coal.~~
- ~~(p) — “Petroleum Refinery” means any facility engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants, or other products through the distillation of petroleum, or through the redistillation, cracking, or reforming of unfinished petroleum derivatives.~~
- ~~(q) — “Pressure release” means the emission of materials resulting from system pressure being greater than set pressure of the pressure relief device.~~
- ~~(r) — “Process improvement” means routine changes made for safety and occupational health requirements, for energy savings, for better utility, for ease of maintenance and operation, for correction of design deficiencies, for bottleneck removal, for changing product requirements, or for environmental control.~~
- ~~(s) — “Process Unit” means components assembled to produce intermediate or final products from petroleum, unfinished petroleum derivatives, or other intermediates; a process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the product.~~
- ~~(t) — “Process unit shutdown” means a work practice or operational procedure that stops production from a process unit or part of a process unit. An unscheduled work practice or operational procedure that stops production from a process unit or part of a process unit for less than 24 hours is not a process unit shutdown. The use of spare equipment and technically feasible bypassing of~~

~~equipment without stopping production are not process unit shutdowns.~~

- ~~(u) "Quarter" means a 3-month period; the first quarter concludes on the last day of the last full month during the 180 days following initial startup.~~
- ~~(v) "Repaired" means that equipment is adjusted, or otherwise altered, in order to eliminate a leak as indicated by one of the following: an instrument reading of 10,000 ppm or greater, indication of liquids dripping, or indication by a sensor that a seal or barrier fluid system has failed.~~
- ~~(w) "Replacement cost" means the capital needed to purchase all the depreciable components in a facility.~~
- ~~(x) "Sensor" means a device that measures a physical quantity or the change in a physical quantity such as temperature, pressure, flow rate, pH, or liquid level.~~
- ~~(y) "In-situ sampling systems" means nonextractive samplers or in-line samplers.~~
- ~~(z) "In vacuum service" means that equipment is operating at an internal pressure which is at least 5 kilopascals (kPa) below ambient pressure.~~
- ~~(aa) "In VOC Service" means that the piece of equipment contains or contacts a process fluid that is at least 10 percent VOC by weight. (The provisions of subparagraph (6)(d) of this rule specify how to determine that a piece of equipment is not in VOC service.)~~

### ~~(3) Standards~~

#### ~~(a) General~~

- ~~1. Each owner or operator subject to the provisions of this rule shall comply with the requirements of subparagraphs (3) (a) to (j) as soon as practicable, but no later than 180 days after initial startup.~~
- ~~2. An owner or operator may elect to comply with the requirements of subparagraphs (4)(a) and (b) of this rule.~~
- ~~3. An owner or operator may apply to the Technical Secretary for a determination of equivalency for any means of emission limitation that achieves a reduction in emissions of VOC at least equivalent to the reduction in emissions of VOC achieved by the controls required in this rule. In doing so, the owner or operator shall comply with requirements of paragraph (5) of this rule.~~
- ~~4. Each owner or operator subject to the provisions of this rule shall comply with the provisions of paragraph (6) of this rule except as provided in paragraph (9) of this rule.~~
- ~~5. Each owner or operator subject to the provisions of this rule shall comply with the provisions of paragraphs (7) and (8) of this rule.~~
- ~~6. Compliance with subparagraphs (3)(a) to (j) of this rule will be determined by review of records and reports, review of performance test results, and inspection using the methods and procedures specified in paragraph (6) of this rule.~~
- ~~7. Equipment that is in vacuum service is excluded from the requirements of subparagraphs (3)(b) to (j) of this rule if it is identified as required in part (7)(e)5 of this rule.~~

#### ~~(b) Pumps in light liquid service~~

- ~~1. (i) Each pump in light liquid service shall be monitored monthly to detect leaks by the methods specified in subparagraph (6)(b) of this rule, except as provided in part (3)(a)3 of this rule and parts 4, 5, and 6 of this subparagraph.~~
- ~~(ii) Each pump in light liquid service shall be checked by visual inspection each~~

~~calendar week for indications of liquids dripping from the pump seal.~~

- ~~2. (i) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.~~
- ~~(ii) If there are indications of liquids dripping from the pump seal, a leak is detected.~~
- ~~3. (i) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected except as provided in subparagraph (3)(i) of this rule.~~
- ~~(ii) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.~~
- ~~4. Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of part 1 of this rule, provided the following requirements are met:~~
  - ~~(i) Each dual mechanical seal system is:
    - ~~(I) Operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure; or~~
    - ~~(II) Equipment with a barrier fluid degassing reservoir that is connected by a closed vent system to a control device that complies with the requirements of subparagraph (3)(j) of this rule; or~~
    - ~~(III) Equipped with a system that purges the barrier fluid into a process stream with zero VOC emissions to the atmosphere.~~~~
  - ~~(ii) The barrier fluid system is in heavy liquid service or is not in VOC service.~~
  - ~~(iii) Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.~~
  - ~~(iv) Each pump is checked by visual inspection, each calendar week, for indications of liquids dripping from the pump seals.~~
  - ~~(v) (I) Each sensor as described in subpart 4(iii) of this subparagraph is checked daily or is equipped with an audible alarm, and~~
    - ~~(II) The owner or operator determines, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.~~
  - ~~(vi) (I) If there are indications of liquids dripping from the pump seal or the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion determined in item 4(v)(II) of this subparagraph, a leak is detected.~~
    - ~~(II) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in subparagraph (3)(i) of this rule.~~
    - ~~(III) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.~~
- ~~5. Any pump that is designated, as described in parts (7)(e)1 and 2 of this rule, for no detectable emission, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of parts 1, 3, and 4 of this subparagraph, if the pump:~~



- ~~(i) Has no externally actuated shaft penetrating the pump housing.~~
- ~~(ii) Is demonstrated to be operating with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background as measured by the methods specified in subparagraph (6)(c) of this rule, and~~
- ~~(iii) Is tested for compliance with subpart 5.(ii) of this subparagraph initially upon designation, annually, and at other times requested by the Technical Secretary.~~

~~6. If any pump is equipped with a closed vent system capable of capturing and transporting any leakage from the seal or seals to a control device that complies with the requirements of subparagraph (3)(j) of this rule, it is exempt from the parts 1 through 5 of this subparagraph.~~

~~(c) Compressors~~

~~1. Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of VOC to the atmosphere, except as provided in parts (3)(a)3 of this rule and parts 8 and 9 of this subparagraph.~~

~~2. Each compressor seal system as required in part 1 of this subparagraph shall be:~~

- ~~(i) Operated with the barrier fluid at a pressure that is greater than the compressor stuffing box pressure; or~~
- ~~(ii) Equipped with a barrier fluid system that is connected by a closed vent system to a control device that complies with the requirements of subparagraph (3)(j) of this rule; or~~
- ~~(iii) Equipped with a system that purges the barrier fluid into a process stream with zero VOC emissions to the atmosphere.~~

~~3. The barrier fluid system shall be in heavy liquid service or shall not be in VOC service.~~

~~4. Each barrier fluid system as described in part 1 of this subparagraph shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.~~

~~5. (i) Each sensor as required in part 4 of this subparagraph shall be checked daily or shall be equipped with an audible alarm.~~

~~(ii) The owner or operator shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.~~

~~6. If the sensor indicates failure of the seal system, the barrier system, or both based on the criterion determined under subpart 5(ii) of this subparagraph, a leak is detected.~~

~~7. (i) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in subparagraph (3)(i) of this rule.~~

~~(ii) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.~~

~~8. A compressor is exempt from the requirements of parts 1 and 2 of this subparagraph, if it is equipped with a closed vent system capable of capturing and transporting any leakage from the seal to a control device that complies with the requirements of subparagraph (3)(j) of this rule, except as provided in part 9 of this subparagraph.~~

~~9. Any compressor that is designated, as described in parts (7)(e)1 and 2 of this rule, for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above~~

~~background, is exempt from the requirements of parts 1 through 8 of this subparagraph, if the compressor:~~

- ~~(i) Is demonstrated to be operating with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the methods specified in subparagraph (6)(c) of this rule; and~~
- ~~(ii) Is tested for compliance with subpart 9(i) of this subparagraph initially upon designation, annually, and at other times requested by the Technical Secretary.~~

~~10. Any existing reciprocating compressor in a process unit which becomes an affected facility under provisions of subparagraphs 1200-3-16-.01(9)(a) or (b) is exempt from parts (3)(c)1, 2, 3, 4, 5, and 8 of this rule, provided the owner or operator demonstrates that recasting the distance piece or replacing the compressor are the only options available to bring the compressor into compliance with the provisions of parts 1, 2, 3, 4, 5, and 8 of this subparagraph.~~

~~(d) Pressure relief devices in gas/vapor service~~

- ~~1. Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as determined by the methods specified in subparagraph (6)(c) of this rule.~~
- ~~2. (i) After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than 5 calendar days after the pressure release, except as provided in subparagraph (3)(i) of this rule.~~
  - ~~(ii) No later than 5 calendar days after the pressure release, the pressure relief device shall be monitored to confirm the conditions of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, by the methods specified in subparagraph (6)(c) of this rule.~~
- ~~3. Any pressure relief device that is equipped with a closed vent system capable of capturing and transporting leakage through the pressure relief device to a control device as described in subparagraph (3)(j) of this rule is exempted from the requirements of parts 1 and 2 of this subparagraph.~~

~~(e) Sampling connection systems~~

- ~~1. Each sampling connection system shall be equipped with a closed purge system or closed vent system, except as provided in part (3)(a)3 of this rule.~~
- ~~2. Each closed purge system or closed vent system as required in part 1 of this subparagraph shall:
  - ~~(i) Return the purged process fluid directly to the process line with zero VOC emissions to the atmosphere; or~~
  - ~~(ii) Collect and recycle the purged process fluid with zero VOC emissions to the atmosphere; or~~
  - ~~(iii) Be designed and operated to capture and transport all the purged process fluid to a control device that complies with the requirements of subparagraph (3)(j) of this rule.~~~~
- ~~3. In-situ sampling systems are exempt from parts 1 and 2 of this subparagraph.~~

~~(f) Open-ended valves or lines~~

- ~~1. (i) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in part (3)(a)3 of this rule.~~
  - ~~(ii) The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line.~~
- ~~2. Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.~~
- ~~3. When a double block-and-bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with part 1 of this subparagraph at all other times.~~

~~(g) Valves in gas/vapor service and light liquid service~~

- ~~1. Each valve shall be monitored monthly to detect leaks by the methods specified in subparagraph (6)(b) of this rule and shall comply with parts 2 through 5 of this subparagraph, except as provided in parts 6, 7, and 8 of this subparagraph, subparagraphs (4)(a) (b) of this rule, and part (3)(a)3 of this rule.~~
- ~~2. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.~~
- ~~3. (i) Any valve for which a leak is not detected for 2 successive months may begin monitoring the first month of every quarter, beginning with the next quarter, until a leak is detected.~~
  - ~~(ii) If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months.~~
- ~~4. (i) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in subparagraph (3)(i) of this rule.~~
  - ~~(ii) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.~~
- ~~5. First attempts at repair include, but are not limited to, the following best practices where practicable:~~
  - ~~(i) Tightening of bonnet bolts;~~
  - ~~(ii) Replacement of bonnet bolts;~~
  - ~~(iii) Tightening of packing gland nuts; and~~
  - ~~(iv) Injection of lubricant into lubricated packing.~~
- ~~6. Any valve that is designated, as described in part (7)(e)2 of this rule, for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of part 1 of this subparagraph if the valve:~~
  - ~~(i) Has no external actuating mechanism in contact with the process fluid,~~
  - ~~(ii) Is operated with emissions less than 500 ppm above background as determined by the method specified in subparagraph (6)(c) of this rule, and~~
  - ~~(iii) Is tested for compliance with subpart 6(ii) of this subparagraph initially upon designation, annually, and at other times requested by the Technical Secretary.~~

- ~~7. Any valve that is designated, as described in part (7)(f)1 of this rule, as an unsafe-to-monitor valve is exempt from the requirements of part 1 of this subparagraph if:~~
- ~~(i) The owner or operator of the valve demonstrates that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with part 1 of this subparagraph, and~~
  - ~~(ii) The owner or operator of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times.~~
- ~~8. Any valve that is designated, as described in part (7)(f)2 of this rule, as a difficult-to-monitor valve is exempt from the requirements of part 1 of this subparagraph if:~~
- ~~(i) The owner or operator of the valve demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface.~~
  - ~~(ii) The process unit within which the valve is located becomes an affected facility through subparagraphs 1200-3-16-.01(9)(a) or (b), or the owner or operator designates less than 3.0 percent of the total number of valves as difficult-to-monitor and~~
  - ~~(iii) The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.~~
- ~~(h) Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and flanges and other connectors.~~
- ~~1. Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and flanges and other connectors shall be monitored within 5 days by the method specified in subparagraph (6)(b) of this rule if evidence of a potential leak is found by visual, audible, olfactory, or any other detection method.~~
  - ~~2. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.~~
  - ~~3. (i) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in subparagraph (3)(i) of this rule.~~
    - ~~(ii) The first attempt at repair shall be made no later than 5 calendar days after each leak is detected.~~
  - ~~4. First attempts at repair include, but are not limited to, the best practices described under part (3)(g)5 of this rule.~~
- ~~(i) Delay of repair~~
- ~~1. Delay of repair of equipment for which leaks have been detected will be allowed if the repair is technically infeasible without a process unit shutdown. Repair of this equipment shall occur before the end of the next process unit shutdown.~~
  - ~~2. Delay of repair of equipment will be allowed for equipment which is isolated from the process and which does not remain in VOC service.~~
  - ~~3. Delay of repair for valves will be allowed if:~~
    - ~~(i) The owner or operator demonstrates that emissions of purged material resulting from immediate repair are greater than the fugitive emissions likely to result from delay of repair, and~~
    - ~~(ii) When repair procedures are affected, the purged material is collected and~~

~~destroyed or recovered in a control device complying with subparagraph (3)(j) of his rule.~~

~~4. Delay of repair for pumps will be allowed if:~~

- ~~(i) Repair requires the use of a dual mechanical seal system that includes a barrier fluid system, and~~
- ~~(ii) Repair is completed as soon as practicable, but not later than 6 months after the leak was detected.~~

~~5. Delay of repair beyond a process unit shutdown will be allowed for a valve, if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next process unit shutdown will not be allowed unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown.~~

~~(j) Closed vent systems and control devices~~

~~1. Owners or operators of closed vent systems and control devices used to comply with provisions of this rule shall comply with the provisions of this subparagraph.~~

~~2. Vapor recovery systems (for example, condensers and adsorbers) shall be designed and operated to recover the VOC emissions vented to them with an efficiency of 95 percent or greater.~~

~~3. Enclosed combustion devices shall be designed and operated to reduce the VOC emissions vented to them with an efficiency of 95 percent or greater, or to provide a minimum residence time of 0.75 seconds at a minimum temperature of 816°C.~~

~~4. (i) Flares shall be designed for and operated with no visible emissions as determined by the methods specified in subparagraph (6)(g) of this rule, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.~~

~~(ii) Flares shall be operated with a flame present at all times, as determined by the methods specified in subparagraph (6)(g) of this rule.~~

~~(iii) Flares shall be used only with the net heating value of the gas being combusted being 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or with the net heating value of the gas being combusted being 7.45 MJ/scm or greater if the flare is nonassisted. The net heating value of the gas being combusted shall be determined by the methods specified in subparagraph (6)(g) of this rule.~~

~~(iv) Steam-assisted and nonassisted flares shall be designed for and operated with an exit velocity, as determined by the methods specified in part (6)(g)4 of this rule, less than 18m/sec (60 ft/sec).~~

~~(v) Flares used to comply with this rule shall be steam-assisted, air-assisted, or nonassisted.~~

~~(vi) Air-assisted flares shall be designed and operated with an exit velocity less than the velocity,  $V_{max}$  as determined by the methods specified in part (6)(g)5 of this rule.~~

~~5. Owners or operators of control devices used to comply with the provisions of this rule shall monitor these control devices to ensure that they are operated and maintained in conformance with their designs.~~

~~6. (i) Closed vent systems shall be designed and operated with no detectable~~

~~emissions, as indicated by an instrument reading of less than 500 ppm above background and visual inspections, as determined by the methods specified in subparagraph (6)(c) of this rule.~~

~~(ii) Closed vent systems shall be monitored to determine compliance with this subparagraph initially in accordance with paragraph 1200-3-16-.01(5), annually and at other times requested by the Technical Secretary.~~

~~7. Closed vent systems and control devices used to comply with provisions of this rule shall be operated at all times when emissions may be vented to them.~~

~~(4) Alternative standards for valves~~

~~(a) Allowable percentage of valves leaking~~

~~1. An owner or operator may elect to comply with an allowable percentage of valves leaking of equal to or less than 2.0 percent.~~

~~2. The following requirements shall be met if an owner or operator wishes to comply with an allowable percentage of valves leaking:~~

~~(i) An owner or operator must notify the Technical Secretary that the owner or operator has elected to comply with the allowable percentage of valves leaking before implementing this alternative standard, as specified in subparagraph (8)(d) of this rule.~~

~~(ii) A performance test as specified in part 3 of this subparagraph shall be conducted initially upon designation, annually, and at other times requested by the Technical Secretary.~~

~~(iii) If a valve leak is detected, it shall be repaired in accordance with parts (3)(g)4 and 5 of this rule.~~

~~3. Performance tests shall be conducted in the following manner:~~

~~(i) All valves in gas/vapor and light liquid service within the affected facility shall be monitored within 1 week by the methods specified in subparagraph (6)(b) of this rule.~~

~~(ii) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.~~

~~(iii) The leak percentage shall be determined by dividing the number of valves for which leaks are detected by the number of valves in gas/vapor and light liquid service within the affected facility.~~

~~4. Owners and operators who elect to comply with this alternative standard shall not have an affected facility with a leak percentage greater than 2.0 percent.~~

~~(b) Skip period leak detection and repair:~~

~~1. (i) An owner or operator may elect to comply with one of the alternative work practices specified in subparts 2(ii) and (iii) of this subparagraph.~~

~~(ii) An owner or operator must notify the Technical Secretary before implementing one of the alternative work practices, as specified in subparagraph (8)(d) of this rule.~~

~~2. (i) An owner or operator shall comply initially with the requirements for valves in gas/vapor service and valves in light liquid service, as described in subparagraph (3)(g) of this rule.~~

~~(ii) After 2 consecutive quarterly leak detection periods with the percent of valves~~

~~leaking equal to or less than 2.0, an owner or operator may begin to skip 1 of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.~~

~~(iii) After 5 consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0, an owner or operator may begin to skip 3 of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.~~

~~(iv) If the percent of valves leaking is greater than 2.0, the owner or operator shall comply with the requirements of subparagraph (3)(g) of this rule but can again elect to use this subparagraph.~~

~~(v) The percent of valves leaking shall be determined by dividing the sum of valves found leaking during current monitoring and valves for which repair has been delayed by the total number of valves subject to the requirements of subparagraph (4)(b) of this rule.~~

~~(vi) An owner or operator must keep a record of the percent of valves found leaking during each leak detection period.~~

~~(5) Equivalence of means of emission limitation~~

~~(a) Each owner or operator subject to the provisions of this rule may apply to the Technical Secretary for determination of equivalence for any means of emission limitation that achieves a reduction in emissions of VOC at least equivalent to the reduction in emissions of VOC achieved by the controls required in this rule.~~

~~(b) Determination of equivalence to the equipment, design, and operational requirements of this rule will be evaluated by the following guidelines:~~

~~1. Each owner or operator applying for an equivalence determination shall be responsible for collecting and verifying test data to demonstrate equivalence of means of emission limitation.~~

~~2. The Technical Secretary will compare test data for the means of emission limitation to test data for the equipment, design, and operational requirements.~~

~~3. The Technical Secretary may condition the approval of equivalence on requirements that may be necessary to assure operation and maintenance to achieve the same emission reduction as the equipment, design, and operational requirements.~~

~~(c) Determination of equivalence to the required work practices in this rule will be evaluated by the following guidelines:~~

~~1. Each owner or operator applying for a determination of equivalence shall be responsible for collecting and verifying test data to demonstrate equivalence of an equivalent means of emission limitation.~~

~~2. For each affected facility for which a determination of equivalence is requested, the emission reduction achieved by the required work practice shall be demonstrated.~~

~~3. For each affected facility, for which a determination of equivalence is requested, the emission reduction achieved by the equivalent means of emission limitation shall be demonstrated.~~

~~4. Each owner or operator applying for a determination of equivalence shall commit in writing to work practices(s) that provide for emission reductions equal to or greater than the emission reductions achieved by the required work practice.~~

~~5. The Technical Secretary will compare the demonstrated emission reduction for the equivalent means of emission limitation to the demonstrated emission reduction for the required work practices and will consider the commitment in part (c)4 of this paragraph.~~

- ~~6. The Technical Secretary may condition the approval of equivalence on requirements that may be necessary to assure operation and maintenance to achieve the same emission reduction as the required work practice.~~
- ~~(d) An owner or operator may offer a unique approach to demonstrate the equivalence of any equivalent means of emission limitation.~~
- ~~(6) Test methods and procedures~~
- ~~(a) Each owner or operator subject to the provisions of this rule shall comply with the test method and procedure requirements provided in this paragraph.~~
- ~~(b) Monitoring, as required in paragraphs (3), (4), and (5) of this rule, shall comply with the following requirements:~~
- ~~1. Monitoring shall comply with Reference Method 21 as specified in 1200-3-16-.01(5)(g)21.~~
  - ~~2. The detection instrument shall meet the performance criteria of Reference Method 21.~~
  - ~~3. The instrument shall be calibrated before use on each day of its use by the methods specified in Method 21.~~
  - ~~4. Calibration gases shall be:~~
    - ~~(i) Zero air (less than 10 ppm of hydrocarbon in air); and~~
    - ~~(ii) A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane.~~
  - ~~5. The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Reference Method 21.~~
- ~~(c) When equipment is tested for compliance with no detectable emissions as required in parts (3)(b)5, (c)9, (g)6, and (j)5 and subparagraph (3)(d) of this rule, the test shall comply with the following requirements:~~
- ~~1. The requirements of parts (b)1 through 4 of this paragraph shall apply.~~
  - ~~2. The background level shall be determined, as set forth in Reference Method 21.~~
  - ~~3. The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Reference Method 21.~~
  - ~~4. The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.~~
- ~~(d)~~
- ~~1. Each piece of equipment within a process unit is presumed to be in VOC service unless an owner or operator demonstrates that the piece of equipment is not in VOC service. For a piece of equipment to be considered not in VOC service, it must be determined that the percent VOC content can be reasonably expected never to exceed 10 percent by weight. For purposes of determining the percent VOC content in the process fluid that is contained in or contacts equipment, procedures that conform to the general methods described in ASTM E-260, E-168, E-169 shall be used. (Note: All references to ASTM in this rule refers to the American Society for Testing Materials. Copies of methods are available for purchase by writing to ASTM, 1916 Race Street, Philadelphia, PA 19103 or by writing to the Tennessee Division of Air Pollution Control, 701 Broadway, 4th Floor Customs House, Nashville, TN 37219. Be sure and specify which method is desired.)~~
  - ~~2. If an owner or operator decides to exclude non-reactive organic compounds from the total quantity of organic compounds in determining the percent VOC content of the process fluid,~~



~~the exclusion will be allowed if:~~

~~(i) These substances excluded are those considered as having negligible photochemical reactivity by the Technical Secretary; and~~

~~(ii) The owner or operator demonstrates that the percent organic content, excluding non-reactive organic compounds, can be reasonably expected never to exceed 10 percent by weight.~~

~~3. (i) An owner or operator may use engineering judgment rather than the procedures in parts (d)1 and 2 of this paragraph to demonstrate that the percent VOC content does not exceed 10 percent by weight, provided that the engineering judgment demonstrates that the VOC content clearly does not exceed 10 percent by weight. When an owner or operator and the Technical Secretary do not agree on whether a piece of equipment is not in VOC service, however, the procedures in parts (d)1 and 2 of this paragraph shall be used to resolve the disagreement.~~

~~(ii) If an owner or operator determines that a piece of equipment is in VOC service, the determination can be revised only after following the procedures in parts (d)1 and 2 of this paragraph.~~

~~(e) Equipment is in light liquid service if the following conditions apply:~~

~~1. The vapor pressure of one or more of the components is greater than 0.3 kPa at 20°C. Vapor pressures may be obtained from standard reference texts or may be determined by ASTM D-2879. (Note: All references to ASTM in this rule refers to the American Society for Testing Materials. Copies of methods are available for purchase by writing to ASTM, 1916 Race Street, Philadelphia, PA 19103 or by writing to the Tennessee Division of Air Pollution Control, 701 Broadway, 4th Floor Customs House, Nashville, TN 37219. Be sure and specify which method is desired.)~~

~~2. The total concentration of the pure components having a vapor pressure greater than 0.3 kPa at 20°C is equal to or greater than 20 percent by weight and~~

~~3. The fluid is a liquid at operating conditions.~~

~~(f) Samples used in conjunction with subparagraphs (d), (e), and (g) of this paragraph shall be representative of the process fluid that is contained in or contacts the equipment or the gas being combusted in the flare.~~

~~(g) 1. Reference Method 22 as specified in rule 1200-3-16-.01(5)(g) shall be used to determine the compliance of the flares with the visible emission provisions of this rule.~~

~~2. The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.~~

~~3. The net heating value of the gas being combusted in a flare shall be calculated using the following equation:~~

$$H_T = K \sum_{i=1}^n C_i H_i$$

~~Where:~~

~~H<sub>T</sub> = Net heating value of the sample, MJ/ scm; where the net enthalpy per mole of offgas is based on combustion at 25°C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20.~~

~~K = Constant, 1.740 x 10<sup>-7</sup> -1 g mole MJ~~

ppm — sem — kcal. —

Where the standard temperature for  $\frac{\text{g mole}}{\text{sem}}$  is 20° C

$C_i$  = Concentration of sample component  $i$  in ppm, as measured by Reference Method 18 and ASTM D2504-67 (reapproved 1977).

$i$  = Net heat of combustion of sample component  $i$ , kcal/g mole. The heats of combustion may be determined using ASTM D2382-76 if published values are not available or cannot be calculated.

4. The actual exit velocity of a flare shall be determined by dividing the volumetric flowrate (in units of standard temperature and pressure), as determined by Reference Method 2 or 2A, as appropriate; by the unobstructed (free) cross sectional area of the flare tip.

5. The maximum permitted velocity,  $V_{\text{max}}$  for air-assisted flares shall be determined by the following equation:

$$V_{\text{max}} = 8.706 + 0.7084 (HT)$$

$V_{\text{max}}$  = Maximum permitted velocity, m/sec.

8.706 = Constant.

0.7084 = Constant.

$H_T$  = The net heating value as determined in part (g)3 of this paragraph.

(7) Record-keeping requirements

(a) 1. Each owner or operator subject to the provisions of this rule shall comply with the record-keeping requirements of this paragraph.

2. An owner or operator of more than one affected facility subject to the provisions of this rule may comply with the record-keeping requirements for these facilities in one record-keeping system if the system identifies each record by each facility.

(b) When each leak is detected as specified in subparagraphs (3)(b), (c), (g), (h), and (4)(b) of this rule, the following requirements apply:

1. A weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment.

2. The identification on a valve may be removed after it has been monitored for 2 successive months as specified in part (3)(g)3 of this rule and no leak has been detected during those 2 months.

3. The identification on equipment, except on a valve, may be removed after it has been repaired.

(c) When each leak is detected as specified in subparagraphs (3)(b), (c), (g), (h), and (4)(b) of this rule, the following information shall be recorded in a log and shall be kept for 2 years in a readily accessible location:

1. The instrument and operator identification numbers and the equipment identification number.

2. The date the leak was detected and the dates of each attempt to repair the leak.

3. Repair methods applied in each attempt to repair the leak.

- ~~4. "Above 10,000" if the maximum instrument reading measured by the methods specified in subparagraph (6)(a) of this rule after each repair attempt is equal to or greater than 10,000 ppm.~~
  - ~~5. "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.~~
  - ~~6. The signature of the owner or operator (or designate) whose decision it was that repair could not be affected without a process shutdown.~~
  - ~~7. The expected date of successful repair of the leak if a leak is not repaired within 15 days.~~
  - ~~8. Dates of process unit shutdown that occur while the equipment is unrepaired.~~
  - ~~9. The date of successful repair of the leak.~~
- ~~(d) The following information pertaining to the design requirements for closed vent systems and control devices described in subparagraph (3)(j) of this rule shall be recorded and kept in a readily accessible location:~~
- ~~1. Detailed schematics, design specifications, and piping and instrumentation diagrams.~~
  - ~~2. The dates and descriptions of any changes in the design specifications.~~
  - ~~3. A description of the parameter or parameters monitored, as required in part (3)(j)5 of this rule, to ensure that control devices are operated and maintained in conformance with their design and an explanation of why that parameter (or parameters) was selected for the monitoring.~~
  - ~~4. Periods when the closed vent systems and control devices required in subparagraphs (3)(b), (c), (d), and (e) of this rule are not operated as designed, including periods when a flare pilot light does not have a flame.~~
  - ~~5. Dates of startups and shutdowns of the closed vent systems and control devices required in subparagraphs (3)(b), (c), (d), and (e) of this rule.~~
- ~~(e) The following information pertaining to all equipment subject to the requirements in subparagraphs (3)(a) to (j) of this rule shall be recorded in a log that is kept in a readily accessible location:~~
- ~~1. A list of identification numbers for equipment subject to the requirements of this rule.~~
  - ~~2. (i) A list of identification numbers for equipment that are designated for no detectable emissions under the provisions of parts (3)(b)5, (c)9 and (g)6 of this rule.~~
    - ~~(ii) The designation of equipment as subject to the requirements of parts (3)(b)5, (c)9, and (g)6 of this rule shall be signed by the owner or operator.~~
  - ~~3. A list of equipment identification numbers for pressure relief devices required to comply with subparagraph (3)(d) of this rule.~~
  - ~~4. (i) The dates of each compliance test as required in parts (3)(b)5 and (c)9, subparagraph (3)(d), and part (3)(g)6 of this rule.~~
    - ~~(ii) The background level measured during each compliance test.~~
    - ~~(iii) The maximum instrument reading measured at the equipment during each compliance test.~~
  - ~~5. A list of identification numbers for equipment in vacuum service.~~

- ~~(f) The following information pertaining to all valves subject to the requirements of parts (3)(g)7 and 8 of this rule shall be recorded in a log that is kept in a readily accessible location:~~
- ~~1. A list of identification numbers for valves that are designated as unsafe to monitor, an explanation for each valve stating why the valve is unsafe to monitor, and the plan for monitoring each valve.~~
  - ~~2. A list of identification numbers for valves that are designated as difficult to monitor, an explanation for each valve stating why the valve is difficult to monitor, and the schedule for monitoring each valve.~~
- ~~(g) The following information shall be recorded for valves complying with subparagraph (4)(b) of this rule:~~
- ~~1. A schedule of monitoring.~~
  - ~~2. The percent of valves found leaking during each monitoring period.~~
- ~~(h) The following information shall be recorded in a log that is kept in a readily accessible location:~~
- ~~1. Design criterion required in subparts (3)(b)4(v) and (3)(c)5(ii) of this rule and explanation of the design criterion; and~~
  - ~~2. Any changes to this criterion and the reasons for the changes.~~
- ~~(i) The following information shall be recorded in a log that is kept in a readily accessible location for use in determining exemptions as provided in subparagraph (1)(d) of this rule:~~
- ~~1. An analysis demonstrating the design capacity of the affected facility;~~
  - ~~2. A statement listing the feed or raw materials and products from the affected facilities and an analysis demonstrating whether these chemicals are heavy liquids or beverage alcohol, and~~
  - ~~3. An analysis demonstrating that equipment is not in VOC service.~~
- ~~(j) Information and data used to demonstrate that a piece of equipment is not in VOC service shall be recorded in a log that is kept in a readily accessible location.~~
- ~~(k) The provisions of subparagraphs 1200-3-16-.01(7)(b) and (d) do not apply to affected facilities subject to this rule.~~

~~(8) Reporting requirements~~

- ~~(a) Each owner or operator subject to the provisions of this rule shall submit semiannual reports to the Technical Secretary beginning six months after the initial start up date.~~
- ~~(b) The initial semiannual report to the Technical Secretary shall include the following information:~~
- ~~1. Process unit identification.~~
  - ~~2. Number of valves subject to the requirements of subparagraph (3)(g) of this rule, excluding those valves designated for no detectable emissions under the provisions of part (3)(g)6 of this rule.~~
  - ~~3. Number of pumps subject to the requirements of subparagraph (3)(b) of this rule, excluding those pumps designated for no detectable emissions under the provisions of part (3)(b)5 of this rule and those pumps complying with part (3)(b)6 of this rule.~~
  - ~~4. Number of compressors subject to the requirements of subparagraph (3)(c) of this rule, excluding those compressors designated for no detectable emissions under the provisions~~

~~of part (3)(c)9 of this rule and those compressors complying with part (3)(c)8 of this rule.~~

~~(c) All semiannual reports to the Technical Secretary shall include the following information, summarized from the information in paragraph (7) of this rule:~~

~~1. Process unit identification.~~

~~2. For each month during the semiannual reporting period,~~

~~(i) Number of valves for which leaks were detected as described in part (3)(g)2 or subparagraph (4)(b) of this rule,~~

~~(ii) Number of valves for which leaks were not repaired as required in subpart (3)(g)4(i) of this rule,~~

~~(iii) Number of pumps for which leaks were detected as described in part (3)(b)2 and item (3)(b)4(vi)(I) of this rule,~~

~~(iv) Number of pumps for which leaks were not repaired as required in subpart (3)(b)3(i) and item (3)(b)4(vi)(II) of this rule,~~

~~(v) Number of compressors for which leaks were detected as described in part (3)(c)6 of this rule,~~

~~(vi) Number of compressors for which leaks were not repaired as required in subpart (3)(c)7(i) of this rule, and~~

~~(vii) The facts that explain each delay of repair and, where appropriate, why a process unit shutdown was technically infeasible.~~

~~3. Dates of process unit shutdowns which occurred within the semiannual reporting period.~~

~~4. Revisions to items reported according to subparagraph (b) of this paragraph if changes have occurred since the initial report or subsequent revisions to the initial report.~~

~~(d) An owner or operator electing to comply with the provisions of subparagraphs (4)(a) and (b) of this rule shall notify the Technical Secretary of the alternative standard selected 90 days before implementing either of the provisions.~~

~~(e) An owner or operator shall report the results of all performance tests in accordance with paragraph 1200-3-16-.01(5). The provisions of subparagraph 1200-3-16-.01(5)(d) do not apply to affected facilities subject to the provisions of this rule except that an owner or operator must notify the Technical Secretary of the schedule for the initial performance tests at least 30 days before the initial performance tests.~~

~~(9) Exceptions~~

~~(a) Each owner or operator subject to the provisions of this rule may comply with the following exceptions.~~

~~(b) 1. Compressors in hydrogen service are exempt from the requirements of paragraph (3) of this rule if an owner or operator demonstrates that a compressor is in hydrogen service.~~

~~2. Each compressor is presumed not to be in hydrogen service unless an owner or operator demonstrates that the piece of equipment is in hydrogen service. For a piece of equipment to be considered in hydrogen service, it must be determined that the percent hydrogen content can be reasonably expected always to exceed 50 percent by volume. For purposes of determining the percent hydrogen content in the process fluid that is contained in or contacts a compressor, procedures that conform to the general method described in ASTM E-260, E-168, or E-169 shall be used. (Note: All references to ASTM in this rule refers to the American Society for Testing Materials. Copies of methods are available for purchase~~

by writing to ASTM, 1916 Race Street, Philadelphia, PA 19103 or by writing to the Tennessee Division of Air Pollution Control, 701 Broadway, 4th Floor Customs House, Nashville, TN 37219. Be sure and specify which method is desired.)

3. ~~(i) An owner or operator may use engineering judgment rather than procedures in part 2 of this subparagraph to demonstrate that the percent content exceeds 50 percent by volume, provided the engineering judgment demonstrates that the content clearly exceeds 50 percent by volume. When an owner or operator and the Technical Secretary do not agree on whether a piece of equipment is in hydrogen service, however, the procedures in part 2 of this subparagraph shall be used to resolve the disagreement.~~
- ~~(ii) If an owner or operator determines that a piece of equipment is in hydrogen service, the determination can be revised only after following the procedures in part 2 of this subparagraph.~~
- ~~(c) Any existing reciprocating compressor that becomes an affected facility under provisions of subparagraphs 1200-3-16-.01(9)(a) and (b) is exempt from subparagraphs (3)(a), (b), (c), (d), (e), and (h) of this rule provided the owner or operator demonstrates that recasting the distance piece or replacing the compressor are the only options available to bring the compressor into compliance with the provisions of subparagraphs (3)(a), (b), (c), (d), (e), and (h) of this rule.~~
- ~~(d) An owner or operator may use the following provision in addition to subparagraph (6)(e) of this rule: Equipment is in light liquid service if the percent evaporated is greater than 10 percent at 15° C as determined by ASTM Method D-86.~~

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

#### 1200-03-16-.48 Flexible Vinyl and Urethane Coating and Printing

##### ~~(1) Applicability~~

- ~~(a) The affected facility to which the provisions of this rule apply is each rotogravure printing line used to print or coat flexible vinyl or urethane products.~~
- ~~(b) This rule applies to any affected facility which begins construction, modification, or reconstruction after November 6, 1988.~~
- ~~(c) For facilities controlled by a solvent recovery emission control device, the provisions of subparagraph (5)(a) of this rule requiring monitoring of operations will not apply until performance specifications for the continuous monitoring system have been promulgated. After the promulgation of performance specifications, these provisions will apply to each affected facility under subparagraph (b) of this paragraph. Facilities controlled by a solvent recovery emission control device that become subject to the standard prior to promulgation of performance specifications must conduct performance tests in accordance with subparagraph 1200-3-16-.01(8)(b) after performance specifications are promulgated.~~

##### ~~(2) Definitions and symbols~~

###### ~~(a) Definitions~~

- ~~1. "Emission control device" means any solvent recovery or solvent destruction device used to control volatile organic compounds (VOC) emissions from flexible vinyl and urethane rotogravure printing lines.~~
- ~~2. "Emission control system" means the combination of an emission control device and a vapor capture system for the purpose of reducing VOC emissions from flexible vinyl and urethane rotogravure printing lines.~~
- ~~3. "Flexible vinyl and urethane products" mean those products, except for resilient floor coverings (1977 Standard Industry Code 3996) and flexible packaging, that are more than~~

50 micrometers (0.002 inches) thick, and that consist of or contain a vinyl or urethane sheet or a vinyl or urethane coated web.

4. ~~“Gravure cylinder” means a plated cylinder with a printing image consisting of minute cells or indentations, specifically engraved or etched into the cylinder’s surface to hold ink when continuously revolved through a fountain of ink.~~
5. ~~“Ink” means any mixture of ink, coating solids, organic solvents including dilution solvent, and water that is applied to the web of flexible vinyl or urethane on a rotogravure printing line.~~
6. ~~“Ink solids” means the solids content of an ink as determined by Method 24 (as specified in rule 1200-3-16-.01(5)(g), ink manufacturer’s formulation data, or plant blending records.~~
7. ~~“Inventory system” means a method of physically accounting for the quantity of ink, solvent, and solids used at one or more affected facilities during a time period. The system is based on plant purchase or inventory records.~~
8. ~~“Plant blending records” means those records which document the weight fraction of organic solvents and solids used in the formulation or preparation of inks at the vinyl or urethane printing plant where they are used.~~
9. ~~“Rotogravure print station” means any device designed to print or coat inks on one side of a continuous web or substrate using the intaglio printing process with a gravure cylinder.~~
10. ~~“Rotogravure printing line” means any number of rotogravure print stations and associated dryers capable of printing or coating simultaneously on the same continuous vinyl or urethane web or substrate, which is fed from a continuous roll.~~
11. ~~“Vapor capture system” means any device or combination of devices designed to contain, collect, and route organic solvent vapors emitted from the flexible vinyl or urethane rotogravure printing line.~~

~~(b) Symbols~~

1. ~~“a” means the gas stream vents exiting the emission control device.~~
2. ~~“b” means the gas stream vents entering the emission control device.~~
3. ~~“f” means the gas stream vents which are not directed to an emission control device.~~
4. ~~“Caj” means the concentration of VOC in each gas stream (j) for the time period exiting the emission control device, in parts per million by volume.~~
5. ~~“Cbi” means the concentration of VOC in each gas stream (i) for the time period entering the emission control device, in parts per million by volume.~~
6. ~~“Cfk” means the concentration of VOC in each gas stream (k) for the time period which is not directed to an emission control device, in parts per million by volume.~~
7. ~~“G” means the weighted average mass of VOC per mass of ink solids applied in kilograms per kilogram.~~
8. ~~“Mci” means the total mass of each ink (i) applied in the time period as determined from plant records, in kilograms.~~
9. ~~“Mdj” means the total mass of each dilution solvent (j) added at the print line in the time period determined from plant records, in kilograms.~~
10. ~~“Qaj” means the volumetric flow rate of each effluent gas stream (j) exiting the emission~~

~~control device, in standard cubic meters per hour.~~

- ~~11. "Qbi" means the volumetric flow rate of each effluent gas stream (i) entering the emission control device, in standard cubic meters per hour.~~
- ~~12. "Qfk" means the volumetric flow rate of each effluent gas stream (k) not directed to an emission control device, in standard cubic meters per hour.~~
- ~~13. "E" means the VOC emission reduction efficiency (as a fraction) of the emission control device during performance testing.~~
- ~~14. "F" means the VOC emission capture efficiency (as a fraction) of the vapor capture system during performance testing.~~
- ~~15. "Woi" means the weight fraction of VOC in each ink (i) used in the time period as determined from Reference Method 24, manufacturer's formulation data, or plant blending records, in kilograms per kilogram.~~
- ~~16. "Wsi" means the weight fraction of solids in each ink (i) used in the time period as determined from Reference Method 24, manufacturer's formulation data, or plant blending records, in kilograms per kilogram.~~
- ~~17. "Woj" means the weight fraction of VOC in each dilution solvent (j) added at the print line in the time period determined from Reference Method 24, manufacturer's formulation data, or plant blending records, in kilograms per kilogram.~~
- ~~18. "n" = the number of different inks (i) used.~~
- ~~19. "m" = the number of different dilution solvents (j) added at the print line.~~
- ~~20. "p" = the number of effluent gas streams (k) not directed to an emissions control device.~~

~~(3) Standard~~

- ~~(a) On and after the date on which the performance test required by paragraph 1200-3-16-.01(5) has been completed, each owner or operator subject to this rule shall either:~~
  - ~~1. Use inks with a weighted average VOC content less than 1.0 kilogram VOC per kilogram ink solids at each affected facility, or~~
  - ~~2. Reduce VOC emissions to the atmosphere by 85 percent from each affected facility.~~

~~(4) Test methods and procedures~~

- ~~(a) Reference Methods as specified in rule 1200-3-16-.01(5)(g), except as provided under subparagraph 1200-3-16-.01(5)(b), shall be used to determine compliance with subparagraph (3)(a) of this rule as follows:~~
  - ~~1. Method 24 for analysis of inks. If nonphotochemically reactive solvents are used in the inks, standard gas chromatographic techniques may be used to identify and quantify these solvents. The results of Reference Method 24 may be adjusted to subtract these solvents from the measured VOC content.~~
  - ~~2. Method 25A for VOC concentration (the calibration gas shall be propane);~~
  - ~~3. Method 1 for sample and velocity traverses;~~
  - ~~4. Method 2 for velocity and volumetric flow rates;~~
  - ~~5. Method 3 for gas analysis;~~



~~6. Method 4 for stack gas moisture.~~

~~(b) To demonstrate compliance with part (3)(a)1 of this rule, the owner or operator of an affected facility shall determine the weighted average VOC content of the inks according to the following procedures:~~

- ~~1. Determine and record the VOC content and amount of each ink used at the print head, including the VOC content and amount of diluted solvent, for any time periods when VOC emission control equipment is not used.~~
- ~~2. Compute the weighted average VOC content by the following equation:~~

$$G = \frac{\sum_{i=1}^n M_{ci} W_{oi} + \sum_{j=1}^m W_{oj} M_{dj}}{\sum_{i=1}^n M_{ci} W_{si}}$$

- ~~3. The weighted average VOC content of the inks shall be calculated over a period that does not exceed one calendar month, or four consecutive weeks. A facility that uses an accounting system based on quarters consisting of two 28 calendar day periods and one 35 calendar day period may use an averaging period of 35 calendar days four times per year, provided the use of such an accounting system is documented in the initial performance test.~~
- ~~4. Each determination of the weighted average VOC content shall constitute a performance test for any period when VOC emission control equipment is not used. Results of the initial performance test must be reported to the Technical Secretary. Reference Method 24 or ink manufacturer's formulation data along with plant blending records (if plant blending is done) may be used to determine VOC content. The Technical Secretary may require the use of Reference Method 24 if there is a question concerning the accuracy of the ink manufacturer's data or plant blending records.~~
- ~~5. If, during the time periods when emission control equipment is not used, all inks used contain less than 1.0 kilogram VOC per kilogram ink solids, the owner or operator is not required to calculate the weighted average VOC content, but must verify and record the VOC content of each ink (including any added dilution solvent) used as determined by Referenced Method 24, ink manufacturers' formulation data, or plant blending records.~~

~~(c) To demonstrate compliance with part (3)(a)1 of this rule, the owner or operator may determine the weighted average VOC content using an inventory system.~~

- ~~1. The inventory system shall accurately account to the nearest kilogram for the VOC content of all inks and dilution solvent used, recycled, and discarded for each affected facility during the averaging period. Separate records must be kept for each affected facility.~~
- ~~2. To determine VOC content of inks and dilution solvent used or recycled, Reference Method 24 or ink manufacturers' formulation data must be used in combination with plant blending records (if plant blending is done) or inventory records or purchase records for new inks or dilution solvent.~~
- ~~3. For inks to be discarded, only Reference Method 24 shall be used to determine the VOC content. Inks to be discarded may be combined prior to measurement of volume or weight and testing by Reference Method 24.~~
- ~~4. The Technical Secretary may require the use of Reference Method 24 if there is a question concerning the accuracy of the ink manufacturer's data or plant records.~~
- ~~5. The Technical Secretary shall approve the inventory system of accounting for VOC content prior to the initial performance test.~~

~~(d) To demonstrate compliance with part (3)(a)2 of this rule, the owner or operator of an affected facility controlled by a solvent recovery emission control device or an incineration control device shall conduct a performance test to determine overall VOC emission control efficiency according to the following procedures:~~

~~1. The performance test shall consist of three runs. Each test run must last a minimum of 30 minutes and shall continue until the printing operation is interrupted or until 180 minutes of continuous operation occurs. During each test run, the print line shall be printing continuously and operating normally. The VOC emission reduction efficiency achieved for each test run is averaged over the entire test run period.~~

~~2. VOC concentration values at each site shall be measured simultaneously.~~

~~3. The volumetric flow rate shall be determined from one Method 2 measurement for each test run conducted immediately prior to, during, or after that test run. Volumetric flow rates at each site do not need to be measured simultaneously.~~

~~4. In order to determine capture efficiency from an affected facility, all fugitive VOC emissions from the affected facility shall be captured and vented through stacks suitable for measurement. During a performance test, the owner or operator of an affected facility located in an area with other sources of VOC shall isolate the affected facility from other sources of VOC. These two requirements shall be accomplished using one of the following methods:~~

~~(i) Build a permanent enclosure around the affected facility;~~

~~(ii) Build a temporary enclosure around the affected facility and duplicate, to an extent that is reasonably feasible, the ventilation conditions that are in effect when the affected facility is not enclosed (one way to do this is to divide the room exhaust rate by the volume of the room and then duplicate that quotient or 20 air changes per hour, whichever is smaller, in the temporary enclosure); or~~

~~(iii) Shut down all other sources of VOC and continue to exhaust fugitive emissions from the affected facility through any building ventilation system and other room exhausts such as print line ovens and embossers.~~

~~5. For each affected facility, compliance with part (3)(a)2 of this rule has been demonstrated if the average value of the overall control efficiency (EF) for the three runs is equal to or greater than 85 percent. An overall control efficiency is calculated for each run as follows:~~

~~(i) For efficiency of the emission control device:~~

$$E = \frac{\sum_{i=1}^n Q_{bi} C_{bi} - \sum_{j=1}^m Q_{aj} C_{aj}}{\sum_{i=1}^n Q_{bi} C_{bi}}$$

~~(ii) For efficiency of the vapor capture system:~~

$$F = \frac{\sum_{i=1}^n Q_{bi} C_{bi}}{\sum_{i=1}^n Q_{bi} C_{bi} + \sum_{k=1}^p Q_{fk} C_{fk}}$$

~~(5) Monitoring of operations and record keeping requirements:~~

~~(a) The owner or operator of an affected facility controlled by a solvent recovery emission control device shall install, calibrate, operate, and maintain a monitoring system which continuously~~

~~measures and records the VOC concentration of the exhaust vent stream from the control device and shall comply with the following requirements:~~

- ~~1. The continuous monitoring system shall be installed in a location that is representative of the VOC concentration in the exhaust vent, at least two equivalent stack diameters from the exhaust point, and protected from interferences due to wind, weather, or other processes.~~
- ~~2. During the performance test, the owner or operator shall determine and record the average exhaust vent VOC concentration in parts per million by volume. After the performance test, the owner or operator shall determine and, in addition to the record made by the continuous monitoring device, record the average exhaust vent VOC concentration for each 3-hour clock period of printing operation when the average concentration is greater than 50 ppm and more than 20 percent greater than the average concentration value demonstrated during the most recent performance test.~~

~~(b) The owner or operator of an affected facility controlled by a thermal incineration emission control device shall install, calibrate, operate, and maintain a monitoring device that continuously measures and records the temperature of the control device exhaust gases and shall comply with the following requirements:~~

- ~~1. The continuous monitoring device shall be calibrated annually and have an accuracy of  $\pm 0.75$  percent of the temperature being measured or  $\pm 2.5^{\circ}\text{C}$ , whichever is greater.~~
- ~~2. During the performance test, the owner or operator shall determine and record the average temperature of the control device exhaust gases. After the performance test, the owner or operator shall determine and record, in addition to the record made by the continuous monitoring device, the average temperature for each 3-hour clock period of printing operation when the average temperature of the exhaust gases is more than  $28^{\circ}\text{C}$  below the average temperature demonstrated during the most recent performance test.~~

~~(c) The owner or operator of an affected facility controlled by a catalytic incineration emission control device shall install, calibrate, operate, and maintain monitoring devices that continuously measure and record the gas temperatures both upstream and downstream of the catalyst bed and shall comply with the following requirements:~~

- ~~1. Each continuous monitoring device shall be calibrated annually and have an accuracy of  $\pm 0.75$  percent of the temperature being measured or  $\pm 2.5^{\circ}\text{C}$ , whichever is greater.~~
- ~~2. During the performance test, the owner or operator shall determine and record the average gas temperature both upstream and downstream of the catalyst bed. After the performance test, the owner or operator shall determine and record, in addition to the record made by the continuous monitoring device, the average temperatures for each 3-hour clock period of printing operation when the average temperature of the gas stream before the catalyst bed is more than  $28^{\circ}\text{C}$  below the average temperature demonstrated during the most recent performance or the average temperature difference across the catalyst bed is less than 80 percent of the average temperature difference of the device during the most recent performance test.~~

~~(d) The owner or operator of an affected facility shall record time periods of operation when an emission control device is not in use.~~

#### ~~(6) Reporting requirements~~

~~(a) For all affected facilities subject to compliance with paragraph (3) of this rule, the performance test shall be submitted to the Technical Secretary as specified in subparagraph 1200-03-16-.01(5)(a).~~

~~(b) The owner or operator of each affected facility shall submit semiannual reports to the Technical Secretary of occurrences of the following:~~

- ~~1. Exceedances of the weighted average VOC content specified in part (3)(a)1 of this rule;~~

- ~~2. Exceedances of the average value of the exhaust vent VOC concentration as defined under part (5)(a)2 of this rule;~~
  - ~~3. Drops in the incinerator temperature as defined under part (5)(b)2 of this rule; and~~
  - ~~4. Drops in the average temperature of the gas stream immediately before the catalyst bed or drops in the average temperature across the catalyst bed as defined under part (5)(c)2 of this rule.~~
- ~~(c) The reports required under subparagraph (b) of this paragraph shall be postmarked within 30 days following the end of the second and fourth calendar quarters.~~

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

#### ~~1200-03-16-.49 Petroleum Dry Cleaners~~

##### ~~(1) Applicability~~

- ~~(a) The provisions of this rule are applicable to the following affected facilities located at a petroleum dry cleaning plant with a total manufacturers' rated dryer capacity equal to or greater than 38 kilograms (84 pounds): Petroleum solvent dry cleaning dryers, washers, filters, stills, and settling tanks.~~
- ~~1. When the affected facility is installed in an existing plant that is not expanding the manufacturers' rated capacity of its petroleum solvent dryer(s), the total manufacturers' rated dryer capacity is the summation of the manufacturer's rated capacity for each existing petroleum solvent dryer.~~
  - ~~2. When the affected facility is installed in a plant that is expanding the manufacturers' rated capacity of its petroleum solvent dryers, the total manufacturers' rated dryer capacity is the summation of the manufacturers' rated dryer capacity for each existing and proposed new petroleum solvent dryer.~~
  - ~~3. When the affected facility is installed in a new plant, the total manufacturers' rated dryer capacity is the summation of the manufacturers' rated dryer capacity for each proposed new petroleum solvent dryer.~~
  - ~~4. The petroleum solvent dryers considered in the determination of the total manufacturers' rated dryer capacity are those new and existing dryers in the plant that will be in service at any time after the proposed new source or modification commences operation.~~
- ~~(b) Any facility under subparagraph (a) of this paragraph that commences construction or modification after November 6, 1988 is subject to the requirements of this rule.~~

##### ~~(2) Definitions~~

- ~~(a) "Cartridge filter" means a discrete filter unit containing both filter paper and activated carbon that traps and removes contaminants from petroleum solvent, together with the piping and ductwork used in the installation of this device.~~
- ~~(b) "Dryer" means a machine used to remove petroleum solvent from articles of clothing or other textile or leather goods, after washing and removing of excess petroleum solvent, together with the piping and ductwork used in the installation of this device.~~
- ~~(c) "Manufacturers' rated dryer capacity" means the dryer's rated capacity of articles, in pounds or kilograms of clothing articles per load, dry basis, that is typically found on each dryer on the manufacturer's name-plate or in the manufacturer's equipment specifications.~~
- ~~(d) "Perceptible leaks" means any petroleum solvent vapor or liquid leaks that are conspicuous from visual observation or that bubble after application of a soap solution, such as pools or droplets of~~

~~liquid, open containers or solvent, or solvent laden waste standing open to the atmosphere.~~

- ~~(e) — “Petroleum dry cleaner” means a dry cleaning facility that uses petroleum solvent in a combination of washers, dryers, filters, stills, and settling tanks.~~
- ~~(f) — “Settling tank” means a container that gravimetrically separates oils, grease, and dirt from petroleum solvent, together with the piping and ductwork used in the installation of this device.~~
- ~~(g) — “Solvent filter” means a discrete solvent filter unit containing a porous medium that traps and removes contaminants from petroleum solvent, together with the piping and ductwork used in the installation of this device.~~
- ~~(h) — “Solvent recovery dryer” means a class of dry cleaning dryers that employs a condenser to condense and recover solvent vapors evaporated in a closed-loop stream of heated air, together with the piping and ductwork used in the installation of this device.~~
- ~~(i) — “Still” means a device used to volatilize, separate, and recover petroleum solvent from contaminated solvent, together with the piping and ductwork used in the installation of this device.~~
- ~~(j) — “Washer” means a machine which agitates fabric articles in a petroleum solvent bath and spins the articles to remove the solvent, together with the piping and ductwork used in the installation of this device.~~

### ~~(3) — Standards~~

- ~~(a) — Each affected petroleum solvent dry cleaning dryer that is installed at a petroleum dry cleaning plant shall be a solvent recovery dryer. The solvent recovery dryer(s) shall be properly installed, operated, and maintained.~~
- ~~(b) — Each affected petroleum solvent filter that is installed at a petroleum dry cleaning plant shall be a cartridge filter. Cartridge filters shall be drained in their sealed housings for at least 8 hours prior to their removal.~~
- ~~(c) — Each manufacturer of an affected petroleum solvent dryer shall include leak inspection and leak repair cycle information in the operating manual and on a clearly visible label posted on each affected facility. Such information should state:~~

~~To protect against fire hazards, loss of valuable solvents, and emissions of solvent to the atmosphere, periodic inspection of this equipment for evidence of leaks and prompt repair of any leaks is recommended. The U.S. Environmental Protection Agency recommends that the equipment be inspected every 15 days and all vapor or liquid leaks be repaired within the subsequent 15 day period.~~

### ~~(4) — Equivalent Equipment and Procedures~~

~~Upon written application from any person, the Technical Secretary may approve the use of equipment or procedures that have been demonstrated to his satisfaction to be equivalent, in terms of reducing VOC emissions to the atmosphere, to those prescribed for compliance within a specified subparagraph of this rule. The application must contain a complete description of the equipment or procedure, the testing method, the date, time and location of the test, and a description of the test results. Written applications shall be submitted to the Technical Secretary.~~

### ~~(5) — Test Methods and Procedures~~

~~Each owner or operator of an affected facility subject to the provisions of subparagraph (3)(a) of this rule shall perform an initial test to verify that the flow rate of recovered solvent from the solvent recovery dryer at the termination of the recovery cycle is no greater than 0.05 liters per minute. This test shall be conducted for a duration of no less than 2 weeks during which no less than 50 percent of the dryer loads shall be monitored for their final recovered solvent flow rate. The suggested point for measuring the flow rate of recovered solvent is from the outlet of the solvent-water separator. Near the end of the recovery cycle, the entire flow of recovered solvent should be diverted to a graduated cylinder. As the recovered solvent~~

~~collects in the graduated cylinder, the elapsed time is monitored and recorded in periods of greater than or equal to 1 minute. At the same time, the volume of solvent in the graduated cylinder is monitored and recorded to determine the volume of recovered solvent that is collected during each time period. The recovered solvent flow rate is calculated by dividing the volume of solvent collected per period by the length of time elapsed during the period and converting the result with appropriate factors into units of liters per minute. The recovery cycle and the monitoring procedure should continue until the flow rate of solvent is less than or equal to 0.05 liter per minute. The type of articles cleaned and the total length of the cycle should then be recorded.~~

~~(6) Recordkeeping Requirements~~

~~Each owner or operator of an affected facility subject to the provisions of this rule shall maintain a record of the performance test required under paragraph (5) of this rule.~~

~~Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.~~

~~1200-03-16-.50 Phosphate Rock Plants~~

~~(1) Applicability~~

~~(a) The provisions of this rule are applicable to the following affected facilities used in phosphate rock plants which have a maximum plant production capacity greater than 3.6 megagrams per hour (4 tons/hr): dryers, calciners, grinders, and ground rock handling and storage facilities, except those facilities producing or preparing phosphate rock solely for consumption in elemental phosphorus production.~~

~~(b) Any facility under subparagraph (a) of this paragraph which commences construction, modification, or reconstruction after November 6, 1988 is subject to the requirements of this rule.~~

~~(2) Definitions~~

~~(a) "Phosphate rock plant" means any plant which produces or prepares phosphate rock product by any or all of the following processes: Mining, beneficiation, crushing, screening, cleaning, drying, calcining, and grinding.~~

~~(b) "Phosphate rock feed" means all material entering the process unit including moisture and extraneous material as well as the following ore minerals: Fluorapatite, hydroxylapatite, chlorapatite, and carbonateapatite.~~

~~(c) "Dryer" means a unit in which the moisture content of phosphate rock is reduced by contact with a heated gas stream.~~

~~(d) "Calciner" means a unit in which the moisture and organic matter of phosphate rock is reduced within a combustion chamber.~~

~~(e) "Grinder" means a unit which is used to pulverize dry phosphate rock to the final product size used in the manufacture of phosphate fertilizer and does not include crushing devices used in mining.~~

~~(f) "Ground phosphate rock handling and storage system" means a system which is used for the conveyance and storage of ground phosphate rock from grinders at phosphate rock plants.~~

~~(g) "Beneficiation" means the process of washing the rock to remove impurities or to separate size fractions.~~

~~(3) Standards~~

~~(a) On and after the date on which the performance test required to be conducted by paragraph 1200-3-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere:~~

- ~~1. From any phosphate rock dryer any gases which:~~

~~(i) Contain particulate matter in excess of 0.030 kilogram per megagram of phosphate rock feed (0.06 lb/ton), or~~

~~(ii) Exhibit greater than 10 percent opacity.~~

~~2. From any phosphate rock calciner processing unbeneficiated rock or blends of beneficiated and unbeneficiated rock, any gases which:~~

~~(i) Contains particulate matter in excess of 0.12 kilogram per megagram of phosphate rock feed (0.23 lb/ton), or~~

~~(ii) Exhibit greater than 10 percent opacity.~~

~~3. From any phosphate rock calciner processing beneficiated rock any gases which:~~

~~(i) Contain particulate matter in excess of 0.055 kilogram per megagram of phosphate rock feed (0.11 lb/ton), or~~

~~(ii) Exhibit greater than 10 percent opacity.~~

~~4. From any phosphate rock grinder any gases which:~~

~~(i) Contain particulate matter in excess of 0.006 kilogram per megagram of phosphate rock feed (0.012 lb/ton), or~~

~~(ii) Exhibit greater than zero percent opacity.~~

~~5. From any ground phosphate rock handling and storage system any gases which exhibit greater than zero percent opacity.~~

~~(4) Monitoring of emissions and operations~~

~~(a) Any owner or operator subject to the provisions of this rule shall install, calibrate, maintain, and operate a continuous monitoring system, except as provided in subparagraphs (b) and (c) of this paragraph, to monitor and record the opacity of the gases discharged into the atmosphere from any phosphate rock dryer, calciner, or grinder. The span of this system shall be set at 40 percent opacity.~~

~~(b) For ground phosphate rock storage and handling systems, continuous monitoring systems for measuring opacity are not required.~~

~~(c) The owner or operator of any affected phosphate rock facility using a wet scrubbing emission control device shall not be subject to the requirements in subparagraph (a) of this paragraph, but shall install, calibrate, maintain, and operate the following continuous monitoring devices:~~

~~1. A monitoring device for the continuous measurement of the pressure loss of the gas stream through the scrubber. The monitoring device must be certified by the manufacturer to be accurate within  $\pm 250$  pascals ( $\pm 1$  inch water) gauge pressure.~~

~~2. A monitoring device for the continuous measurement of the scrubbing liquid supply pressure to the control device. The monitoring device must be accurate within  $\pm 5$  percent of design scrubbing liquid supply pressure.~~

~~(d) For the purpose of conducting a performance test under paragraph 1200-3-16-.01(5), the owner or operator of any phosphate rock plant subject to the provisions of this rule shall install, calibrate, maintain, and operate a device for measuring the phosphate rock feed to any affected dryer, calciner, or grinder. The measuring device used must be accurate to within  $\pm 5$  percent of the mass rate over its operating range.~~

~~(e) For the purpose of reports required under subparagraph 1200-3-16-.01(7)(c), periods of excess~~

~~emissions that shall be reported are defined as all 6-minute periods during which the average opacity of the plume from any phosphate rock dryer, calciner, or grinder subject to subparagraph (a) of this paragraph exceeds the applicable opacity limit.~~

~~(f) Any owner or operator subject to the requirements under subparagraph (c) of this paragraph shall report for each calendar quarter all measurement results that are less than 90 percent of the average levels maintained during the most recent performance test conducted under paragraph 1200-3-16-.01(5) in which the affected facility demonstrated compliance with the standard under paragraph (3) of this rule.~~

~~(5) Test methods and procedures~~

~~(a) Reference methods, (as specified in rule 1200-3-16-.01(5)(g)) except as provided under subparagraph 1200-3-16-.01(5)(b), shall be used to determine compliance with paragraph (3) of this rule as follows:~~

- ~~1. Method 5 for the measurement of particulate matter and associated moisture content,~~
- ~~2. Method 1 for sample and velocity traverses,~~
- ~~3. Method 2 for velocity and volumetric flow rates,~~
- ~~4. Method 3 for gas analysis, and~~
- ~~5. Method 9 for the measurement of the opacity of emissions.~~

~~(b) For Method 5, the sampling time for each run shall be at least 60 minutes and have a minimum sampled volume of 0.84 dscm (30 dscf). However, shorter sampling times and smaller sample volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.~~

~~(c) For each run, the average phosphate rock feed rate in megagrams per hour shall be determined using a device meeting the requirements of subparagraph (4)(d) of this rule.~~

~~(d) For each run, emissions expressed in kilograms per megagram of phosphate rock feed shall be determined using the following equation:~~

$$~~E = \frac{(C_s Q_s) * 10^{-6}}{M}~~$$

~~where:~~

~~E = Emissions of particulates in kg/Mg of phosphate rock feed.~~

~~C<sub>s</sub> = Concentration of particulates in mg/dscm as measured by Method 5.~~

~~Q<sub>s</sub> = Volumetric flow rate in dscm/hr as determined by Method 2.~~

~~10<sup>-6</sup> = Conversion factor for milligrams to kilograms.~~

~~M = Average phosphate rock feed rate in Mg/hr.~~

~~Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.~~

~~1200-03-16-.51 Equipment Leaks of VOC from Onshore Natural Gas Processing Plants~~

~~(1) Applicability and designation of affected facility~~

~~(a) 1. The provisions of this rule apply to affected facilities in onshore natural gas processing plants.~~



~~2. A compressor in VOC service or in wet gas service is an affected facility.~~

~~3. The group of all equipment except compressors (defined in paragraph (2) of this rule) within a process unit is an affected facility.~~

~~(b) Any affected facility under subparagraph (a) of this paragraph that commences construction, reconstruction, or modification after November 6, 1988 is subject to the requirements of this rule.~~

~~(c) Addition or replacement of equipment (defined in paragraph (2) of this rule) for the purpose of process improvement that is accomplished without a capital expenditure shall not by itself be considered a modification under this rule.~~

~~(d) Facilities covered by rule 1200-3-16-.43 or rule 1200-3-16-.47 are excluded from this rule.~~

~~(e) A compressor station, dehydration unit, sweetening unit, underground storage tank, field gas gathering system, or liquefied natural gas unit is covered by this rule if it is located at an onshore natural gas processing plant. If the unit is not located at the plant site, then it is exempt from the provisions of this rule.~~

## ~~(2) Definitions~~

~~(a) Terms not defined in this paragraph shall have the meanings given in rule 1200-3-16-.43.~~

~~(b) "Equipment" means each pump, pressure relief device, open-ended valve or line, valve, compressor, and flange or other connector that is in VOC service or in wet gas service, and any device or system required by this rule.~~

~~(c) "Field gas" means feedstock gas entering the natural gas processing plant.~~

~~(d) "In light liquid service" means that the piece of equipment contains a liquid that meets the conditions specified in 1200-3-16-.43(6)(e) or part (4)(h)2 of this rule.~~

~~(e) "Natural gas liquids" means the hydrocarbons, such as ethane, propane, butane, and pentane, that are extracted from field gas.~~

~~(f) "Natural gas processing plant" (gas plant) means any processing site engaged in the extraction of natural gas liquids from field gas, fractionation of mixed natural gas liquids to natural gas products, or both.~~

~~(g) "Nonfractionating plant" means any gas plant that does not fractionate mixed natural gas liquids into natural gas products.~~

~~(h) "Onshore" means all facilities except those that are located in the territorial seas or on the outer continental shelf.~~

~~(i) "Process unit" means equipment assembled for the extraction of natural gas liquids from field gas, the fractionation of the liquids into natural gas products, or other operations associated with the processing of natural gas products. A process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the products.~~

~~(j) "Reciprocating compressor" means a piece of equipment that increases the pressure of a process gas by positive displacement, employing linear movement of the driveshaft.~~

~~(k) "In wet gas service" means that a piece of equipment contains or contacts the field gas before the extraction step in the process.~~

## ~~(3) Standards~~

~~(a) Each owner or operator subject to the provisions of this rule shall comply with the requirements of 1200-3-16-.43(3)(a)1, 2, and 4 and 1200-3-16-.43(3)(b) through (j), except as provided in~~

~~paragraph (4) of this rule, as soon as practicable, but no later than 180 days after initial startup.~~

- ~~(b) An owner or operator may elect to comply with the requirements of 1200-3-16-.43(4)(a) and (b).~~
- ~~(c) An owner or operator may apply to the Technical Secretary for permission to use an alternative means of emission limitation that achieves a reduction in emissions of VOC at least equivalent to that achieved by the controls required in this rule. In doing so, the owner or operator shall comply with requirements of paragraph (5) of this rule.~~
- ~~(d) Each owner or operator subject to the provisions of this rule shall comply with the applicable test methods and procedures specified in 1200-3-16-.43(6) except as provided in subparagraph (4)(f) of this rule.~~
- ~~(e) Each owner or operator subject to the provisions of this rule shall comply with the provisions of 1200-3-16-.43(7) and (8) except as provided in paragraphs (4), (6), and (7) of this rule.~~
- ~~(f) An owner or operator shall use the following provision instead of the provisions of 1200-3-16-.43(6)(d)1: Each piece of equipment is presumed to be in VOC service or in wet gas service unless an owner or operator demonstrates that the piece of equipment is not in VOC service or in wet gas service. For a piece of equipment to be considered not in VOC service, it must be determined that the percent VOC content can be reasonably expected never to exceed 10.0 percent by weight. For a piece of equipment to be considered in wet gas service, it must be determined that it contains or contacts the field gas before the extraction step in the process. For purposes of determining the percent VOC content of the process fluid that is contained in or contacts a piece of equipment, procedures that conform to the methods described in ASTM Methods E169, E168, or E260 shall be used. (Note: All references to ASTM in this rule refers to the American Society for Testing Materials. Copies of methods are available for purchase by writing to ASTM, 1916 Race Street, Philadelphia, PA 19103 or by writing to the Tennessee Division of Air Pollution Control, 701 Broadway, 4th Floor Customs House, Nashville, TN 37219. Be sure and specify which method is desired.)~~

~~(4) Exceptions~~

- ~~(a) Each owner or operator subject to the provisions of this rule may comply with the following exceptions to the provisions of rule 1200-3-16-.43.~~
- ~~(b) 1. Each pressure relief device in gas/vapor service may be monitored quarterly and within 5 days after each pressure release to detect leaks by the methods specified in subparagraph 1200-3-16-.43(6)(b) except as provided in subparagraph (3)(c) and part (4)(b)4 of this rule and 1200-3-16-.43(3)(d)1 through 1200-3-16-.43(3)(d)3.~~
  - ~~2. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.~~
  - ~~3. (i) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after it is detected, except as provided in 1200-3-16-.43(3)(i).~~
    - ~~(ii) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.~~
  - ~~4. (i) Any pressure relief device that is located in a nonfractionating plant that is monitored only by nonplant personnel may be monitored after a pressure release the next time the monitoring personnel are on site, instead of within 5 days as specified in part (b)1 of this paragraph and rule 1200-3-16-.43(3)(d)2(ii).~~
    - ~~(ii) No pressure relief device described in subpart (b)4(i) of this paragraph shall be allowed to operate for more than 30 days after a pressure release without monitoring.~~
- ~~(c) Sampling connection systems are exempt from the requirements of 1200-3-16-.43(3)(e).~~

~~(d) Pumps in light liquid service, valves in gas/vapor and light liquid service, and pressure relief devices in gas/vapor service that are located at a nonfractionating plant that does not have the design capacity to process 283,000 standard cubic meters per day (scmd) (10 million standard cubic feet per day (scfd)) or more of field gas are exempt from the routine monitoring requirements of 1200-3-16-.43(3)(b)1(i), 1200-3-16-.43(3)(g)1 and part (b)1 of this paragraph.~~

~~(e) Reserved~~

~~(f) Reciprocating compressors in wet gas service are exempt from the compressor control requirements of 1200-3-16-.43(3)(c).~~

~~(g) Flares used to comply with this rule shall comply with the requirements of 1200-3-16-.01(11).~~

~~(h) An owner or operator may use the following provisions instead of 1200-3-16-.43(6)(e):~~

~~1. Equipment is in heavy liquid service if the weight percent evaporated is 10 percent or less at 15° C as determined by ASTM Method D86. (Note: All references to ASTM in this rule refers to the American Society for Testing Materials. Copies of methods are available for purchase by writing to ASTM, 1916 Race Street, Philadelphia, PA 19103 or by writing to the Tennessee Division of Air Pollution Control, 701 Broadway, 4th Floor Customs House, Nashville, TN 37219. Be sure and specify which method is desired.)~~

~~2. Equipment is in light liquid service if the weight percent evaporated is greater than 10 percent at 150°C as determined by ASTM Method D86.~~

~~(5) Alternative means of emission limitation~~

~~(a) If, in the Technical Secretary's judgment, an alternative means of emission limitation will achieve a reduction in VOC emissions at least equivalent to the reduction in VOC emissions achieved under any design, equipment, work practice or operational standard, this alternative means may be allowed in lieu of means listed in this rule. The Technical Secretary may condition permission to use alternate means on requirements related to the operation and maintenance of the alternative means.~~

~~(b) The method of approving any alternate means by the provisions of this paragraph shall be by revision of the state implementation plan.~~

~~(c) The Technical Secretary will consider applications under this paragraph from either owners or operators of affected facilities, or manufactures of control equipment.~~

~~(d) The Technical Secretary will treat applications under this paragraph according to the following criteria, except in cases where he concludes that other criteria are appropriate:~~

~~1. The applicant must collect, verify and submit test data, covering a period of at least 12 months, necessary to support the finding in subparagraph (a) of this paragraph, and~~

~~2. If the applicant is an owner or operator of an affected facility, he must commit in writing to operate and maintain the alternative means so as to acheive a reduction in VOC emissions at least equivalent to the reduction in VOC emissions achieved under the design, equipment, work practice or operational standard.~~

~~(6) Recordkeeping requirements~~

~~(a) Each owner or operator subject to the provisions of this rule shall comply with the requirements of subparagraphs (b) and (c) of this paragraph in addition to the requirements of 1200-3-16-.43(7).~~

~~(b) The following recordkeeping requirements shall apply to pressure relief devices subject to the requirements of part (4)(b)1 of this rule.~~

~~1. When each leak is detected as specified in part (4)(b)2 of this rule, a weatherproof and readily visible identification, marked with the equipment identification number, shall be~~

~~attached to the leaking equipment. The identification on the pressure relief device may be removed after it has been repaired.~~

~~2. When each leak is detected as specified in part (4)(b)2 of this rule, the following information shall be kept for 2 years in a readily accessible location:~~

~~(i) The instrument and operator identification numbers and the equipment identification number.~~

~~(ii) The date the leak was detected and the dates of each attempt to repair the leak.~~

~~(iii) Repair methods applied in each attempt to repair the leak.~~

~~(iv) "Above 10,000 ppm" if the maximum instrument reading measured by the methods specified in subparagraph (a) of this paragraph after each repair attempt is 10,000 ppm or greater.~~

~~(v) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.~~

~~(vi) The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a process shutdown.~~

~~(vii) The expected date of successful repair of the leak if a leak is not repaired within 15 days.~~

~~(viii) Dates of process unit shutdowns that occur while the equipment is unrepaired.~~

~~(ix) The date of successful repair of the leak.~~

~~(x) A list of identification numbers for equipment that are designated for no detectable emissions under the provisions of 1200-3-16-.43(3)(d)1. The designation of equipment subject to the provisions of 1200-3-16-.43(3)(d)1 shall be signed by the owner or operator.~~

~~(c) An owner or operator shall comply with the following requirement in addition to the requirement of 1200-3-16-.43(7)(j): Information and data used to demonstrate that a reciprocating compressor is in wet gas service to apply for the exemption in subparagraph (4)(f) of this rule shall be recorded in a log that is kept in a readily accessible location.~~

~~(7) Reporting requirements~~

~~(a) Each owner or operator subject to the provisions of this rule shall comply with the requirements of subparagraphs (b) and (c) of this paragraph in addition to the requirements of 1200-3-16-.43(8).~~

~~(b) An owner or operator shall include the following information in the initial semiannual report in addition to the information required in 1200-3-16-.43(8)(b)1 through 1200-3-16-.43(8)(b)4: number of pressure relief devices subject to the requirements of subparagraph (4)(b) of this rule except for those pressure relief devices designated for no detectable emissions under the provisions of 1200-3-16-.43(3)(d)1 and those pressure relief devices complying with 1200-3-16-.43(3)(d)3.~~

~~(c) An owner or operator shall include the following information in all semiannual reports in addition to the information required in 1200-3-16-.43(8)(c)2(i) through 1200-3-16-.43(8)(c)2(vi):~~

~~1. Number of pressure relief devices for which leaks were detected as required in part (4)(b)2 of this rule, and~~

~~2. Number of pressure relief devices for which leaks were not repaired as required in part (4)(b)3 of this rule.~~

~~1200-03-16-.52 Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels~~

~~(1) Applicability and designation of affected facility~~

- ~~(a) The provisions of this rule are applicable to the following affected facilities in steel plants that produce carbon, alloy, or specialty steels: electric arc furnaces, argon-oxygen decarburization vessels, and dust handling systems.~~
- ~~(b) The provisions of this rule apply to each affected facility identified in subparagraph (a) of this paragraph that commences construction, modification, or reconstruction after November 6, 1988.~~

~~(2) Definitions~~

- ~~(a) As used in this rule, all terms not defined herein shall have the meaning given them in paragraph (4) of rule 1200-3-16-.01.~~

- ~~1. "Argon-oxygen decarburization vessel" (AOD vessel) means any closed-bottom, refractory-lined converter vessel with submerged tuyeres through which gaseous mixtures containing argon and oxygen or nitrogen may be blown into molten steel for further refining.~~
- ~~2. "Capture system" means the equipment (including ducts, hoods, fans, dampers, etc.) used to capture or transport particulate matter generated by an electric arc furnace or AOD vessel to the air pollution control device.~~
- ~~3. "Charge" means the addition of iron and steel scrap or other materials into the top of an electric arc furnace or the addition of molten steel or other materials into the top of an AOD vessel.~~
- ~~4. "Control device" means the air pollution control equipment used to remove particulate matter from the effluent gas stream generated by an electric arc furnace or AOD vessel.~~
- ~~5. "Direct-shell evacuation control system" (DEC System) means a system that maintains a negative pressure within the electric arc furnace above the slag or metal and ducts emissions to the control device.~~
- ~~6. "Dust handling system" means equipment used to handle particulate matter collected by the control device for an electric arc furnace or AOD vessel subject to this rule. For the purposes of this rule, the dust handling system shall consist of the control device dust hoppers, the dust conveying equipment, any central dust storage equipment, the dust-treating equipment (e.g., pug mill, pelletizer), dust transfer equipment (from storage to truck), and any secondary control devices used with the dust transfer equipment (from storage to truck), and any secondary control devices used with the dust transfer equipment.~~
- ~~7. "Electric arc furnace" (EAF) means a furnace that produces molten steel and heats the charge materials with electric arcs from carbon electrodes. For the purposes of this rule, an EAF shall consist of the furnace shell and roof and the transformer. Furnaces that continuously feed direct-reduced iron ore pellets as the primary source of iron are not affected facilities within the scope of this definition.~~
- ~~8. "Heat cycle" means the period beginning when scrap is charged to an empty EAF and ending when the EAF tap is completed or beginning when molten steel is charged to an empty AOD vessel and ending when the AOD vessel tap is completed.~~
- ~~9. "Melting" means that phase of steel production cycle during which the iron and steel scrap is heated to the molten state.~~
- ~~10. "Negative-pressure fabric filter" means a fabric filter with the fans on the downstream side of the filter bags.~~

11. ~~“Positive-pressure fabric filter” means a fabric filter with the fans on the upstream side of the filter bags.~~
12. ~~“Refining” means that phase of the steel production cycle during which undesirable elements are removed from the molten steel and alloys are added to reach the final metal chemistry.~~
13. ~~“Shop” means the building which houses one or more EAF’s or AOD vessels.~~
14. ~~“Shop opacity” means the arithmetic average of 24 observations of the opacity of emissions from the shop taken in accordance with Method 9.~~
15. ~~“Tap” means the pouring of molten steel from an EAF or AOD vessel.~~

~~(3) Standard for particulate matter~~

- ~~(a) On and after the date of which the performance test required to be conducted by paragraph 1200-3-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from an EAF or an AOD vessel and gases which:~~
  1. ~~Exit from a control device and contain particulate matter in excess of 12 mg/dscm (0.0052 gr/dscf);~~
  2. ~~Exit from a control device and exhibit 3 percent opacity or greater; and~~
  3. ~~Exit from a shop and, due solely to the operations of any affected EAF(s) or AOD vessel(s), exhibit 6 percent opacity or greater.~~
- ~~(b) On and after the date on which the performance test required to be conducted by paragraph 1200-3-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from the dust-handling system any gases that exhibit 10 percent opacity or greater.~~

~~(4) Emission monitoring~~

- ~~(a) Except as provided under subparagraphs (b) and (c) of this paragraph, a continuous monitoring system for the measurement of the opacity of emissions discharged into the atmosphere from the control device(s) shall be installed, calibrated, maintained, and operated by the owner or operator subject to the provisions of this rule.~~
- ~~(b) No continuous monitoring system shall be required on any control device serving the dust-handling system.~~
- ~~(c) No continuous monitoring system shall be required on modular, multiple-stack, negative-pressure or positive-pressure fabric filters if observations of the opacity of the visible emissions from the control device are performed by a certified visible emission observer.~~

~~(5) Monitoring of operations~~

- ~~(a) The owner or operator subject to the provisions of this rule shall maintain records of the following information:~~
  1. ~~All data obtained under subparagraph (b) of this paragraph.~~
  2. ~~All monthly operational status inspections performed under subparagraph (c) of this paragraph.~~
- ~~(b) Except as provided under subparagraph (d) of this paragraph, the owner or operator subject to the provisions of this rule shall check and record on a once-per-shift basis the furnace static pressure (if DEC system is in use) and either (1) check and record the control system fan motor amperes and damper position on a once-per-shift basis; or (2) install, calibrate, and maintain a monitoring~~

~~device that continuously records the volumetric flow rate through each separately ducted hood. The monitoring device(s) may be installed in any appropriate location in the exhaust duct such that reproducible flow rate monitoring will result. The flow rate monitoring device(s) shall have an accuracy of  $\pm 10$  percent over its normal operating range and shall be calibrated according to the manufacturer's instructions. The Technical Secretary may require the owner or operator to demonstrate the accuracy of the monitoring device(s) relative to Methods 1 and 2 (as specified in 1200-3-16-.01(5)(g)).~~

- ~~(c) When the owner or operator of an affected facility is required to demonstrate compliance with the standards of paragraph (3)(a)3 of this rule, and at any other time the Technical Secretary may require that either the control system fan motor amperes and all damper positions or the volumetric flow rate through each separately ducted hood shall be determined during all periods in which a hood is operated for the purpose of capturing emissions from the affected facility subject to the provisions of subparagraph (b) of this paragraph. The owner or operator may petition the Technical Secretary for reestablishment of these parameters whenever the owner or operator can demonstrate to the Technical Secretary's satisfaction that the affected facility operating conditions upon which the parameters were previously established are no longer applicable. The values of these parameters determined during the most recent demonstration of compliance shall be maintained at the appropriate level for each applicable period. Operation at other than baseline values may be subject to the requirements of subparagraph 1200-3-16-.52(7)(c).~~
- ~~(d) The owner or operator shall perform monthly operational status inspections of the equipment that is important to the performance of the total capture system (i.e., pressure sensors, dampers, and damper switches). This inspection shall include observations of the physical appearance of the equipment (e.g., presence of holes in ductwork or hoods, flow constrictions caused by dents or accumulated dust in ductwork and fan erosion). Any deficiencies shall be noted and proper maintenance performed.~~
- ~~(e) The owner or operator may petition the Technical Secretary to approve any alternative to monthly operational status inspections that will provide a continuous record of the operation of each emission capture system.~~
- ~~(f) If emissions during any phase of the heat time are controlled by the use of a DEC system, the owner or operator shall install, calibrate, and maintain a monitoring device that allows the pressure in the free space inside the EAF to be monitored. The monitoring device may be installed in any appropriate location in the EAF or DEC duct prior to the introduction of ambient air such that reproducible results will be obtained. The pressure monitoring device shall have an accuracy of  $\pm 5$ mm of water gauge over its normal operating range and shall be calibrated according to the manufacturer's instructions.~~
- ~~(g) When the owner or operator of an EAF controlled by a DEC is required to demonstrate compliance with the standard under part rule 1200-3-16-.52(3)(a)3 and at any other time the Technical Secretary may require the pressure in the free space inside the furnace shall be determined during the melting and refining period(s) using the monitoring device required under subparagraph (f) of this paragraph. The owner or operator may petition the Technical Secretary for reestablishment of the 15-minute integrated average of the pressure whenever the owner or operator can demonstrate to the Technical Secretary's satisfaction that the EAF operating conditions upon which the pressures were previously established are no longer applicable. The pressure determined during the most recent demonstration of compliance shall be maintained at all times when the EAF is operating in a meltdown and refining period. Operation at higher pressures may be considered by the Technical Secretary to be unacceptable operation and maintenance of the affected facility.~~
- ~~(h) During any performance test required under paragraph 1200-3-16-.01(5), and for any report thereof required by subparagraph (6)(d) of this rule, or to determine compliance with part (3)(a)3 of this rule, the owner or operator shall monitor the following information for all heats covered by the test:
  - ~~1. Charge weights and materials, and tap weights and materials;~~
  - ~~2. Heat times, including start and stop times, and a log of process operation, including periods of no operation during testing and the pressure inside an EAF when direct-shell evacuation~~~~

~~control systems are used;~~

~~3. Control device operation log; and~~

~~4. Continuous monitor or Reference Method 9 (as specified in 1200-3-16-.01(5)(g)) data.~~

~~(6) Test methods and procedures~~

~~(a) Reference methods in 1200-3-16-.01(5)(g), except as provided under 1200-3-16-.01(5)(b), shall be used to determine compliance with the standards prescribed under paragraph 1200-3-16-.52(3) as follows:~~

~~1. Method 1 for sample and velocity traverses;~~

~~2. Method 2 for velocity and volumetric flow rate;~~

~~3. Method 3 (as specified in 1200-3-16-.01(5)(g)) for gas analysis;~~

~~4. Either Method 5 (as specified in 1200-3-16-.01(5)(g)) for negative-pressure fabric filters and other types of control devices or Method 5D for positive-pressure fabric filters for concentration of particulate matter and associated moisture content; and~~

~~5. Method 9 (as specified in 1200-3-16-.01(5)(g)) for the opacity of visible emissions.~~

~~(b) For Method 5 or 5D, the sampling time for each run shall be at least 4 hours. When a single EAF or AOD vessel is sampled, the sampling time for each run shall also include an integral number of heats. Shorter sampling times, when necessitated by process variables or other factors, may be approved by the Technical Secretary. For Method 5 or 5D, the minimum sample volume shall be 4.5 dscm (160 dscf).~~

~~(c) Visible emissions observations of modular, multiple-stack, negative-pressure or positive-pressure fabric filters shall occur at least once per day of operation. The observations shall occur when the furnace or vessel is operating in the melting or refining phase of a heat cycle. These observations shall be taken in accordance with Method 9, and, for at least three 6-minute periods, the opacity shall be recorded for any point(s) where visible emissions are observed. Where it is possible to determine that a number of visible emission sites relate to only one incident of the visible emissions, only one set of three 6-minute observations will be required. In this case, Reference Method 9 observations must be made for the site of highest opacity that directly relates to the cause (or location) of visible emissions observed during a single incident. Records shall be maintained of any 6-minute average that is in excess of the emission limit specified in subparagraph 1200-3-16-.52(3)(a).~~

~~(d) For the purpose of this rule, the owner or operator shall conduct the demonstration of compliance with subparagraph 1200-3-16-.52(3)(a) and furnish the Technical Secretary a written report of the results of the test. This report shall include the following information:~~

~~1. Facility name and address;~~

~~2. Plant representative;~~

~~3. Make and model of process, control device, and continuous monitoring equipment;~~

~~4. Flow diagram of process and emission capture equipment including other equipment or process(es) ducted to the same control device;~~

~~5. Rated (design) capacity of process equipment;~~

~~6. Those data required under subparagraph (h) of this rule;~~

~~(i) List of charge and tap weights and materials;~~



- ~~(ii) Heat times and process log;~~
- ~~(iii) Control device operation log; and~~
- ~~(iv) Continuous monitor or Reference Method 9 data.~~

- ~~7. Test dates and test times;~~
- ~~8. Test company;~~
- ~~9. Test company representative;~~
- ~~10. Test observers from outside agency;~~
- ~~11. Description of test methodology used, including any deviation from standard reference methods;~~
- ~~12. Schematic of sampling location;~~
- ~~13. Number of sampling points;~~
- ~~14. Description of sampling equipment;~~
- ~~15. Listing of sampling equipment calibrations and procedures;~~
- ~~16. Field and laboratory data sheets;~~
- ~~17. Description of sample recovery procedures;~~
- ~~18. Sampling equipment leak check results;~~
- ~~19. Description of quality assurance procedures;~~
- ~~20. Description of analytical procedures;~~
- ~~21. Notation of sample blank corrections; and~~
- ~~22. Sample emission calculations.~~

~~(e) During any performance test required under 1200-3-16-.01(5), no gaseous diluents may be added to the effluent gas stream after the fabric in any pressurized fabric filter collector, unless the amount of dilution is separately determined and considered in the determination of emissions.~~

~~(f) When more than one control device serves the EAF(s) or AOD vessel(s) being tested, the concentration of particulate matter shall be determined using the following equation:~~

$$C = \frac{\sum_{n=1}^N (CQ)_n}{\sum_{n=1}^N (Q)_n}$$

~~where~~

~~C = concentration of particulate matter in mg/dscm (gr/dscf) as determined by Method 5 or 5D.~~

~~N = total number of control devices tested.~~

~~Q = volumetric flow rate of the effluent gas stream in dscm/h (dscf/h) as determined~~

~~by Method 2.~~

~~(CQ)<sub>n</sub>, (Q)<sub>n</sub> = value of the applicable parameter for each control device tested.~~

~~(g) Any control device subject to the provisions of this rule shall be designed and constructed to allow measurement of emissions using applicable test methods and procedures.~~

~~(h) Where emissions from any EAF(s) or AOD vessel(s) are combined with emissions from facilities not subject to the provisions of this rule but controlled by a common capture system and control device, the owner or operator may use any of the following procedures during a performance test:~~

~~1. Base compliance on control of the combined emissions;~~

~~2. Utilize a method acceptable to the Technical Secretary that compensates for the emissions from the facilities not subject to the provisions of this rule or;~~

~~3. Any combination of the criteria of subparagraphs (h)1 and (h) 2 of this paragraph.~~

~~(i) Where emissions from any EAF(s) or AOD vessel(s) are combined with emissions from facilities not subject to the provisions of this rule, determinations of compliance with 1200-03-16-.52(3)(a)3 will only be based upon emissions originating from the affected facility(ies).~~

~~(j) Unless the presence of inclement weather makes concurrent testing infeasible, the owner or operator shall conduct concurrently the performance tests required under 1200-3-16-.01(5) to demonstrate compliance with 1200-3-16-.52(3)(a)1, 2 and 3.~~

~~(7) Recordkeeping and reporting requirements~~

~~(a) Records of the measurements required in paragraph (5) of this rule must be retained for at least 2 years following the date of the measurement.~~

~~(b) Each owner or operator shall submit a written report of exceedances of the control device opacity to the Technical Secretary semi-annually. For the purposes of these reports exceedances are defined as all 6-minute periods during which the average opacity is 3 percent or greater.~~

~~(c) Operation at a furnace static pressure that exceeds the value established under subparagraph (5)(g) of this rule and either operation of control system fan motor amperes at values exceeding  $\pm$  15 percent of the value established under paragraph (5)(c) of this rule or operation at flow rates lower than those established under paragraph (5)(c) of this rule may be considered by the Technical Secretary to be unacceptable operation and maintenance of the affected facility. Operation at such values shall be reported to the Technical Secretary semi-annually.~~

~~(d) When the owner or operator of an EAF or AOD is required to demonstrate compliance under parts 1200-3-16-.52(6)(h)2 or 3, the owner or operator shall obtain approval from the Technical Secretary of the procedure(s) that will be used to determine compliance. Notification of the procedure(s) to be used must be postmarked 30 days prior to the performance test.~~

~~Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.~~

~~1200-03-16-.53 Reserved~~

~~Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.~~

~~1200-3-16-.54 Onshore Natural Gas Processing: SO<sub>2</sub> Emissions~~

~~(1) Applicability and designation of affected facilities~~

~~(a) The provisions of this rule are applicable to the following affected facilities that process natural gas: each sweetening unit, and each sweetening unit followed by a sulfur recovery unit.~~

~~(b) Facilities that have a design capacity less than 2 long tons per day (LT/D) of hydrogen sulfide (H<sub>2</sub>S)~~

~~in the acid gas (expressed as sulfur) are required to comply with subparagraph (8)(c) of this rule but are not required to comply with paragraphs (3) through (7) of this rule.~~

- ~~(c) The provisions of this rule are applicable to facilities located on land and include facilities located onshore which process natural gas produced from either onshore or offshore wells.~~
- ~~(d) The provisions of this rule apply to each affected facility identified in subparagraph (a) of this paragraph which commences construction or modification after November 6, 1988.~~
- ~~(e) The provisions of this rule do not apply to sweetening facilities producing acid gas that is completely reinjected into oil or gas bearing geologic strata or that is otherwise not released into the atmosphere.~~

## ~~(2) Definitions~~

- ~~(a) "Acid gas" means a gas stream of hydrogen sulfide (H<sub>2</sub>S) and carbon dioxide (CO<sub>2</sub>) that has been separated from sour natural gas by a sweetening unit.~~
- ~~(b) "Natural gas" means a naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface. The principal hydrocarbon constituent is methane.~~
- ~~(c) "Onshore" means all facilities except those that are located in the territorial seas or on the outercontinental shelf.~~
- ~~(d) "Reduced sulfur compounds" means H<sub>2</sub>S, carbonyl sulfide (COS), and carbondisulfide (CS<sub>2</sub>).~~
- ~~(e) "Sulfur production rate" means the rate of liquid sulfur accumulation from the sulfur recovery unit.~~
- ~~(f) "Sulfur recovery unit" means a process device that recovers element sulfur from acid gas.~~
- ~~(g) "Sweetening unit" means a process device that separates the H<sub>2</sub>S and CO<sub>2</sub> contents from the sour natural gas stream.~~
- ~~(h) "Total SO<sub>2</sub> equivalents" means the sum of volumetric or mass concentrations of the sulfur compounds obtained by adding the quantity existing as SO<sub>2</sub> to the quantity of SO<sub>2</sub> that would be obtained if all reduced sulfur compounds were converted to SO<sub>2</sub> (ppmv or kg/DSCM).~~
- ~~(i) "E" = the sulfur emission rate expressed as elemental sulfur, kilograms per hour (kg/hr) rounded to one decimal place.~~
- ~~(j) "R" = the sulfur emission reduction efficiency achieved in percent, carried to one decimal place.~~
- ~~(k) "S" = the sulfur production rate in kilograms per hour (kg/hr) rounded to one decimal place.~~
- ~~(l) "X" = the sulfur feed rate, i.e., the H<sub>2</sub>S in the acid gas (expressed as sulfur) from the sweetening unit, expressed in long tons per day (LT/D) of sulfur rounded to one decimal place.~~
- ~~(m) "Y" = the sulfur content of the acid gas from the sweetening unit, expressed as mole percent H<sub>2</sub>S (dry basis) rounded to one decimal place.~~
- ~~(n) "Z" = the minimum required sulfur dioxide (SO<sub>2</sub>) emission reduction efficiency, expressed as percent carried to one decimal place. Z<sub>i</sub> refers to the reduction efficiency required at the initial performance test. Z<sub>c</sub> refers to the reduction efficiency required on a continuous basis after compliance with Z<sub>i</sub> has been demonstrated.~~

## ~~(3) Standards for sulfur dioxide~~

- ~~(a) During the initial performance test required by paragraph 1200-3-16-.01(5)(g), each owner or operator shall achieve at a minimum, an SO<sub>2</sub> emission reduction efficiency (Z<sub>i</sub>) to be determined from Table 1 based on the sulfur feed rate (X) and the sulfur content of the acid gas (Y) of the~~

affected facility.

(b) After demonstrating compliance with the provisions of subparagraph (a) of this paragraph, the owner or operator shall achieve at a minimum, an SO<sub>2</sub> emission reduction efficiency (Z<sub>c</sub>) to be determined from Table 2 based on the sulfur feed rate (X) and the sulfur content of the acid gas (Y) of the affected facility.

Table 1  
Required Minimum Initial SO<sub>2</sub> Emission  
Reduction Efficiency (Z<sub>i</sub>)

| H <sub>2</sub> S, content<br>of acid<br>gas (Y), % | Sulfur feed rate (X), LT/D |  |                  |      |
|--|----------------------------|--|------------------|------|
|  | 2.0 ≤ X ≤ 5.0<br>X > 300.0 | 5.0 < X ≤ 15.0   | 15.0 < X ≤ 300.0 |      |
| Y ≥ 50   | 79.0                       | 88.51X <sup>0.0101</sup> Y <sup>0.0125</sup><br>or 99.8, whichever is smaller      |                  |      |
| 20 ≤ Y < 50  | 79.0                       | 88.51X <sup>0.0101</sup> Y <sup>0.0125</sup> 97.9<br>or 97.9, whichever is smaller |                  |      |
| 10 ≤ Y < 20  | 79.0                       | 88.51X <sup>0.0101</sup> Y <sup>0.0125</sup>                                       | 93.5             | 93.5 |
|  |                            | or 93.5, whichever<br>is smaller   |                  |      |
| Y < 10   | 79.0                       | 79.0   | 79.0             | 79.0 |

Table 2  
Required Minimum SO<sub>2</sub> Emission  
Reduction Efficiency (Z<sub>c</sub>)

| H <sub>2</sub> S, content<br>of acid<br>gas (Y), % | Sulfur feed rate (X), LT/D |  |                  |      |
|--|----------------------------|--|------------------|------|
|  | 2.0 ≤ X ≤ 5.0<br>X > 300.0 | 5.0 < X ≤ 15.0   | 15.0 < X ≤ 300.0 |      |
| Y ≥ 50   | 74.0                       | 85.35X <sup>0.0144</sup> Y <sup>0.0128</sup><br>or 99.8, whichever is smaller      |                  |      |
| 20 ≤ Y < 50  | 74.0                       | 85.35X <sup>0.0144</sup> Y <sup>0.0128</sup> 97.5<br>or 97.5, whichever is smaller |                  |      |
| 10 < Y < 20  | 74.0                       | 85.35X <sup>0.0144</sup> Y <sup>0.0128</sup>                                       | 90.8             | 90.8 |
|  |                            | or 90.3, whichever<br>is smaller   |                  |      |
| Y < 10   | 74.0                       | 74.0   | 74.0             | 74.0 |

(4) Compliance Provision

(a) 1. To determine compliance with the standards for sulfur dioxide specified in subparagraph (3)(a) of this rule during the initial performance test as required by paragraph 1200.3.16-.01(5), the minimum required sulfur dioxide emission reduction efficiency (Z) is compared

~~to the emission reduction efficiency (R) achieved by the sulfur recovery technology.~~

~~(i) If R is greater than or equal to Zi, the affected facility is in compliance.~~

~~(ii) If R is less than Zi, the affected facility is not in compliance.~~

~~2. Following the initial determination of compliance as required by paragraph 1200-3-16-.01 (5), any subsequent compliance determinations that may be required by the Technical Secretary would compare to R to Zc.~~

~~(b) The emission reduction efficiency (R) achieved by the sulfur recovery technology is calculated by using the equation:~~

$$~~R = \frac{S}{S + E} \times 100~~$$

~~“S” and “E” are determined using the procedures and the test methods specified in paragraphs (5) and (6) of this rule.~~

~~(5) Performance test procedures~~

~~(a) During a performance test required by paragraph 1200-3-16-.01(5) the minimum required sulfur dioxide emission reduction efficiency (Zi) required by subparagraph (3)(a) of this rule, and the minimum required SO<sub>2</sub> emission reduction efficiency (Zc) required by subparagraph (3)(b) of this rule are determined as follows:~~

~~1. Collect and analyze at least one sample per hour (at equally spaced intervals during the performance test of the acid gas from the sweetening unit using the method specified in part 1200-3-16-.54(6)(a)8.~~

~~The units of the result from the Tutwiler procedure can be converted to volume percent using the following equation:~~

$$~~Y = (1.62 \times 10^{-3}) \times (\text{grains}/100 \text{ scf})~~$$

~~Where:~~

$$~~Y = \text{H}_2\text{S concentration, volume percent}~~$$

$$~~1.62 \times 10^{-3} = \text{volume percent per grains}/100 \text{ scf; and grains}/100 \text{ scf} = \text{Tutwiler result basis.}~~$$

~~2. Calculate the arithmetic mean of all samples to determine the average H<sub>2</sub>S concentration (Y) in mole percent (dry basis) in the acid gas.~~

~~3. Determine the average volumetric flow rate of the acid gas from the sweetening unit by continuous measurements made with the process flow meter. Express the results as dry standard cubic feet per day (dscf/day).~~

~~4. Calculate the average sulfur feed rate (X) in long tons per day of elemental sulfur from the average volumetric flow rate and the average H<sub>2</sub>S content by the equation:~~

$$~~X = \frac{(\text{average volumetric acid gas flow, dscf/day}) (Y/100) (32 \text{ lb/lb mole})}{(385.36 \text{ standard cubic feet/lb mole}) (2,240 \text{ lbs/long ton})}~~$$

~~5. Determine the minimum required SO<sub>2</sub> removal efficiency (Zi or Zc) in accordance with the provisions of the standards in subparagraph (3) (a) or (b) of this rule as appropriate.~~

~~(b) The actual sulfur emission reduction efficiency (R) achieved by the control technology during the performance test is determined as follows:~~

- ~~1. Measure the liquid sulfur accumulation rate in the product storage tanks using level indicators or manual soundings. Record the level reading at the beginning and end of each test run. Convert the level readings to mass (kilograms) of sulfur in the storage tanks, using the tank geometry and the sulfur density at the temperature of storage. Divide the change in mass by the test duration (hours and fractions of hours) to determine the sulfur production rate in kilograms per hour for each run.~~
- ~~2. Calculate the arithmetic mean of the rate for each run to determine the average sulfur production rate (S) to use in subparagraph (4)(b) of this rule.~~
- ~~3. Measure the concentrations of sulfur dioxide and total reduced sulfur compounds in the incinerator (or other final processing unit) exhaust gas using the methods specified in parts (6)(a)5 through 7 of this rule. The minimum sampling time for each run shall be 4 hours. For each run the SO<sub>2</sub> and TRS concentrations shall be combined to calculate the total SO<sub>2</sub> equivalent concentration as follows:~~

$$\text{Total SO}_2 \text{ equivalent, (kg/dscm)} = 0.001 (\text{SO}_2 \text{ concentration mg/dscm from Method 6}) \\ - 2.704 \times 10^{-6} (\text{SO}_2 \text{ equivalents in ppmv, dry from Method 15 or from Method 16A})$$

- ~~4. Measure the incinerator (or other final processing unit) exhaust gas velocity, molecular weight, and moisture content using the methods specified in parts (6)(a)1 through 4 of this rule. Calculate the volumetric flow rate of the exhaust gas at dry standard conditions using equation 2-10 in Method 2.~~
- ~~5. Calculate the equivalent sulfur emission rate as elemental sulfur for each run as follows:~~

$$\text{Sulfur emission rate} = (\text{total SO}_2 \text{ equivalent kg/dscm}) (\text{gas flow rate, dscm/hr}) (0.50)$$

~~Calculate the arithmetic mean of the sulfur emission rate for each run to determine the average sulfur emission rate (E) to use in subparagraph (4)(b) of this rule.~~

~~(6) Performance Test Methods~~

- ~~(a) For the purpose of determining compliance with subparagraphs (3)(a) or (b) of this rule, the following reference methods shall be used:~~

- ~~1. Method 1 for velocity traverse points selection.~~
- ~~2. Method 2 for determination of stack gas velocity and calculation of the volumetric flow rate.~~
- ~~3. Method 3 for determination of stack gas molecular weight.~~
- ~~4. Method 4 for determination of the stack gas moisture content.~~
- ~~5. Method 6 for determination of SO<sub>2</sub> concentration.~~
- ~~6. Method 15 for determination of the TRS concentration from reduction-type devices or where the oxygen content of the stack gas is less than 1.0 percent by volume.~~
- ~~7. Method 16A for determination of the TRS concentration from oxidation-type devices or where the oxygen content of the stack gas is greater than 1.0 percent by volume.~~
- ~~8. The Tutwiler procedure, as specified in Federal Register, Vol. 50, No.190, October 1, 1985, pp. 40165 and 40166, or a chromatographic procedure following ASTM E-260, for determination of the H<sub>2</sub>S concentration in the acid gas feed from the sweetening unit.~~

- ~~(b) The sampling location for Methods 3, 4, 6, 15 and 16A shall be the same as that used for velocity measurement by Method 2. The sampling point in the duct shall be at the centroid of the cross-section if the area is less than 5 m<sup>2</sup> (54 ft<sup>2</sup>) or at a point no closer to the walls than 1 m (39 inches) if the cross-sectional area is 5 m<sup>2</sup> or more, and the centroid is more than one meter from the wall.~~

For Methods 3, 4, 6 and 16A, the sample shall be extracted at a rate proportional to the gas velocity at the sampling point. For Method 15, the minimum sampling rate shall be 3 liters/minute (0.1 ft<sup>3</sup>/minute) to insure minimum residence time in the sample line.

- (c) For Methods 6 and 16A the minimum sampling time for each run shall be 4 hours. Either one sample or a number of separate samples may be collected for each run so long as the total sample time is 4 hours. Where more than one sample is collected per run, the average result for the run is calculated by:

$$C_s = \frac{\sum_{i=1}^n (C_{si}) \left( \frac{T_{si}}{T} \right)}{T}$$

Where:

$C_s$  = time-weighted average SO<sub>2</sub> or TRS concentration for the run, (mg/dscm or ppmv, dry).

$n$  = number of samples collected during the run.

$C_{si}$  = SO<sub>2</sub> or TRS concentration for sample  $i$ , (mg/dscm or ppmv, dry).

$t_{si}$  = sampling time for sample  $i$ , (minutes).

$T$  = total sampling time for all samples in the run (minutes).

- (d) For Method 15, each run shall consist of 16 samples taken over a minimum of 4 hours. The equivalent SO<sub>2</sub> concentration for each run shall be calculated as the arithmetic average of the SO<sub>2</sub> equivalent concentration for each sample.

- (e) For Method 2, a velocity traverse shall be conducted at the beginning and end of each run. The arithmetic average of the two measurements shall be used to calculate the volumetric flow rate for each run.

- (f) For Method 3, a single sample may be integrated over the 4-hour run interval and analysis, or grab samples at 1-hour intervals may be collected, analyzed, and averaged to determine the stack gas composition.

- (g) For Method 4, each run shall consist of 2 samples; one collected at the beginning of the 4-hour test period, and one near the end of the period. For each sample the minimum sample volume shall be 0.1 dscm (0.35 dsct) and the minimum sample time shall be 10 minutes.

(7) Monitoring of emissions and operations

- (a) The owner or operator subject to the provisions of subparagraphs (3)(a) or (b) of this rule shall install, calibrate, maintain, and operate monitoring devices or perform measurements to determine the following operations information on a daily basis:

1. The accumulation of sulfur product over each 24-hour period: The monitoring method may incorporate the use of an instrument to measure and record the liquid sulfur production rate, or may be a procedure for measuring and recording the sulfur liquid levels in the storage tanks with a level indicator or by manual soundings, with subsequent calculation of the sulfur production rate based on the tank geometry, stored sulfur density, and elapsed time between readings. The method shall be designed to be accurate within  $\pm 2$  percent of the 24-hour sulfur accumulation.

2. The H<sub>2</sub>S concentration in the acid gas from the sweetening unit for each 24-hour period: at least one sample per 24-hour period shall be collected and analyzed using the method specified in part (6)(a)8 of this rule. The Technical Secretary may require the owner or operator to demonstrate that the H<sub>2</sub>S concentration obtained from one or more samples over a 24-hour period is within  $\pm 20$  percent of the average of 12 samples collected at

~~equally spaced intervals during the 24-hour period. In instances where H<sub>2</sub>S concentration of a single sample is not within  $\pm$  20 percent of the average of the 12 equally spaced samples, the Technical Secretary may require a more frequent sampling schedule.~~

- ~~3. The average acid gas flow rate from the sweetening unit: the owner or operator shall install and operate a monitoring device to continuously measure the flow rate of acid gas. The monitoring device reading shall be recorded at least once per hour during each 24-hour period. The average acid gas flow rate shall be computed from the individual readings.~~
- ~~4. The sulfur feed rate (X): for each 24-hour period, X shall be computed using the equation in part (5)(a)4 of this rule.~~
- ~~5. The required sulfur dioxide emission reduction efficiency for the 24-hour period: the sulfur feed rate and the H<sub>2</sub>S concentration in the acid gas for the 24-hour period as applicable, shall be used to determine the required reduction efficiency in accordance with the provisions of subparagraph (3)(b) of this rule.~~

~~(b) Where compliance is achieved through the use of an oxidation control system or a reduction control system followed by a continually operated incineration device, the owner or operator shall install, calibrate, maintain, and operate monitoring devices and continuous emission monitors as follows:~~

- ~~1. A continuous monitoring system to measure the total sulfur emission rate (E) of SO<sub>2</sub> in the gases discharged to the atmosphere. The SO<sub>2</sub> emission rate shall be expressed in terms of equivalent sulfur mass flow rates (kg/hr). The span of this monitoring system shall be set so that the equivalent emission limit of subparagraph (3)(b) of this rule will be between 30 percent and 70 percent of the measurement range of the instrument system.~~
- ~~2. Except as provided part 3 of this subparagraph: a monitoring device to measure the temperature of the gas leaving the combustion zone of the incinerator, if compliance with subparagraph (3)(a) of this rule is achieved through the use of an oxidation control system or a reduction control system followed by a continually operated incineration device. The monitoring device shall be certified by the manufacturer to be accurate to within  $\pm$  1 percent of the temperature being measured. When performance tests are conducted under the provision of paragraph 1200-3-16-.01(5) to demonstrate compliance with the standards under paragraph (3) of this rule, the temperature of the gas leaving the incinerator combustion zone shall be determined using the monitoring device. If the volumetric ratio of sulfur dioxide to sulfur dioxide plus total reduced sulfur (expressed as SO<sub>2</sub>) in the gas leaving the incinerator is greater than or equal to 0.98, then temperature monitoring may be used to demonstrate that sulfur dioxide emission monitoring is sufficient to determine total sulfur emissions. At all times during the operation of the facility, the owner or operator shall maintain the average temperature of the gas leaving the combustion zone of the incinerator at or above the appropriate level determined during the most recent performance test to ensure the sulfur compound oxidation criteria are met. Operation at lower average temperatures may be considered by the Technical Secretary to be unacceptable operation and maintenance of the affected facility. The owner or operator may request that the minimum incinerator temperature be reestablished by conducting new performance tests under paragraph 1200-3-16-.01(5).~~
- ~~3. Upon promulgation of a performance specification of continuous monitoring systems for total reduced sulfur compounds at sulfur recovery plants, the owner or operator may as an alternative to part 2 of this subparagraph, install, calibrate, maintain, and operate a continuous emission monitoring system for total reduced sulfur compounds as required in subparagraph (d) of this paragraph in addition to a sulfur dioxide emission monitoring system. The sum of the equivalent sulfur mass emission rates from the two monitoring systems shall be used to compute the total sulfur emission rate (E).~~

~~(c) Where compliance is achieved through the use of a reduction control system not followed by a continually operated incineration device, the owner or operator shall install, calibrate, maintain, and operate a continuous monitoring system to measure the emission rate of reduced sulfur compounds as SO<sub>2</sub> equivalent in the gases discharged to the atmosphere. The SO<sub>2</sub> equivalent compound emission rate shall be expressed in terms of equivalent sulfur mass flow rates (kg/hr). The span of~~



~~this monitoring system shall be set so that the equivalent emission limit of subparagraph (3)(b) of this rule will be between 30 and 70 percent of the measurement range of the system. This requirement becomes effective upon promulgation of a performance specification for continuous monitoring systems for total reduced sulfur compounds at sulfur recovery plants.~~

~~(d) For those sources required to comply with subparagraphs (b) or (c) of this paragraph, the average sulfur emission reduction efficiency achieved (R) shall be calculated for each 24-hour clock interval. The 24-hour interval may begin and end at any selected clock time, but must be consistent. The 24-hour average reduction efficiency (R) shall be computed based on the 24-hour average sulfur production rate (S) and sulfur emission rate (E), using the equation in subparagraph (4)(b) of this rule.~~

~~1. Data obtained from the sulfur production rate monitoring device specified in subparagraph (a) of this paragraph shall be used to determine S.~~

~~2. Data obtained from the sulfur emission rate monitoring systems specified in subparagraphs (b) or (c) of this paragraph shall be used to calculate a 24-hour average for the sulfur emission rate (E); the monitoring system must provide at least one data point in each successive 15-minute interval. At least two data points must be used to calculate each 1-hour average. A minimum of 18 1-hour averages must be used to compute each 24-hour average.~~

~~(e) In lieu of complying with subparagraphs (b) or (c) of this paragraph, those sources with a design capacity less than 150 LT/D of H<sub>2</sub>S expressed as sulfur may calculate the sulfur emission reduction efficiency achieved for each 24-hour period by:~~

$$R = \frac{0.0236 * S}{X}$$

~~Where:~~

~~R = the sulfur dioxide removal efficiency achieved during the 24-hour period, percent;~~

~~S = the sulfur production rate during the 24-hour period, kg/hr;~~

~~X = the sulfur feed rate in the acid gas, LT/D; and 0.0236 = conversion factor, LT/D per kg/hr.~~

~~(f) The monitoring devices required in (7)(b)1, (7)(b)3, and (7)(c) of this rule shall be calibrated at least annually according to the manufacturer's specifications, as required by 1200-3-16-.01(8)(b). For conducting the continuous emission monitoring system performance evaluation required by subparagraph 1200-3-16-.01(8)(c), Performance Specification 2 shall apply, and Method 6 (as referenced in 1200-3-16-.01(5)(g)) shall be used for systems required by subparagraph (b) of this paragraph.~~

#### ~~(8) Recordkeeping and reporting requirements~~

~~(a) Records of the calculations and measurements required in subparagraphs (3)(a) and (b) and subparagraphs (7)(a) through (f) of this rule must be retained for at least 2 years following the date of the measurements by owners and operators subject to this rule.~~

~~(b) Each owner or operator shall submit a written report of excess emissions to the Technical Secretary semiannually. For the purpose of these reports, excess emissions are defined as:~~

~~1. Any 24-hour period (at consistent intervals) during which the average sulfur emission reduction efficiency (R) is less than minimum required efficiency (Z).~~

~~2. For any affected facility electing to comply with the provisions of part (7)(b)2 of this rule, any 24-hour period during which the average temperature of the gases leaving the combustion zone of an incinerator is less than the appropriate operating temperature as~~

~~determined during the most recent performance test in accordance with the provisions of part (7)(b)2 of this rule. Each 24-hour period must consist of at least 96 temperature measurements equally spaced over the 24 hours.~~

- ~~(c) To certify that a facility is exempt from the control requirements of these standards, each owner or operator of a facility with a design capacity less than 2 LT/D of H<sub>2</sub>S in the acid gas (expressed as sulfur) shall keep, for the life of the facility, an analysis demonstrating that the facility's design capacity is less than 2 LT/D of H<sub>2</sub>S expressed as sulfur.~~
- ~~(d) Each owner or operator who elects to comply with subparagraph (7)(e) of this rule shall keep, for the life of the facility, a record demonstrating that the facility's design capacity is less than 150 LT/D of H<sub>2</sub>S expressed sulfur.~~

~~Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.~~

~~1200-03-16-.55 Secondary Emissions from Basic Oxygen Process Steelmaking Facilities from Which Construction is Commenced After November 6, 1988.~~

~~(1) Applicability and Designation of Affected Facilities~~

- ~~(a) The provisions of this rule apply to the following affected facilities in an iron and steel plant: top-blown BOPF's and hot metal transfer stations and skimming stations used with bottom-blown or top-blown BOPF's.~~
- ~~(b) This rule applies to any facility identified in subparagraph (a) of this paragraph that commences construction, modification, or reconstruction after November 6, 1988.~~
- ~~(c) Any BOPF subject to the provisions of this rule is subject to those provisions of rule 1200-3-16-.14 applicable to affected facilities commencing construction, modification or reconstruction after November 6, 1988.~~

~~(2) Definitions~~

- ~~(a) "Basic Oxygen Process Furnace" (BOPF) means any furnace with a refractory lining in which molten steel is produced by charging scrap metal, molten iron, and flux materials or alloy additions into a vessel and by introducing a high volume of oxygen-rich gas. Open hearth, blast, and reverberatory furnaces are not included in this definition.~~
- ~~(b) "Bottom-blown furnace" means any BOPF in which oxygen and other combustion gases are introduced to the bath of molten iron through tuyeres in the bottom of the vessel or through tuyeres in the bottom and sides of the vessel.~~
- ~~(c) "Fume suppression system" means the equipment comprising any system used to inhibit the generation of emissions from steelmaking facilities with an inert gas, flame, or steam blanket applied to the surface of molten iron or steel.~~
- ~~(d) "Hot metal transfer station" means the facility where molten iron is emptied from the railroad torpedo car or hot metal car to the shop ladle. This includes the transfer of molten iron from the torpedo car or hot metal car to a mixer (or other intermediate vessel) and from a mixer (or other intermediate vessel) to the ladle. This facility is also known as the reladling station or ladle transfer station.~~
- ~~(e) "Primary oxygen blow" means the period in the steel production cycle of a BOPF during which a high volume of oxygen-rich gas is introduced to the bath of molten iron by means of a lance inserted from the top of the vessel. This definition does not include any additional, or secondary, oxygen blows made after the primary blow.~~
- ~~(f) "Primary emission control system" means the combination of equipment used for the capture and collection of primary emissions (e.g., an open hood capture system used in conjunction with a particulate matter cleaning device such as an electrostatic precipitator or a closed hood capture system used in conjunction with a particulate matter cleaning device such as a scrubber).~~

- ~~(g) — “Primary emissions” means particulate matter emissions from the BOPF generated during the steel production cycle which are captured by, and do not thereafter escape from, the BOPF primary control system.~~
- ~~(h) — “Secondary emission control system” means the combination of equipment used for the capture and collection of secondary emissions (e.g., (1) an open hood system for the capture and collection of primary and secondary emissions from the BOPF, with local hooding ducted to a secondary emission collection device such as a baghouse for the capture and collection of emissions from the hot metal transfer and skimming station; or (2) an open hood system for the capture and collection of primary and secondary emissions from the furnace, plus a furnace enclosure with local hooding ducted to a secondary emission collection device, such as a baghouse, for additional capture and collection of secondary emissions from the furnace, with local hooding ducted to a secondary emission collection device, such as a baghouse, for the capture and collection of emissions from hot metal transfer and skimming stations; or (3) a furnace enclosure with local hooding ducted to a secondary emission collection device such as a baghouse for the capture and collection of secondary emissions from a BOPF controlled by a closed hood primary emission control system, with local hooding ducted to a secondary emission collection device, such as a baghouse, for the capture and collection of emissions from hot metal transfer and skimming stations).~~
- ~~(i) — “Secondary emissions” means particulate matter emissions that are not captured by the BOPF primary control system, including emissions from hot metal transfer and skimming stations. This definition also includes particulate matter emissions that escape from openings in the primary emission control system, such as from lance hole openings, gaps or tears in the ductwork of the primary emission control system, or leaks in hoods.~~
- ~~(j) — “Skimming station” means the facility where slag is mechanically raked from the top of the bath of molten iron.~~
- ~~(k) — “Steel production cycle” means the operations conducted within the BOPF steelmaking facility that are required to produce each batch of steel, including the following operations: scrap charging, preheating (when used), hot metal charging, primary oxygen blowing, sampling (vessel turndown and turnup), additional oxygen blowing (when used), tapping, and deslagging. Hot metal transfer and skimming operations for the next steel production cycle are also included when the hot metal transfer station or skimming station is an affected facility.~~
- ~~(l) — “Top-blown furnace” means any BOPF in which oxygen is introduced to the bath of molten iron by means of an oxygen lance inserted from the top of the vessel.~~

~~(3) — Standards for Particulate Matter~~

- ~~(a) — Except as provided under subparagraphs (b) and (c) of this paragraph, on and after the date on which the performance test under paragraph 1200-3-16-.01(5) is required to be completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility any secondary emissions that:~~
- ~~1. — Exit from the BOPF shop roof monitor (or other building openings) and exhibit greater than 10 percent opacity during the steel production cycle of any top-blown BOPF or during hot metal transfer or skimming operations for any bottom-blown BOPF; except that an opacity greater than 10 percent but less than 20 percent may occur once per steel production cycle.~~
  - ~~2. — Exit from a control device used solely for the collection of secondary emissions from a top-blown BOPF or from hot metal transfer or skimming for a top-blown or a bottom-blown BOPF and contain particulate matter in excess of 23 mg/dscm (0.010 gr/dscf).~~
  - ~~3. — Exit from a control device used solely for the collection of secondary emissions from a top-blown BOPF or from hot metal transfer or skimming for a top-blown or a bottom-blown BOPF and exhibit more than 5 percent opacity.~~
- ~~(b) — A fume suppression system used to control secondary emissions from an affected facility is not subject to parts (a)2 and (a)3 of this paragraph.~~

~~(c) A control device used to collect both primary and secondary emissions from a BOPF is not subjected to parts (a)2 and (a)3 of this paragraph.~~

~~(4) Monitoring of Operations~~

~~(a) Each owner or operator of an affected facility shall install, calibrate, operate, and maintain a monitoring device that continually measures and records for each steel production cycle the various rates or levels of exhaust ventilation at each phase of the cycle through each duct of the secondary emission capture system. The monitoring device or devices are to be placed at locations near each capture point of the secondary emission capture system to monitor the exhaust ventilation rates or levels adequately, or in alternative locations approved in advance by the Technical Secretary.~~

~~(b) If a chart recorder is used, the owner or operator shall use chart recorders that are operated at a minimum chart speed of 3.8 cm/hr (1.5 in/hr).~~

~~(c) All monitoring devices are to be certified by the manufacturer to be accurate to within  $\pm$  10 percent compared to Method 2 as specified in 1200-3-16.01(5)(g)2. The owner or operator shall recalibrate and check the device(s) annually and at other times as the Technical Secretary may require, in accordance with the written instructions of the manufacturer and by comparing the device against Method 2 specified in 1200-3-16.01(5)(g)2.~~

~~(d) Each owner or operator subject to the requirements of subparagraph (a) of this paragraph shall report on a semiannual basis all measurements of exhaust ventilation rates or levels over any 3-hour period that average more than 10 percent below the average rates or levels of exhaust ventilation maintained during the most recent performance test conducted under paragraph 1200-3-16.01(5) in which the affected facility demonstrated compliance with the standard under part (3)(a)2 of this rule. The accuracy of the respective measurements, not to exceed the values specified in subparagraph (c) of this paragraph, may be considered when determining the measurement results that must be reported.~~

~~(e) If a scrubber primary emission control device is used to collect secondary emissions, the owner or operator shall report on a semiannual basis all measurements of exhaust ventilation rate over any 3-hour period that average more than 10 percent below the average levels maintained during the most recent performance test specified in paragraph 1200-3-16.01(5) in which the affected facility demonstrated compliance with the standard under part (3)(a)1 of this rule.~~

~~(5) Test Methods and Procedures~~

~~(a) The reference methods contained in subparagraph 1200-3-16.01(5)(g), except as provided in subparagraph 1200-3-16.01(5)(b) and as noted below, shall be used to determine compliance with paragraph (3) of this rule. Applicable methods are as follows:~~

- ~~1. Method 1 for sample and velocity traverses;~~
- ~~2. Method 2 for volumetric flow rate;~~
- ~~3. Method 3 for gas analysis;~~
- ~~4. Method 5 for concentration of particulate matter and associated moisture content; and~~
- ~~5. Method 9 for visible emissions except as provided in subparagraph (b) of this paragraph.~~

~~(b) For Method 9, the following instructions for recording observations and reducing data shall apply instead of sections 2.4 and 2.5 of Method 9.~~

- ~~1. Section 2.4. Opacity observations shall be recorded to the nearest 5 percent at 15-second intervals. During the initial performance test conducted pursuant to paragraph 1200-3-16.01(5), observations shall be made and recorded in this manner for a minimum of three steel production cycles. During any subsequent compliance test, observations may be made for any number of steel production cycles, although, where conditions permit, observations will generally be made for a minimum of three steel production cycles.~~

~~2. Section 2.5. Opacity shall be determined as an average of 12 consecutive observations recorded at 15-second intervals. For each steel production cycle, divide the observations recorded into sets of 12 consecutive observations. Sets need not be consecutive in time, and in no case shall two sets overlap. For each set of 12 observations, calculate the average by summing the opacity of 12 consecutive observations and dividing this sum by 12.~~

~~(c) For the sampling of secondary emissions by Method 5, the sampling for each run is to continue for a sufficient number of steel production cycles to ensure a total sample volume of at least 5.67 dscm (200 dscf) for each run. Shorter sampling times and smaller sample volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary. Sampling is to be conducted only during the steel production cycle.~~

~~(d) For the monitoring and recording of exhaust ventilation rates or levels required by subparagraph (4)(a) of this rule, the following instructions for Reference Method 2 shall apply:~~

~~1. For devices that monitor and record the exhaust ventilaton rate, compare velocity readings recorded by the monitoring device against the velocity readings obtained by Method 2. Take Method 2 readings at a point or points that would properly characterize the monitoring device's performance and that would adequately reflect the various rates of exhaust ventilation. Obtain readings at sufficient intervals to obtain 12 pairs of readings for each duct of the secondary emission capture system. Compare the averages of the two sets to determine whether the monitoring device velocity is within  $\pm 10$  percent of the Method 2 average.~~

~~2. For devices that monitor the level of exhaust ventilation and record only step changes when a set point rate is reached, compare step changes recorded by the monitoring device against the velocity readings obtained by Method 2. Take Method 2 readings at a point or points that would properly characterize the performance of the monitoring device and that would adequately reflect the various rates of exhaust ventilation. Obtain readings of sufficient intervals to obtain 12 pairs of readings for each duct of the secondary emission capture system. Compare the averages of the two sets to determine whether the monitoring device step change is within  $\pm 10$  percent of setpoint rate.~~

#### ~~(6) Compliance Provisions~~

~~(a) When determining compliance with mass and visible emission limits specified in parts (3)(a)2 and 3 of this rule, the owner or operator of a BOPF shop that normally operates two furnaces with overlapping cycles may elect to operate only one furnace. If an owner or operator chooses to shut down one furnace, he shall be allowed a reasonable time period to adjust his production schedule before the compliance tests are conducted. The owner or operator of an affected facility may also elect to suspend shop operations not subject to this rule during compliance testing.~~

~~(b) During compliance testing for mass and visible emission standards, if an owner or operator elects to shut down one furnace in a shop that normally operates two furnaces with overlapping cycles, the owner or operator shall operate the secondary emission control system for the furnace being tested at exhaust ventilation rates or levels for each duct of the secondary emission control system that are appropriate for single-furnace operation. Following the compliance test, the owner or operator shall operate the secondary emission control system at exhaust ventilation rates or levels for each duct of the system that are no lower than 90 percent of the exhaust ventilation values established during the most recent compliance test.~~

~~(c) For the purpose of determining compliance with visible and mass emission standards, a steel production cycle begins when the scrap or hot metal is charged to the vessel (whichever operation occurs first) and terminates 3 minutes after slag is emptied from the vessel into the slag pot. Consecutive steel production cycles are not required for the purpose of determining compliance. Where a hot metal transfer or skimming station is an affected facility, the steel production cycle also includes the hot metal transfer or skimming operation for the next steel production cycle for the affected vessel. Visible emission observations for both hot metal transfer and skimming operations begin with the start of the operation and terminate 3 minutes after completion of the~~

operation.

- ~~(d) — For the purpose of determining compliance with visible emission standards specified in parts (3)(a)1 and 3 of this rule, the starting and stopping times of regulated process operations shall be determined and the starting and stopping times of visible emissions data sets shall be determined accordingly.~~
- ~~(e) — To determine compliance with part (3)(a)1 of this rule, select the data sets yielding the highest and second highest 3-minute average opacities for each steel production cycle. Compliance is achieved if the highest 3-minute average for each cycle observed is less than 20 percent and the second highest 3-minute average is 10 percent or less.~~
- ~~(f) — To determine compliance with part (3)(a)2 of this rule, determine the concentration of particulate matter in exhaust gases exiting the secondary emission collection device with Method 5. Compliance is achieved if the concentration of particulate matter does not exceed 23 mg/dscm (0.010 gr/dscf).~~
- ~~(g) — To determine compliance with part (3)(a)3 of this rule, construct consecutive 3-minute averages for each steel production cycle. Compliance is achieved if no 3-minute average is more than 5 percent.~~

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

~~1200-3-16-.56 Wool Fiberglass Insulation Manufacturing Plants~~

~~(1) — Applicability and Designation of Affected Facility~~

- ~~(a) — The affected facility to which the provisions of this rule apply is each rotary spin wool fiberglass insulation manufacturing line.~~
- ~~(b) — The owner or operator of any facility under subparagraph (a) of this paragraph that commences construction, modification, or reconstruction after November 6, 1988, is subject to the requirements of this rule.~~

~~(2) — Definitions~~

- ~~(a) — “Glass pull rate” means the mass of molten glass utilized in the manufacture of wool fiberglass insulation at a single manufacturing line in a specified time period.~~
- ~~(b) — “Manufacturing line” means the manufacturing equipment comprising the forming section, where molten glass is fiberized and a fiberglass mat is formed; the curing section, where the binder resin in the mat is thermally ‘set’; and the cooling section, where the mat is cooled.~~
- ~~(c) — “Rotary spin” means a process used to produce wool fiberglass insulation by forcing molten glass through numerous small orifices in the side wall of a spinner to form continuous glass fibers that are then broken into discrete lengths by high velocity air flow.~~
- ~~(d) — “Wool fiberglass insulation” means a thermal insulation material composed of glass fibers and made from glass produced or melted at the same facility where the manufacturing line is located.~~

~~(3) — Standard for Particulate Matter~~

- ~~(a) — On and after the date on which the performance test required to be conducted by 1200-3-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility any gases which contain particulate matter in excess of 5.5 kg/Mg (11.0 lb/ton) of glass pulled.~~

~~(4) — Monitoring of Operations~~

- ~~(a) — An owner or operator subject to the provisions of this rule who uses a wet scrubbing control device to comply with the mass emission standard shall install, calibrate, maintain, and operate monitoring devices that measure the gas pressure drop across each scrubber and the scrubbing liquid flow~~

~~rate to each scrubber. The pressure drop monitor is to be certified by its manufacturer to be accurate within  $\pm 250$  pascals ( $\pm 1$  inch water gauge) over its operating range, and the flow rate monitor is to be certified by its manufacturer to be accurate within  $\pm 5$  percent over its operating range.~~

~~(b) An owner or operator subject to the provisions of this rule who uses a wet electrostatic precipitator control device to comply with the mass emission standard shall install, calibrate, maintain, and operate monitoring devices that measure the primary and secondary current (amperes) and voltage in each electrical field and the inlet water flow rate. In addition, the owner or operator shall determine the total residue (total solids) content of the water entering the control device once per day using Method 209A, "Total Residue Dried at 103°-105°C," in Standard Methods for the Examination of Water and Wastewater, 15th Edition, 1980. Total residue shall be reported as percent by weight. All monitoring devices required under this subparagraph are to be certified by their manufacturers to be accurate within  $\pm 5$  percent over their operating range.~~

~~(c) All monitoring devices required under this paragraph are to be recalibrated quarterly in accordance with procedures under 1200-3-16-.01(8)(b).~~

#### ~~(5) Record Keeping and Reporting Requirements~~

~~(a) At 30-minute intervals during each 2-hour test run of each performance test of a wet scrubber control device and at least once every 4 hours thereafter, the owner or operator shall record the measurements required by subparagraph (4)(a) of this rule.~~

~~(b) At 30-minute intervals during each 2-hour test run of each performance test of a wet electrostatic precipitator control device and at least once every 4 hours thereafter, the owner or operator shall record the measurements required by subparagraph (4)(b) of this rule, except that the concentration of total residue in the water shall be recorded once during each performance test and once per day thereafter.~~

~~(c) Records of the measurements required in subparagraphs (a) and (b) of this paragraph must be retained for at least 2 years.~~

~~(d) Each owner or operator shall submit written semiannual reports of exceedances of control device operating parameters required to be monitored by subparagraphs (a) and (b) of this paragraph and written documentation of, and a report of corrective maintenance required as a result of, quarterly calibrations of the monitoring devices required in subparagraph (4)(c) of this rule. For the purpose of these reports, exceedances are defined as any monitoring data that are less than 70 percent of the lowest value of each operating parameter recorded during the most recent performance test.~~

~~(e) Reserved~~

#### ~~(6) Test Methods and Procedures~~

~~(a) The reference methods contained in subparagraph (5)(g) of rule 1200-3-16-.01 except as provided in subparagraph (5)(b) of rule 1200-3-16-.01, shall be used to determine compliance with paragraph (3) of this rule. Applicable methods are as follows:~~

- ~~1. Method 1 for sample and velocity traverses;~~
- ~~2. Method 2 for stack gas velocity and volumetric flow rate;~~
- ~~3. Method 3 for stack gas dry molecular weight;~~
- ~~4. Method 4 for stack gas moisture content; and~~
- ~~5. Method 5E for the measurement of particulate emissions.~~

~~(b) The sampling time for each test run shall be at least 2 hours and the minimum volume of gas sampled shall be 2.55 dscm.~~

~~(c) The performance test shall be conducted while the product with the highest loss on ignition (LOI) expected to be produced by the affected facility is being manufactured.~~

~~(d) For each test run, the particulate mass emission rate, R, shall be computed as follows:~~

$$R = Ct \times Q_{std} \times \frac{6 \times 10^{-5} \text{ min}}{h} \text{ Kg}$$

~~Where:~~

~~R = mass emission rate (kg/h)~~

~~Ct = particulate concentration as determined by Reference Method 5E (mg/dscm)~~

~~Qstd = stack gas volumetric flow rate as determined by Reference Method 2 (dscm/min)~~

~~(e) The glass pull rate, P, for the manufacturing line shall be computed as follows:~~

$$P = L_s \times W_m \times M \times \frac{100 - LOI}{100} \times \frac{6 \times 10^{-5} \text{ min}}{h} \text{ Mg}$$

~~Where:~~

~~P = glass pull rate (Mg/h)~~

~~L<sub>s</sub> = line speed (m/min)~~

~~W<sub>m</sub> = trimmed mat width (m)~~

~~min = minutes~~

~~Mg = megagrams~~

~~h = hour~~

~~g = grams~~

~~M = mat gram weight (g/m<sup>2</sup>)~~

~~LOI = loss on ignition (weight percent), as determined by ASTM Standard Test Method D2584-68 (Reapproved 1979), "Ignition Loss of Cured Reinforced Resins"~~

~~(Note: All references to ASTM in this rule refers to the American Society for Testing Materials. Copies of methods are available for purchase by writing to ASTM, 1916 Race Street, Philadelphia, PA 19103 or by writing to the Tennessee Division of Air Pollution Control, 701 Broadway, 4th Floor Customs House, Nashville, TN 37219. Be sure and specify which method is desired.)~~

~~For each 2-hour test run, the average glass pull rate shall be computed from at least three glass pull rates determined at intervals of at least 30 minutes during the test run.~~

~~(f) For each test run, the particulate mass emission level, E, shall be computed as follows:~~

$$E = \frac{R}{P_{avg}}$$

~~Where:~~

~~E = mass emission level (kg/Mg)~~

~~R = mass emission rate (kg/h)~~



~~Pavg = average glass pull rate (Mg/h)~~

~~Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.~~

~~1200-03-16-.57 Industrial Surface Coating: Surface Coating of Plastic Parts for Business Machines~~

~~(1) Applicability and Designation of Affected Facility~~

- ~~(a) The provisions of this rule apply to each spray booth in which plastic parts for use in the manufacture of business machines receive prime coats, color coats, texture coats, or touch-up coats.~~
- ~~(b) This rule applies to any affected facility for which construction, modification, or reconstruction begins after November 6, 1988.~~

~~(2) Definitions and Symbols~~

~~(a) Definitions~~

- ~~1. "Business machine" means a device that uses electronic or mechanical methods to process information, perform calculations, print or copy information, or convert sound into electrical impulses for transmission, such as:
  - ~~(i) Products classified as typewriters under SIC Code 3572;~~
  - ~~(ii) Products classified as electronic computing devices under SIC Code 3573;~~
  - ~~(iii) Products classified as calculating and accounting machines under SIC Code 3574;~~
  - ~~(iv) Products classified as telephone and telegraph equipment under SIC Code 3661;~~
  - ~~(v) Products classified as office machines, not elsewhere classified, under SIC Code 3579; and~~
  - ~~(vi) Photocopy machines, a subcategory of products classified as photographic equipment under SIC Code 3861.~~~~
- ~~2. "Coating operation" means the use of a spray booth for the application of a single type of coating (e.g., prime coat); the use of the same spray booth for the application of another type of coating (e.g., texture coat) constitutes a separate coating operation for which compliance determinations are performed separately.~~
- ~~3. "Coating solids applied" means the coating solids that adhere to the surface of the plastic business machine part being coated.~~
- ~~4. "Color coat" means the coat applied to a part that affects the color and gloss of the part, not including the prime coat or texture coat. This definition includes fog coating.~~
- ~~5. "Conductive sensitizer" means a coating applied to a plastic substrate to render it conductive for purposes of electrostatic application of subsequent prime, color, texture, or touch-up coats.~~
- ~~6. "Fog coating" (also known as mist coating and uniforming) means a thin coating applied to plastic parts that have molded-in color or texture or both to improve color uniformity.~~
- ~~7. "Nominal 1-month period" means either a calendar month, 30-day month, accounting month, or similar monthly time period that is established prior to the performance test (i.e., in a statement submitted with notification of anticipated actual startup pursuant to part 1200-3-16-.01(7)(a)2).~~

- ~~8. "Plastic parts" means panels, housing, bases, covers, and other business machine components formed of synthetic polymers.~~
- ~~9. "Prime coat" means the initial coat applied to a part when more than one coating is applied, not including conductive sensitizers or electromagnetic interference/radio frequency interference shielding coatings.~~
- ~~10. "Spray booth" means the structure housing automatic or manual spray application equipment where a coating is applied to plastic parts for business machines.~~
- ~~11. "Texture coat" means the rough coat that is characterized by discrete, raised spots on the exterior surface of the part.~~
- ~~12. "Touch-up coat" means the coat applied to correct any imperfections in the finish after color or texture coats have been applied.~~
- ~~13. "Transfer efficiency" means the ratio of the amount of coating solids deposited onto the surface of a plastic business machine part to the total amount of coating solids used.~~
- ~~14. "VOC emissions" means the mass of VOC's emitted from the surface coating of plastic parts for business machines expressed as kilograms of VOC's per liter of coating applied, (i.e., deposited on the surface).~~

~~(b) Symbols~~

- ~~1.  $D_c$  = density of each coating as received (kilograms per liter)~~
- ~~2.  $D_d$  = density of each diluent VOC (kilograms per liter)~~
- ~~3.  $L_c$  = the volume of each coating consumed, as received (liters)~~
- ~~4.  $L_d$  = the volume of each diluent VOC added to coatings (liters)~~
- ~~5.  $L_s$  = the volume of coating solids consumed (liters)~~
- ~~6.  $M_d$  = the mass of diluent VOC's consumed (kilograms)~~
- ~~7.  $M_o$  = the mass of VOC's in coatings consumed, as received (kilograms)~~
- ~~8.  $N$  = the volume-weighted average mass of VOC emissions to the atmosphere per unit volume of coating solids applied (kilograms per liter)~~
- ~~9.  $T$  = the transfer efficiency for each type of application equipment used at a coating operation (fraction)~~
- ~~10.  $T_{avg}$  = the volume-weighted average transfer efficiency for a coating operation (fraction)~~
- ~~11.  $V_s$  = the proportion of solids in each coating, as received (fraction by volume)~~
- ~~12.  $W_o$  = the proportion of VOC's in each coating, as received (fraction by weight)~~

~~(3) Standards for Volatile Organic Compounds (VOC's)~~

- ~~(a) Each owner or operator of any affected facility which is subject to the requirements of this rule shall comply with the emission limitations set forth in this paragraph on and after the date on which the initial performance test, required by paragraph 1200-3-16-.01(5)(g) and paragraph (4) of this rule is completed, but not later than 60 days after achieving the maximum production rate at which the affected facility will be operated, or 180 days after the initial startup, whichever date comes first. No affected facility shall cause the discharge into the atmosphere in excess of:~~

- ~~1. 1.5 kilograms of VOC's per liter of coating solids applied from prime coating of plastic parts for business machines.~~
- ~~2. 1.5 kilograms of VOC's per liter of coating solids applied from color coating of plastic parts for business machines.~~
- ~~3. 2.3 kilograms of VOC's per liter of coating solids applied from texture coating of plastic parts for business machines.~~
- ~~4. 2.3 kilograms of VOC's per liter of coatings solids applied from touch-up coating of plastic parts for business machines.~~

~~(b) All VOC emissions that are caused by coatings applied in each affected facility, regardless of the actual point of discharge of emissions into the atmosphere, shall be included in determining compliance with the emission limits in subparagraph (a) of this paragraph.~~

~~(4) Performance Tests and Compliance Provisions~~

~~(a) Subparagraphs 1200-3-16-.01(5)(d) and (f) do not apply to the performance test procedures required by this paragraph.~~

~~(b) The owner or operator of an affected facility shall conduct an initial performance test as required under 1200-3-16-.01(5) and thereafter a performance test each nominal one (1) month period for each affected facility according to the procedures in this paragraph.~~

~~1. The owner or operator shall determine the composition of coatings by analysis of each coating, as received, using Reference Method 24 (as specified in rule 1200-3-16-.01(5)(g)24), from data that have been determined by the coating manufacturer using Reference Method 24, or by other methods approved by the Technical Secretary.~~

~~2. The owner or operator shall determine the volume of coating and the mass of VOC used for dilution of coatings from company records during each nominal 1-month period. If a common coating distribution system serves more than one affected facility or serves both affected and nonaffected spray booths, the owner or operator shall estimate the volume of coatings used at each facility by using procedures approved by the Technical Secretary.~~

~~(i) The owner or operator shall calculate the volume-weighted average mass of VOC's in coatings emitted per unit volume of coating solids applied (N) at each coating operation during each nominal 1-month period for each affected facility. Each 1-month calculation is considered a performance test. Except as provided in subpart (iii) of this part, N will be determined by the following procedures:~~

~~(I) Calculate the mass of VOC's used (Mo + Md) for each coating operation during each nominal 1-month period for each affected facility by the following equation:~~

$$M_o + M_d = \sum_{i=1}^n L_{ci} D_{ci} W_{oi} + \sum_{j=1}^m L_{dj} D_{dj}$$

~~where n is the number of different coatings used during each nominal 1-month period and m is the number of different diluent VOC's used during each nominal 1-month period. (sum LdjDdj will be "0" if no VOC's are added to the coatings, as received.)~~

~~(II) Calculate the total volume of coating solids consumed (Lc) in each nominal 1-month period for each coating operation for each affected facility by the following equation:~~

$$L = \sum_{i=1}^n L_{ci} V_{si}$$

where n is the number of different coatings used during each nominal 1-month period.

- (III) ~~Select the appropriate transfer efficiency (T) from Table 1 for each type of coating applications equipment used at each coating operation. If the owner or operator can demonstrate to the satisfaction of the Technical Secretary that transfer efficiencies other than those shown are appropriate, the Technical Secretary will approve their use on a case-by-case basis. Transfer efficiency values for application methods not listed below shall be approved by the Technical Secretary on a case-by-case basis. An owner or operator must submit sufficient data for the Technical Secretary to judge the accuracy of the transfer efficiency claims.~~

TABLE 1—Transfer Efficiencies

| Application methods        | Transfer   |   |
|----------------------------|------------|---|
|                            | Efficiency | Type of Coating                                 |
| Air atomized spray         | 0.25       | Prime, Color, Texture, touch up, and fog coats. |
| Air-assisted airless spray | 0.40       | Prime and color coats.                          |
| Electrostatic air spray    | 0.40       | Prime and color coats.                          |

- (IV) ~~Where more than one application method is used within a single surface coating operation, the owner or operator shall determine the composition and volume of each coating applied by each method through a means acceptable to the Technical Secretary and compute the volume-weighted average transfer efficiency by the following equation:~~

$$T_{ave} = \frac{\sum_{i=1}^n L_{cik} V_{sik} T_k}{\sum_{k=1}^p L_s}$$

~~where n is the number of coatings of each type used and p is the number of application methods used. Where L<sub>cik</sub> is the volume of each coating consumed, as received (liters); V<sub>sik</sub> is the proportion of solids in each coating, as received (fraction by weight); and T<sub>k</sub> is the transfer efficiency for each type of application equipment used at a coating operation (fraction, see Table 1).~~

- (V) ~~Calculate the volume-weighted average mass of VOC's emitted per unit volume of coating solids applied (N) during each nominal 1-month period for each coating operation for each affected facility by the following equation:~~

$$N = \frac{M_o + M_d}{L_s T_{avg}} \quad (T_{avg} = T \text{ when only one type of coating operation occurs})$$

- (ii) ~~Where the volume-weighted average mass of VOC's emitted to the atmosphere per unit volume of coating solids applied (N) is less than or equal to 1.5 kilograms per liter for prime coats, is less than or equal to 1.5 kilograms per liter for color coats, is less than or equal to 2.3 kilograms per liter for texture coats, and is less than or equal to 2.3 kilograms per liter for touch-up coats, the affected facility is in~~

compliance.

~~(iii) — If each individual coating used by an affected facility has a VOC content (kg VOC/4 of solids), as received, which when divided by the lowest transfer efficiency at which the coating is applied results in a value equal to or less than 1.5 kilograms per liter for prime and color coats and equal to less than 2.3 kilograms per liter for texture and touch-up coats, the affected facility is in compliance provided that no VOC's are added to the coatings during distribution or application.~~

~~(iv) — If an affected facility uses add-on controls to control VOC emissions and if the owner or operator can demonstrate to the Technical Secretary that the volume-weighted average mass of VOC's emitted to the atmosphere per unit volume of coating solids applied (N) is within limits expressed in subpart (b)2.(ii) of this paragraph because of this equipment, the affected facility is in compliance. In such cases, compliance will be determined by the Technical Secretary on a case-by-case basis.~~

~~(5) — Reporting and Record Keeping Requirements~~

~~(a) — The reporting requirements of subparagraph 1200-3-16-.01(5)(a) apply only to the initial performance test. Each owner or operator subject to the provisions of this rule shall include the following data in the report of the initial performance test required under subparagraph 1200-3-16-.01(5)(a):~~

~~1. — Except as provided for in part 2 of this subparagraph, the volume-weighted average mass of VOC's emitted to the atmosphere per volume of applied coating solids (N) for the initial nominal 1-month period from each affected facility.~~

~~2. — For each affected facility where compliance is determined under the provisions of subpart (4)(b)2(iii) of this rule, a list of the coatings used during the initial nominal 1-month period, the VOC content of each coating calculated from data determined using Reference Method 24, and the lowest transfer efficiency of any coating application equipment used during the initial nominal 1-month period.~~

~~(b) — Following the initial report, each owner or operator shall:~~

~~1. — Report the volume-weighted average mass of VOC's per unit volume of coating solids applied for each affected facility during each nominal 1-month period in which the facility is not in compliance with the applicable emission limit specified in paragraph (3) of this rule. Reports of noncompliance shall be submitted on a quarterly basis, occurring every 3 months following the initial report; and~~

~~2. — Submit statements that each affected facility has been in compliance with the applicable emission limit specified in paragraph (3) of this rule during each nominal 1-month period. Statements of compliance shall be submitted on a semiannual basis.~~

~~(c) — These reports shall be postmarked not later than 10 days after the end of the periods specified in parts (b)1 and 2 of this paragraph.~~

~~(d) — Each owner or operator subject to the provisions of this rule shall maintain at the source, for a period of at least 2 years, records of all data and calculations used to determine monthly VOC emissions from each affected facility as specified in subparagraph 1200-3-16-.01(7)(d).~~

~~(e) — Reporting and record keeping requirements for facilities using add-on controls will be determined by the Technical Secretary on a case-by-case basis.~~

~~(6) — Test Methods and Procedures~~

~~(a) — The reference methods contained in subparagraph 1200-3-16-.01(5)(g) except as provided in subparagraph 1200-3-16-.01(5)(b) shall be used to determine compliance with paragraph (3) of this rule. Applicable methods are as follows:~~

~~1. Method 24 for determination of VOC content of each coating as received.~~

~~2. For Method 24, the sample must be at least a 1-liter sample in at least a 1-liter container.~~

~~(b) Other methods may be used to determine the VOC content of each coating if approved by the Technical Secretary before testing.~~

~~Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.~~

~~1200-03-16-.58 Reserved~~

~~Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.~~

~~1200-03-16-.59 Industrial Commercial Institutional Steam Generating Units~~

~~(1) Applicability and Definition of Affected Facility~~

~~(a) The affected facility to which this rule applies is each industrial-commercial-institutional steam generating unit for which construction, modification, or reconstruction is commenced after November 6, 1988 and which has a heat input capacity from fuels combusted in the steam generating unit of more than 29 MW (100 million Btu/hour), except as provided under subparagraph (b) through (f) of this paragraph.~~

~~(b) Reserved~~

~~(c) Reserved~~

~~(d) Reserved~~

~~(e) Reserved~~

~~(f) Reserved~~

~~(g) Any affected facility meeting the applicability requirements of subparagraph (a) of this paragraph commencing construction, modification, or reconstruction after November 6, 1988 is not subject to Rule 1200-03-16-.02.~~

~~(2) Reserved~~

~~Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.~~

~~1200-03-16-.60 Reserved~~

~~Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.~~

~~1200-03-16-.61 Reserved~~

~~Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.~~

~~1200-03-16-.62 through 1200-3-16-.73 Reserved~~

~~Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.~~

~~1200-03-16-.74 Standards of Performance for Calciners and Drying in Mineral Industries~~

~~(1) For what follows, "Administrator" means the Technical Secretary of the Tennessee Air Pollution Control Board in those cases for which authority to implement and enforce provisions of the rule have been delegated to Tennessee. Otherwise, "Administrator" means the Administrator of the United States Environmental Protection Agency. "State" means the State of Tennessee."~~

~~(2) — Adopted herein by reference are the federal regulations in paragraph (4) of this rule as appearing in 40 CFR Part § 60 Subpart UUU, revised as of July 1, 1994. Source: (published in the Federal Register / Vol. 57, No. 188 / Monday, September 28, 1992 / Rules and Regulations 44503), unless otherwise noted.~~

~~(3) — The standards provided herein are the requirements of the state.~~

~~(4) — Subpart UUU of 40 CFR part § 60.~~

#### ~~§60.730 Applicability and designation of affected facility~~

~~(a) — The affected facility to which the provisions of this subpart apply is each calciner and dryer at a mineral processing plant. Feed and product conveyors are not considered part of the affected facility. For the brick and related clay products industry, only the calcining and drying of raw materials prior to firing of the brick are covered.~~

~~(b) — An affected facility that is subject to the provisions of subpart LL, Metallic Mineral Processing Plants, is not subject to the provisions of this subpart. Also, the following processes and process units used at mineral processing plants are not subject to the provisions of this subpart: vertical shaft kilns in the magnesium compounds industry; the chlorination-oxidation process in the titanium dioxide industry; coating kilns, mixers, and aerators in the roofing granules industry; and tunnel kilns, tunnel dryers, apron dryers, and grinding equipment that also dries the process material used in any of the 17 mineral industries (as defined in §60.731, "Mineral processing plant").~~

~~(c) — The owner or operator of any facility under paragraph (a) of this section that commences construction, modification, or reconstruction after April 23, 1986, is subject to the requirements of this subpart.~~

#### ~~§60.731 Definitions~~

~~As used in this subpart, all terms not defined herein shall have the meaning given them in the Clean Air Act and in subpart A of this part.~~

~~Calciner means the equipment used to remove combined (chemically bound) water and/or gases from mineral material through direct or indirect heating. This definition includes expansion furnaces and multiple hearth furnaces.~~

~~Control device means the air pollution control equipment used to reduce particulate matter emissions released to the atmosphere from one or more affected facilities.~~

~~Dryer means the equipment used to remove uncombined (free) water from mineral material through direct or indirect heating.~~

~~Installed in series means a calciner and dryer installed such that the exhaust gases from one flow through the other and then the combined exhaust gases are discharged to the atmosphere.~~

~~Mineral processing plant means any facility that processes or produces any of the following minerals, their concentrates or any mixture of which the majority (>50 percent) is any of the following minerals or a combination of these minerals: alumina, ball clay, bentonite, diatomite, feldspar, fire clay, fuller's earth, gypsum, industrial sand, kaolin, lightweight aggregate, magnesium compounds, perlite, roofing granules, talc, titanium dioxide, and vermiculite.~~

#### ~~§60.732 Standards for particulate matter.~~

~~Each owner or operator of any affected facility that is subject to the requirements of this subpart shall comply with the emission limitations set forth in this section on and after the date on which the initial performance test required by §60.8 is completed, but not later than 180 days after the initial startup, whichever date comes first. No emissions shall be discharged into the atmosphere from any affected facility that:~~

~~(a) — Contains particulate matter in excess of 0.092 gram per dry standard cubic meter (g/dscm) [0.040 grain per dry standard cubic foot (gr/dscf)] for calciners and for calciners and dryers installed in series and in excess of 0.057 g/dscm for dryers; and~~

- ~~(b) Exhibits greater than 10 percent opacity, unless the emissions are discharged from an affected facility using a wet scrubbing control device.~~

#### ~~§60.733 Reconstruction~~

~~The cost of replacement of equipment subject to high temperatures and abrasion on processing equipment shall not be considered in calculating either the “fixed capital cost of the new components” or the “fixed capital cost that would be required to construct a comparable new facility” under §60.15. Calciner and dryer equipment subject to high temperatures and abrasion are: end seals, flights, and refractory lining.~~

#### ~~§60.734 Monitoring of emissions and operations~~

- ~~(a) With the exception of the process units described in paragraphs (b), (c), and (d) of this section, the owner or operator of an affected facility subject to the provisions of this subpart who uses a dry control device to comply with the mass emission standard shall install, calibrate, maintain, and operate a continuous monitoring system to measure and record the opacity of emissions discharged into the atmosphere from the control device.~~
- ~~(b) In lieu of a continuous opacity monitoring system, the owner or operator of a ball clay vibrating grate dryer, a bentonite rotary dryer, a diatomite flash dryer, a diatomite rotary calciner, a feldspar rotary dryer, a fire clay rotary dryer, an industrial sand fluid bed dryer, a kaolin rotary calciner, a perlite rotary dryer, a roofing granules fluid bed dryer, a roofing granules fluid bed dryer a roofing granules rotary dryer, a talc rotary calciner, a titanium dioxide spray dryer, a titanium dioxide fluid bed dryer, a vermiculite fluid bed dryer, or a vermiculite rotary dryer who uses a dry control device may have a certified visible emissions observer measure and record three 6-minute averages of the opacity of visible emissions to the atmosphere each day of operation in accordance with Method 9 of appendix A of part 60.~~
- ~~(c) The owner or operator of a ball clay rotary dryer, a diatomite rotary dryer, a feldspar fluid bed dryer, a fuller's earth rotary dryer, a gypsum rotary dryer, a gypsum flash calciner, gypsum kettle calciner, an industrial sand rotary dryer, a kaolin rotary dryer, a kaolin multiple hearth furnace, a perlite expansion furnace, a talc flash dryer, a talc rotary dryer, a titanium dioxide direct or indirect rotary dryer or a vermiculite expansion furnace who uses a dry control device is exempt from the monitoring requirements of this section.~~
- ~~(d) The owner or operator of an affected facility subject to the provisions of this subpart who uses a wet scrubber to comply with the mass emission standard for any affected facility shall install, calibrate, maintain, and operate monitoring devices that continuously measure and record the pressure loss of the gas stream through the scrubber and the scrubbing liquid flow rate to the scrubber. The pressure loss monitoring device must be certified by the manufacturer to be accurate within 5 percent of water column gauge pressure at the level of operation. The liquid flow rate monitoring device must be certified by the manufacturer to be accurate within 5 percent of design scrubbing liquid flow rate.~~

#### ~~§60.735 Recordkeeping and reporting requirements~~

- ~~(a) Records of the measurements required in §60.734 of this subpart shall be retained for at least 2 years.~~
- ~~(b) Each owner or operator who uses a wet scrubber to comply with §60.732 shall determine and record once each day, from the recordings of the monitoring devices in §60.734(d), and arithmetic average over a 2-hour period of both the change in pressure of the gas stream across the scrubber and the flowrate of the scrubbing liquid.~~
- ~~(c) Each owner or operator shall submit written reports semiannually of exceedances of control device operation parameters required to be monitored by §60.734 of this subpart. For the purpose of these reports, exceedances are defined as follows:~~
- ~~(1) All 6-minute periods during which the average opacity from dry control devices is greater than 10 percent; or~~



- ~~(2) — Any daily 2-hour average of the wet scrubber pressure drop determined as described in §60.735(b) that is less than 90 percent of the average value recorded according to §60.736(c) during the most recent performance test that demonstrated compliance with the particulate matter standard; or~~
- ~~(3) — Each daily wet scrubber liquid flow rate recorded as described in §60.735(b) that is less than 80 percent or greater than 120 percent of the average value recorded according to §60.736(c) during the most recent performance test that demonstrate compliance with the particulate matter standard.~~
- ~~(d) — The requirements of this section remain in force until and unless the Agency, in delegating enforcement authority to a State under section 111(c) of the Clean Air Act, approves reporting requirements or an alternative means of compliance surveillance adopted by such State. In that event, affected facilities within the State will be relieved of the obligation to comply with this section provided that they comply with the requirements established by the State.~~

~~[57FR 44503, Sept. 28, 1992, as amended at 58 FR 40591, July 29, 1993]~~

#### ~~§60.736 Test methods and procedures~~

- ~~(a) — In conducting the performance tests required in §60.8, the owner or operator shall use the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in §60.8(b).~~
- ~~(b) — The owner or operator shall determine compliance with the particulate matter standards in §60.732 as follows:
  - ~~(1) — Method 5 shall be used to determine the particulate matter concentration. The sampling time and volume for each test run shall be at least 2 hours and 1.70 dscm.~~
  - ~~(2) — Method 9 and the procedures in §60.11 shall be used to determine opacity from stack emissions.~~~~
- ~~(c) — During the initial performance test of a wet scrubber, the owner or operator shall use the monitoring devices of §60.734(d) to determine the average change in pressure of the gas stream across the scrubber and the average flowrate of the scrubber liquid during each of the particulate matter runs. The arithmetic averages of the three runs shall be used as the baseline average values for the purposes of §60.735(c).~~

#### ~~§60.737 Delegation of authority~~

- ~~(a) — In delegating implementation and enforcement authority to a State under section 111(c) of the Act, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.~~
- ~~(b) — Authorities which will not be delegated to States: No restrictions.~~

~~Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.~~

~~1200-03-16-.75 Reserved~~

~~1200-03-16-.76 Reserved~~

~~1200-03-16-.77 THROUGH 1200-03-16-.99 Reserved~~

Chapter 1200-03-18  
Volatile Organic Compounds

Amendments

Subparagraph (c) of paragraph (2) of Rule 1200-03-18-.48 Volatile Organic Liquid Storage Tanks is amended by deleting it in its entirety and substituting instead the following:

- (c) Any definition in ~~Rules .10, .11 and .61 of rule 1200-03-16~~ 40 C.F.R Part 60, subparts K, Ka, and Kb. The provisions of 40 C.F.R. Part 60, subparts K, Ka, and Kb are hereby incorporated by reference as published in the July 1, 2022, edition of the Code of Federal Regulations.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Chapter 1200-03-20  
Limits on Emissions Due to Malfunctions, Startups, and Shutdowns

Amendments

Paragraph (5) of Rule 1200-03-20-.06 Report Required Upon the Issuance of a Notice of Violation is amended by deleting it in its entirety and substituting instead the following:

- (5) Where the violations are determined from properly certified and operated continuous emission monitors, no notice of violation(s) will be automatically issued unless the specified de minimis levels are exceeded:

|     | <u>Source Type</u>  | <u>De Minimis Pollutant Monitored</u> | <u>De Minimis Level</u>   |
|-----|---|---------------------------------------|---|
| (a) | Fuel Burning Installations subject to Rule 1200-03-05-.01 or Rule 1200-03-05-.05 and having fuel burning equipment of input capacity greater than 600 x 10 <sup>6</sup> Btu/hr. | Opacity                               | Two <del>(2)</del> percent of the time during calendar quarter (Excluding periods of permitted startup or shutdown and excused malfunctions) so long as no more than one <del>(1)</del> 24-hour exceedance per calendar year takes place.   |
|     |   | Sulfur Dioxide                        | One <del>(1)</del> 24-hour exceedance per calendar year.  |
| (b) | Fuel Burning Installations subject to Rule 1200-03-05-.05, Rule 1200-03-05-.10, or Rule 1200-30-06-.05.   | Opacity                               | One <del>(1)</del> percent of the time during a calendar quarter (Excluding period of permitted startup or shutdown and excused malfunctions) as long as no more than one <del>(1)</del> 24-hour exceedance per calendar year takes place.  |
| (c) | Fuel Burning Equipment subject to <del>Rule 1200-03-16-.02 part (1)(b)11 of Rule 0400-30-39-.01 or Rule 1200-03-16-.59 part (1)(b)13 of Rule 0400-30-39-.01.</del>              | Opacity                               | One <del>(1)</del> percent of the time during a calendar quarter (Excluding periods of permitted startup or shutdown and excused malfunctions) as long as no more than one <del>(1)</del> 24-hour exceedance per calendar year takes place. |
|     |   | Sulfur Dioxide                        | One <del>(1)</del> 3-hour exceedance per year and/or one 24-hour exceedance per year (applicable to sources having three-hour standard only).   |
| (d) | Kraft Recovery Furnaces subject to either Rule 1200-03-05-.09 or <del>Rule 1200-03-16-.29 part (1)(b)48 of Rule 0400-30-39-.01.</del>   | Opacity                               | Six <del>(6)</del> percent of the time (Excluding periods of permitted startup or shutdown and excused malfunctions) so long as no more than one <del>(1)</del> 24-hour exceedance per calendar year takes place.                           |
| (e) | Kraft Recovery Furnaces subject to either Rule 1200-03-07-.07, <del>or Rule 1200-03-16-.29 part (1)(b)48 of Rule 0400-30-39-.01 or part (1)(b)49 of Rule</del>                  | Total Reduced Sulfur                  | One <del>(1)</del> percent of the time during a calendar quarter (Excluding periods of permitted startup or shutdown and excused malfunctions).   |

0400-30-39-.01.

|     |  |                      |  |
|-----|--|----------------------|--|
| (f) | Lime Kilns subject to <u>paragraph (4) of Rule 1200-03-07-.07</u> <del>(4)</del> .   | Total Reduced Sulfur | Two <del>(2)</del> percent of the time during a calendar quarter (Excluding periods of permitted startup or shutdown and excused malfunctions).  |
| (g) | Sulfuric Acid Plants subject to <u>Rule 1200-03-16-.06 part (1)(b)22 of Rule 0400-30-39-.01</u> and Liquid Sulfur Dioxide Plants subject to Rule 1200-03-19-.19. | Sulfur Dioxide       | One <del>(1)</del> exceedance greater than <del>3</del> <u>three</u> hours duration per year (Excluding periods of excused malfunctions).  |
| (h) | Primary Zinc Smelters subject to <u>Rule 1200-03-16-.24 part (1)(b)35 of Rule 0400-30-39-.01.</u>  | Sulfur Dioxide       | One <del>(1)</del> exceedance of greater than <del>3</del> <u>three</u> hours duration but less than 24-hour duration per calendar year and/or one 24-hour exceedance per year (Excluding periods of startup, shutdown, or excused malfunction). |
| (i) | Electric Arc Furnaces subject to <u>Rule 1200-03-16-.26 part (1)(b)45 of Rule 0400-30-39-.01 or part (1)(b)46 of Rule 0400-30-39-.01.</u>                        | Opacity              | One <del>(1)</del> percent of the time during a calendar quarter (Excluding time periods of startup, shutdown, or excused malfunction) so long as no more than one <del>(1)</del> 24-hour exceedance per calendar year takes place.              |
| (j) | Sulfur Dioxide Abatement System Serving Facilities Producing Organophosphate Compounds.  | Sulfur Dioxide       | One <del>(1)</del> exceedance of greater than <del>3</del> <u>three</u> hours duration per calendar year (Excluding periods of excused malfunctions).  |
| (k) | Secondary Lead Furnaces subject to <u>Rule 1200-03-16-.12 part (1)(b)29 of Rule 0400-30-39-.01.</u>  | Opacity              | One half <del>(1/2)</del> percent of the time during a calendar quarter (Excluding time periods of startup, shutdown, or excused malfunction).   |
| (l) | Any source type utilizing a thirty day rolling average.  | Nitrogen Oxides      | None. (Excluding periods of startup, shutdown, or excused malfunction.)  |

For purposes of this ~~Paragraph~~ paragraph, the term 24-hour exceedance means a continuous exceedance of an emission standard having a total duration of greater than 24 hours (midnight to midnight).

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Chapter 1200-03-21  
General Alternate Emission Standards

Amendment

Subparagraph (d) of paragraph (2) of Rule 1200-03-21-.01 General Alternate Emission Standard is amended by deleting it in its entirety and substituting instead the following:

- (d) The pollutants involved in the alternate emission standard must be comparable emissions, and no interpollutant trades are allowed. Air contaminant sources subject to the standards in Chapter 0400-30-38 cannot apply the alternate emission standard to hazardous air contaminants. Air contaminant sources subject to emission standards in Chapter ~~1200-03-16~~, 0400-30-39 or paragraph (4) of Rule 1200-03-09-.01 or subparagraph (5)(b) of Rule 1200-03-09-.01 cannot use an alternate emission standard, except for reductions in actual emissions below the level required in these rules. Such reduction may be used as credit for existing source. However, all applicable standards and requirements established under paragraph (4) of Rule 1200-03-09-.01, under Chapters 0400-30-38 and ~~1200-03-16~~ 0400-30-39, and according to a lowest-achievement-emission-rate (LAER) determination under paragraph (5) of Rule 1200-03-09-.01 must be complied with and are not superseded or replaced by the alternate emission standard.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Chapter 1200-03-22  
Lead Emission Standards

Amendment

Paragraph (4) of Rule 1200-03-22-.04 Standards for New or Modified Sources of Lead is amended by deleting it in its entirety and substituting instead the following:

- (4) Additional requirements for certain new or modified sources of lead are given in ~~Paragraph 1200-3-9-.01(4), Prevention of Significant Deterioration paragraph (4) of Rule 1200-03-09-.01~~ and in Chapter ~~1200-3-16, New Source Performance Standards, of these regulations 0400-30-39.~~

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Chapter 1200-03-25

Standards for Infectious Waste Incinerators

Amendments

Subparagraph (b) of paragraph (3) of Rule 1200-03-25-.05 Emission Standards is amended by deleting it in its entirety and substituting instead the following:

- (b) Visible determination of opacity of emissions shall be determined by ~~the reference method~~ Method 9 as specified in ~~Rule 1200-3-16-.01(5)(g) of the Official Compilation of the Rule and Regulations of the State of Tennessee and~~ the Federal Register, Vol. 39, No. 219, November 12, 1974.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Chapter 1200-03-26

Administrative Fees Schedule

Amendments

Part 2 of subparagraph (i) of paragraph (2) of Rule 1200-03-26-.02 Construction and Annual Fees is amended by deleting it in its entirety and substituting instead the following:

2. Each regulated pollutant from a source subject to the provisions of ~~chapter 1200-03-16 NEW SOURCE PERFORMANCE STANDARDS~~ Chapter 0400-30-39 Standards of Performance for New Stationary Sources.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.



\* If a roll-call vote was necessary, the vote by the Agency on these rulemaking hearing rules was as follows:

| <b>Board Member</b>   | <b>Aye</b> | <b>No</b> | <b>Abstain</b> | <b>Absent</b> | <b>Signature<br/>(if required)</b> |
|---|------------|-----------|----------------|---------------|------------------------------------|
| <b>Dr. Ronné Adkins</b><br>Commissioner's Designee, Dept. of<br>Environment and Conservation                    |            |           |                |               |                                    |
| <b>Dr. John Benitez</b><br>Licensed Physician with experience in health<br>effects of air pollutants            |            |           |                |               |                                    |
| <b>Kyle Etheridge</b><br>Representative of Tennessee Industry   |            |           |                |               |                                    |
| <b>Dr. Joshua Fu</b><br>Involved with Institution of Higher Learning on<br>air pollution evaluation and control |            |           |                |               |                                    |
| <b>Mike Haverstick</b><br>Working in management in Private<br>Manufacturing                                     |            |           |                |               |                                    |
| <b>Dr. Shawn A. Hawkins</b><br>Working in field related to Agriculture or<br>Conservation                       |            |           |                |               |                                    |
| <b>Caitlin Roberts Jennings</b><br>Small Generator of Air Pollution representing<br>Automotive Interests        |            |           |                |               |                                    |
| <b>Dr. Chunrong Jia</b><br>Environmental Interests  |            |           |                |               |                                    |
| <b>Ken Moore</b><br>Working in Municipal Government   |            |           |                |               |                                    |
| <b>Stephen Moore</b><br>Working for Industry with technical experience  |            |           |                |               |                                    |
| <b>Nicholas Ramos</b><br>Conservation Interest  |            |           |                |               |                                    |
| <b>Amy Spann, PE</b><br>Registered Professional Engineer  |            |           |                |               |                                    |
| <b>Larry Waters</b><br>County Mayor   |            |           |                |               |                                    |
| <b>Jimmy West</b><br>Commissioner's Designee, Dept. of Economic<br>and Community Development                    |            |           |                |               |                                    |

I certify that this is an accurate and complete copy of rulemaking hearing rules, lawfully promulgated and adopted by the Air Pollution Control Board on 07/10/2024 and is in compliance with the provisions of T.C.A. § 4-5-222.

I further certify the following:

Notice of Rulemaking Hearing filed with the Department of State on: 04/11/2024

Rulemaking Hearing(s) Conducted on: (add more dates). 06/05/2024

Date: \_\_\_\_\_

Signature: \_\_\_\_\_

Name of Officer: Michelle W. Owenby

Title of Officer: Technical Secretary

Agency/Board/Commission: Air Pollution Control Board

Rule Chapter Number(s): 0400-30-39, 1200-03-02, 1200-03-05, 1200-03-06, 1200-03-09, 1200-03-16, 1200-03-18, 1200-03-20, 1200-03-21, 1200-03-22, 1200-03-25, 1200-03-26

All rulemaking hearing rules provided for herein have been examined by the Attorney General and Reporter of the State of Tennessee and are approved as to legality pursuant to the provisions of the Administrative Procedures Act, Tennessee Code Annotated, Title 4, Chapter 5.

\_\_\_\_\_  
Jonathan Skrmetti  
Attorney General and Reporter

\_\_\_\_\_  
Date

**Department of State Use Only**

Filed with the Department of State on: \_\_\_\_\_

Effective on: \_\_\_\_\_

\_\_\_\_\_  
Tre Hargett  
Secretary of State

## Public Hearing Comments

One copy of a document that satisfies T.C.A. § 4-5-222 must accompany the filing.

1. Comment: The Division of Air Pollution Control (Division), on behalf of the Air Pollution Control Board, received a comment letter from the U.S. Environmental Protection Agency (EPA).
  - (a) EPA commented that there appears to be inconsistency and differences between the language in the federally approved State Implementation Plan (SIP) versus what is being revised in the draft rules.
  - (b) Additionally, the EPA's comment letter states that the definitions in subparagraph (2)(c) of Rule 1200-03-18-.48 are proposed for removal in the draft rule. The EPA recommends providing additional information regarding the purpose and effect of removing the definitions in Rules 1200-03-06-.10, 1200-03-06-.11, and 1200-03-06-.16 that are currently contained in subparagraph (2)(c) of Rule 1200-03-18-.48 from the SIP.

Response: The Division did not make any changes to the rule based on EPA's comments.

- (a) The Division is aware that the state approved rules and the EPA's SIP-approved rules do not currently match up. The Division is conducting historical research to identify which state rule revisions need to be sent to EPA to update the SIP. The Division is currently working with EPA to make sure that the state approved rules match up with the EPA's SIP-approved rules.
- (b) The Division is repealing Rules 1200-03-06-.10, 1200-03-06-.11, and 1200-03-06-.16 with this rulemaking. The definitions in these three rules were referenced in subparagraph of Rule 1200-03-18-.48. The definitions in these three rules are being replaced by the equivalent definitions in the federal regulations, which are included in 40 C.F.R. Part 60, subparts K, Ka, and Kb. These three federal regulations are being incorporated by reference with this rulemaking.

## Regulatory Flexibility Addendum

Pursuant to T.C.A. §§ 4-5-401 through 4-5-404, prior to initiating the rule making process, all agencies shall conduct a review of whether a proposed rule or rule affects small business.

- (1) The type or types of small business and an identification and estimate of the number of small businesses subject to the proposed rule that would bear the cost of, or directly benefit from the proposed rule.

Small businesses are already subject to the federal New Source Performance Standards (NSPS) that the Board is incorporating by reference. It is estimated that less than 250 small businesses per year are subject to the current NSPS and likewise subject to this rulemaking.

- (2) The projected reporting, recordkeeping, and other administrative costs required for compliance with the proposed rule, including the type of professional skills necessary for preparation of the report or record.

This rulemaking does not add any additional reporting, recordkeeping, or other administrative costs. The NSPS already require reporting and recordkeeping. There is some skill necessary for preparing reports and records. An employee at a small business with a degree in engineering or environmental studies would generally prepare the reports or records; however, a college degree is not necessary.

- (3) A statement of the probable effect on impacted small businesses and consumers.

This rulemaking will not impose any additional requirements on small businesses currently subject to the NSPS.

- (4) A description of any less burdensome, less intrusive, or less costly alternative methods of achieving the purpose and objectives of the proposed rule that may exist, and to what extent the alternative means might be less burdensome to small business.

The Division of Air Pollution Control on behalf of the Board evaluated how the other states in EPA Region IV were enforcing NSPS. All states in EPA Region IV other than Tennessee have incorporated the NSPS regulations by reference. Also, the EPA has recommended adoption by reference.

- (5) A comparison of the proposed rule with any federal or state counterparts.

The other seven states in EPA Region IV have adopted NSPS regulations by reference. This rulemaking will have no impact on attracting or detracting economic activity in Tennessee.

- (6) Analysis of the effect of the possible exemption of small businesses from all or any part of the requirements contained in the proposed rule.

Under applicable federal law, there is no exemption available for small businesses from the requirements of the NSPS since these regulations are based on the type and amount of air pollutants emitted from a source. The only way for a small business to no longer be subject to the requirements of the NSPS would be to eliminate the emission of air pollutants from the source.

### **Impact on Local Governments**

Pursuant to T.C.A. §§ 4-5-220 and 4-5-228, "On any rule and regulation proposed to be promulgated, the proposing agency shall state in a simple declarative sentence, without additional comments on the merits or the policy of the rule or regulation, whether the rule or regulation may have a projected financial impact on local governments. The statement shall describe the financial impact in terms of increase in expenditures or decrease in revenues."

The Board anticipates that this rule will not result in an increase in expenditures or a decrease in revenues for local governments.

## Additional Information Required by Joint Government Operations Committee

All agencies, upon filing a rule, must also submit the following pursuant to T.C.A. § 4-5-226(i)(1).

- (A)** A brief summary of the rule and a description of all relevant changes in previous regulations effectuated by such rule;

The proposed amendments to Chapter 0400-30-39 will incorporate by reference all New Source Performance Standards (NSPS) from 40 C.F.R. Part 60, except the emission guidelines. Currently, the requirements of a NSPS must be placed in a permit before the State of Tennessee can enforce them. The Tennessee Air Pollution Control Board (Board) proposes to repeal all of Chapter 1200-03-16 and one rule in Chapter 1200-03-06, which currently reproduce some, but not all, of the NSPS regulations. The proposed rule will incorporate by reference the federal NSPS regulations and allow the Technical Secretary of the Board to enforce these federal regulations directly. In addition, current references in other rules to Chapter 1200-03-16 will be revised to reference to Chapter 0400-30-39. The proposed amendments will also remove the permit-by-rule provisions of paragraphs 0400-30-39-.01(1) and 0400-30-39-.02(1) because they are no longer necessary.

- (B)** A citation to and brief description of any federal law or regulation or any state law or regulation mandating promulgation of such rule or establishing guidelines relevant thereto;

Pursuant to Clean Air Act section 111, Tennessee is required to enforce the NSPS as part of its federally authorized air program and incorporating the NSPS into Chapter 0400-30-39 will streamline permitting and compliance-related evaluations. According to Tennessee Code Annotated section 68-201-103 the intent and purpose of Tennessee Code Annotated Title 68, Chapter 201, Part 1 is to maintain purity of the air resources of the state consistent with the protection of normal health, general welfare, and physical property of the people, maximum employment and the full industrial development of the state and for the Board to do so through the prevention, abatement, and control of air pollution by all practical and economically feasible methods.

- (C)** Identification of persons, organizations, corporations or governmental entities most directly affected by this rule, and whether those persons, organizations, corporations or governmental entities urge adoption or rejection of this rule;

Persons, organizations, corporations, or governmental entities most directly affected by this rule are regulated facilities that are subject to the NSPS. The U.S. Environmental Protection Agency is a proponent of this rulemaking.

- (D)** Identification of any opinions of the attorney general and reporter or any judicial ruling that directly relates to the rule or the necessity to promulgate the rule;

The Board is not aware of any opinions of the Attorney General and Reporter or any judicial ruling that directly relates to the rule or the necessity to promulgate the rule.

- (E)** An estimate of the probable increase or decrease in state and local government revenues and expenditures, if any, resulting from the promulgation of this rule, and assumptions and reasoning upon which the estimate is based. An agency shall not state that the fiscal impact is minimal if the fiscal impact is more than two percent (2%) of the agency's annual budget or five hundred thousand dollars (\$500,000), whichever is less;

The Board anticipates that this rule will not result in an increase in expenditures or a decrease in revenues for state or local governments.

- (F)** Identification of the appropriate agency representative or representatives, possessing substantial knowledge and understanding of the rule;

Mark A. Reynolds  
Division of Air Pollution Control  
Davy Crockett Tower, Floor 7  
500 James Robertson Parkway  
Nashville, Tennessee 37243  
[mark.a.reynolds@tn.gov](mailto:mark.a.reynolds@tn.gov)

- (G) Identification of the appropriate agency representative or representatives who will explain the rule at a scheduled meeting of the committees;

Blair Beaty  
Legislative Director  
Office of General Counsel

- (H) Office address, telephone number, and email address of the agency representative or representatives who will explain the rule at a scheduled meeting of the committees; and

Tennessee Department of Environment and Conservation  
Davy Crockett Tower, Floor 5  
500 James Robertson Parkway  
Nashville, Tennessee 37243  
(615) 253-5339  
[Blair.Beaty@tn.gov](mailto:Blair.Beaty@tn.gov)

- (I) Any additional information relevant to the rule proposed for continuation that the committee requests.

- (1) A description of the action proposed, the purpose of the action, the legal authority for the action and the plan for implementing the action.

The action proposed is to incorporate by reference all New Source Performance Standards (NSPS) from 40 C.F.R. Part 60, except the emission guidelines. The proposed rule will incorporate by reference the NSPS regulations and allow the Technical Secretary of the Board to enforce these federal regulations directly instead of including them in individual permits. The statutory authority for this rulemaking is Tennessee Code Annotated Title 68, Chapter 201, Part 1. The NSPS regulations protect public health by limiting the emissions of air pollution. These rules effectuate the intent of Tennessee Code Annotated section 68-201-103 "to maintain purity of the air resources of the state consistent with the protection of normal health, general welfare and physical property of the people, maximum employment and the full industrial development of the state" and for the board to do so "through the prevention, abatement and control of air pollution by all practical and economically feasible methods."

- (2) A determination that the action is the least-cost method for achieving the stated purpose.

This rulemaking is believed to be the least-cost method for the State to enforce the NSPS regulations. The Division of Air Pollution Control (Division) evaluated how the other states in EPA Region IV were enforcing the NSPS regulations. The other seven states in EPA Region IV have incorporated the NSPS regulations by reference. Also, the EPA has recommended adoption by reference.

- (3) A comparison of the cost-benefit relation of the action to nonaction.

This rulemaking incorporates by reference all federal NSPS and authorizes the Technical Secretary to enforce these regulations directly. There will be no additional costs associated with the proposed rule. Regulated facilities are already required to comply with the most current version of the NSPS regardless of whether they are incorporated in a permit, because EPA has authority under Clean Air Act section 111 to enforce the federal NSPS regulations in states. If the rules are not promulgated, the Technical Secretary will not be able to enforce the NSPS directly in the event that a permit for a regulated source has not yet been issued or must be revised to incorporate the relevant NSPS provisions. Based on this comparison, the benefits of moving forward with this rulemaking outweigh the costs.

- (4) A determination that the action represents the most efficient allocation of public and private resources.

This action represents the most efficient allocation of public and private resources. The NSPS regulations help protect public health by limiting the emissions of air pollution. By making these changes, the Board will fully incorporate the federal regulations so that they can be directly enforced by the Technical Secretary.

- (5) A determination of the effect of the action on competition.

This rulemaking will not affect competition.

(6) A determination of the effect of the action on the cost of living in the geographical area in which the action would occur.

Cost of living in the geographical area in which the action would occur will not be affected.

(7) A determination of the effect of the action on employment in the geographical area in which the action would occur.

It is not anticipated that the action will affect employment.

(8) The source of revenue to be used for the action.

The action can be accommodated with existing resources.

(9) A conclusion as to the economic impact upon all persons substantially affected by the action, including an analysis containing a description as to which persons will bear the costs of the action and which persons will benefit directly and indirectly from the action.

There will be no additional costs associated with this rulemaking. Regulated facilities are already required to comply with the most current version of the NSPS regulations regardless of whether they are incorporated in a permit, because EPA has authority under Clean Air Act section 111 to enforce the NSPS regulations in states. However, this rule will allow the Technical Secretary to enforce the most current version of the federal requirements even if the provisions of the current version have not been incorporated into a permit.





# Revised PM NAAQS Designation Process

Air Pollution Control Board Meeting – July 10, 2024

# Outline

- Revision to National Particulate Matter Ambient Air Standard
- Designation Timeline
- Types of Designation
- Preliminary Data
- Teledyne T640/T640x Data Corrections
- Exceptional Event Demonstrations
- Boundary Determinations
- Key Takeaways

# Particulate Matter (PM)

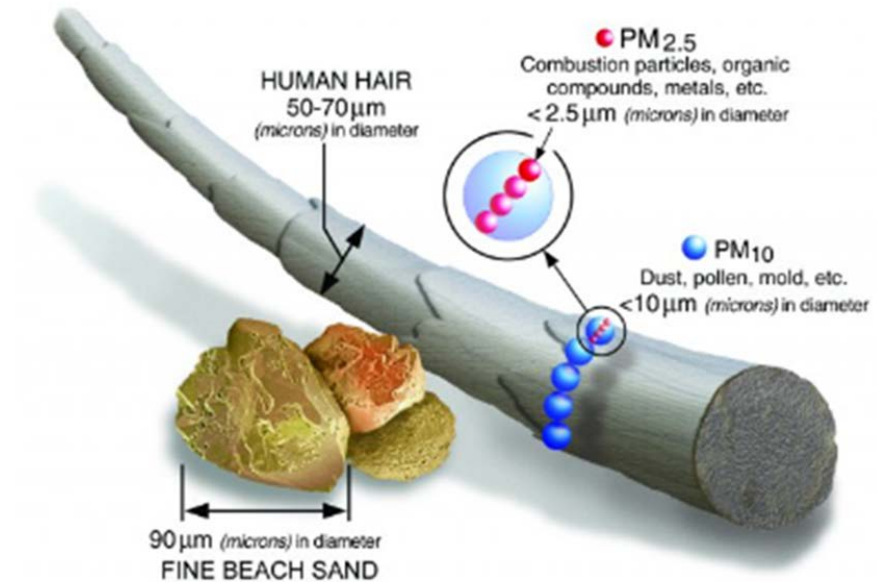
Particulate Matter (PM) is a mixture of solid particles and liquid droplets. Some particles, such as dust, dirt, soot, or smoke, are large or dark enough to be seen with the naked eye. Others are so small they can only be detected using an electron microscope.

PM<sub>2.5</sub> : fine inhalable particles, with diameters that are 2.5 micrometers and smaller.

How small is 2.5 micrometers? Think about a single hair from your head. The average human hair is about 70 micrometers in diameter – making it 30 times larger than the largest fine particle.

Fine particles (PM<sub>2.5</sub>) are of greatest health concern

- PM<sub>2.5</sub> can enter the respiratory tract and make its way into the lower parts of the lungs
- Some particles can move out of the respiratory system and affect other organ systems



Size comparisons for PM particles

# National Ambient Air Quality Standards (NAAQS)

The Clean Air Act requires the Environmental Protection Agency (EPA) to set **National Ambient Air Quality Standards (NAAQS)** for six criteria pollutants, which can be harmful to public health and the environment.

Two Types of NAAQS:

- **Primary Standards:** Provide **public health** protection, including safeguarding sensitive populations such as asthmatics, children, and the elderly.
- **Secondary Standards:** Provide **public welfare** protection, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings.

## Six Criteria Air Pollutants

- Particulate Matter
- Ozone
- Carbon Monoxide
- Lead
- Sulfur Dioxide
- Nitrogen Dioxide

# Final Rule

On February 7, 2024, EPA changed the level of the primary (health-based) annual standard for fine particles (PM<sub>2.5</sub>) from **12.0** to **9.0 micrograms per cubic meter (µg/m<sup>3</sup>)**.

EPA is not changing all other PM standards:

- The primary (health-based) and secondary (welfare-based) 24-hour PM<sub>2.5</sub> standards stay at the level of 35 µg/m<sup>3</sup>
- The primary and secondary 24-hour PM<sub>10</sub> standards stay at the level of 150 µg/m<sup>3</sup>
- The secondary annual PM<sub>2.5</sub> standard stays at the level of 15.0 µg/m<sup>3</sup>

EPA is also:

- Revising the Air Quality Index (AQI) to improve public communications about the risks from PM<sub>2.5</sub> exposures
- Making changes to the monitoring network to enhance protection of air quality in communities overburdened by air pollution

# Now that we have a Revised NAAQS, What's Next?

- Area Designations (*in progress*): **EPA deadline is 2 years after revised NAAQS (2/7/2026)**
  - Determine areas in violation of the NAAQS
  - Exceptional events (wildfires, dust storms) contributing to NAAQS exceedances can be excluded from designations.
  - Areas violating the NAAQS are considered non-attainment.
- Air Quality Planning
  - States must submit an **infrastructure plan** - **Due 3 years after revised NAAQS (2/7/2027)**
  - If an area is violating the NAAQS, an **attainment plan** is developed to get area back into compliance – **Due 3 years from nonattainment designation (~2/7/2029)**
- Redesignating an Area
  - When NA area demonstrates NAAQS compliance, it is redesignated back to attainment
  - Attainment deadline for PM<sub>2.5</sub> NA areas is 2032
- Maintaining Clean Air
  - Maintenance Plans are developed after redesignation for continued compliance.

# Area Designations: Timeline

| Milestone   | Date   |
|---|--|
| Revised Standard Finalized  | February 7, 2024   |
| State Designation Recommendations<br><b>(based on 2021-2023 data)</b>                         | No later than February 7, 2025   |
| EPA Notification of Modifications to State Designation Recommendations<br>(120-day letter)    | No later than October 9, 2025<br>(120 days prior to final PM2.5 area designations)   |
| States and Tribes submit additional information, if any, to respond to the EPA's modification | Mid-December 2025<br>(60 days following the publication of the notice of availability of state recommendations and the EPA's intended modifications) |
| Final 2024 PM2.5 NAAQS area designations<br><b>(based on 2022-2024 data)</b>                  | February 6, 2026   |

# Section 107(d)(1)(B)(i) of Clean Air Act

## One-Year Extension

- Upon promulgation or revision of a national ambient air quality standard, the Administrator shall promulgate the designations of all areas (or portions thereof) submitted under subparagraph (A) as expeditiously as practicable, but in no case later than 2 years from the date of promulgation of the new or revised national ambient air quality standard. Such period may be extended for up to one year in the event the Administrator has insufficient information to promulgate the designations.



# Area Designations: Categories

- Nonattainment Area: An area that does not meet or that contributes to a nearby area that does not meet the NAAQS
  - Can include whole or partial counties
- Attainment Area: An area that is meeting the NAAQS and is not contributing to a nearby area that does not meet the NAAQS
- Unclassifiable – An area that cannot be designated based on available information as meeting or not meeting the NAAQS
- TDEC APC must make recommendations for every county in Tennessee.

# 2021-2023 Design Values (Before T640 Bias Correction)

| Preliminary 2021-2023 PM <sub>2.5</sub> Design Values (AQS data as of 3/28/2024) |              |             |   |  |       |  |       |   |       |   |       |
|--|--------------|-------------|---|--|-------|--|-------|---|-------|---|-------|
| State  | County       | AQS ID      | Address   | 2020-2022<br>Daily DV<br>(Standard = 35) | Valid | 2020-2022<br>Annual DV<br>(Standard = 9.0) | Valid | Preliminary<br>2021-2023<br>Daily DV<br>(Standard = 35) | Valid | Preliminary<br>2021-2023<br>Annual DV<br>(Standard = 9.0) | Valid |
| Arkansas   | Crittenden   | 05-035-0005 | LH POLK AND COLONIAL DRIVE                      | 18                                       | Y     | 7.8  | Y     | 19  | Y     | 8.2   | Y     |
| Georgia  | Walker       | 13-295-0004 | 301 Williams St., Rossille, GA 30741            | 23                                       | N     | 9.5  | N     | 27  | N     | 10.7  | N     |
| Kentucky   | Christian    | 21-047-0006 | WILLIAMSON RESIDENCE, 10800 PILOT ROCK ROAD     | 23                                       | Y     | 9.2  | Y     | 24  | Y     | 9.7   | Y     |
| Mississippi  | DeSoto       | 28-033-0002 | 5 EAST SOUTH ST. (HERNANDO)                     | 19                                       | Y     | 8.7  | Y     | 23  | Y     | 9.9   | Y     |
| Tennessee  | Blount       | 47-009-0011 | 2007 SEQUOYAH AVENUE MARYVILLE TN 37803         | 17                                       | Y     | 7.0  | Y     | 20  | Y     | 7.4   | Y     |
| Tennessee  | Davidson     | 47-037-0023 | 105 SOUTH 17TH ST @ LOCKELAND SCHOOL            | 23                                       | N     | 9.0  | N     | 23  | Y     | 9.4   | Y     |
| Tennessee  | Davidson     | 47-037-0040 | 1113 Elm Hill Pike                              | 21                                       | Y     | 9.1  | Y     | 22  | Y     | 9.5   | Y     |
| Tennessee  | Dyer         | 47-045-0004 | 175-B GREENWAY STREET, DYERSBURG TN 38024       | 19                                       | Y     | 7.2  | Y     | 20  | Y     | 7.7   | Y     |
| Tennessee  | Hamilton     | 47-065-0031 | 1517 TOMBRAS AVENUE, EAST RIDGE                 | 21                                       | N     | 8.3  | N     | 21  | N     | 8.3   | N     |
| Tennessee  | Hamilton     | 47-065-4002 | RIVERSIDE SUBSTATION 911 SISKIN DR              | 19                                       | Y     | 7.7  | Y     | 20  | Y     | 8.3   | Y     |
| Tennessee  | Knox         | 47-093-1013 | 939 Stewart St. Knoxville, TN 37917             | 21                                       | Y     | 9.0  | Y     | 23  | Y     | 9.5   | Y     |
| Tennessee  | Knox         | 47-093-1017 | 1613 VERMONT AVENUE                             | 22                                       | Y     | 9.4  | Y     | 24  | N     | 10.2  | Y     |
| Tennessee  | Knox         | 47-093-1020 | 4625 MILDRED DRIVE                              | 20                                       | Y     | 8.6  | Y     | 24  | Y     | 9.8   | Y     |
| Tennessee  | Lawrence     | 47-099-0003 | 60 Busby Road                                   | 15                                       | Y     | 5.8  | Y     | 16  | Y     | 6.8   | Y     |
| Tennessee  | Loudon       | 47-105-0109 | 2175 ROBERTS RD Loudon TN 37774                 | 15                                       | Y     | 6.6  | Y     | 17  | Y     | 6.9   | Y     |
| Tennessee  | McMinn       | 47-107-1002 | 707 NORTH JACKSON ST. Athens TN 37303           | 17                                       | Y     | 7.4  | Y     | 19  | Y     | 7.8   | Y     |
| Tennessee  | Madison      | 47-113-0010 | 210 Demonbreun Drive                            | 18                                       | Y     | 7.4  | Y     | 19  | Y     | 8.1   | Y     |
| Tennessee  | Maury        | 47-119-2007 | 1600 NASHVILLE HWY Columbia TN                  | 17                                       | Y     | 6.6  | Y     | 19  | Y     | 7.3   | Y     |
| Tennessee  | Montgomery   | 47-125-2001 | 1200 West Creek Coyote Trail                    | 17                                       | Y     | 7.0  | Y     | 19  | Y     | 7.2   | Y     |
| Tennessee  | Putnam       | 47-141-0005 | 630 EAST 20TH STREET Cookeville TN 38501        | 16                                       | Y     | 6.6  | Y     | 18  | Y     | 7.2   | Y     |
| Tennessee  | Roane        | 47-145-0004 | HARRIMAN HIGH 1002 N. ROAN ST Harriman TN 37748 | 17                                       | Y     | 7.1  | Y     | 18  | Y     | 7.3   | Y     |
| Tennessee  | Shelby       | 47-157-0024 | 416 ALABAMA AVENUE                              | 19                                       | Y     | 8.4  | Y     | 18  | N     | 9.0   | N     |
| Tennessee  | Shelby       | 47-157-0075 | 6388 Haley Rd. (Shelby Farms N CORE site)       | 19                                       | Y     | 8.4  | Y     | 22  | N     | 9.4   | N     |
| Tennessee  | Shelby       | 47-157-0100 | 5767 Macon Cove (Near Road Site)                | 19                                       | Y     | 8.5  | Y     | 19  | N     | 8.5   | N     |
| Tennessee  | Sullivan     | 47-163-1007 | 1649 D STREET Kingsport TN 37664                | 15                                       | Y     | 6.3  | Y     | 18  | Y     | 6.7   | Y     |
| Tennessee  | Sumner       | 47-165-0007 | ROCKLAND RECREATION AREA                        | 18                                       | Y     | 7.4  | Y     | 21  | Y     | 7.6   | Y     |
| Virginia   | Bristol City | 51-520-0006 | EADS STREET                                     | 14                                       | Y     | 6.5  | Y     | 17  | Y     | 7.3   | Y     |

# Teledyne T640 and T640X

## The Model T640 PM Mass Monitor

- Not used by TDEC APC or Nashville/Davidson County Health Dept.
- Used by Knox and Shelby Counties and states adjacent to Chattanooga (Georgia) and Memphis (Arkansas and Mississippi)
- Documented High Bias
- EPA Has Developed Bias Correction Factors
  - Temperature Data Needed for Best Correction
- EPA provided preliminary Bias Corrected Data in May, 2024
  - Agencies submitted comments in June
  - Some Calculation Errors Identified (among other things)
- Final Biased Corrected Data in July, 2024



# 2021-2023 Design Values (After T640 Bias Correction - Preliminary)

Preliminary 2021-2023 PM<sub>2.5</sub> Design Values (AQS data as of 7/3/2024)

| State       | County       | AQS ID      | Address   | 2020-2022 Daily DV (Standard = 35) | Valid | 2020-2022 Annual DV (Standard = 9.0) | Valid | Preliminary 2021-2023 Daily DV (Standard = 35) | Valid | Preliminary 2021-2023 Annual DV (Standard = 9.0) | Valid |
|-------------|--------------|-------------|---|------------------------------------|-------|--------------------------------------|-------|--|-------|--|-------|
| Arkansas    | Crittenden   | 05-035-0005 | LH POLK AND COLONIAL DRIVE                      | 18                                 | Y     | 7.8                                  | Y     | 19   | Y     | 8.2  | Y     |
| Georgia     | Walker       | 13-295-0004 | 301 Williams St., Rossville, GA 30741           | 22                                 | N     | 8.8                                  | N     | 26   | N     | 10.0   | Y     |
| Kentucky    | Christian    | 21-047-0006 | WILLIAMSON RESIDENCE, 10800 PILOT ROCK ROAD     | 22                                 | Y     | 8.3                                  | Y     | 22   | Y     | 8.6  | Y     |
| Mississippi | DeSoto       | 28-033-0002 | 5 EAST SOUTH ST. (HERNANDO)                     | 18                                 | Y     | 7.6                                  | Y     | 21   | Y     | 8.8  | Y     |
| Tennessee   | Blount       | 47-009-0011 | 2007 SEQUOYAH AVENUE MARYVILLE TN 37803         | 17                                 | Y     | 7.0                                  | Y     | 20   | Y     | 7.4  | Y     |
| Tennessee   | Davidson     | 47-037-0023 | 105 SOUTH 17TH ST @ LOCKELAND SCHOOL            | 23                                 | N     | 9.0                                  | N     | 23   | Y     | 9.4  | Y     |
| Tennessee   | Davidson     | 47-037-0040 | 1113 Elm Hill Pike                              | 21                                 | Y     | 9.1                                  | Y     | 22   | Y     | 9.6  | Y     |
| Tennessee   | Dyer         | 47-045-0004 | 175-B GREENWAY STREET, DYERSBURG TN 38024       | 19                                 | Y     | 7.2                                  | Y     | 20   | Y     | 7.7  | Y     |
| Tennessee   | Hamilton     | 47-065-0031 | 1517 TOMBRAS AVENUE, EAST RIDGE                 | 21                                 | N     | 8.3                                  | N     | 21   | N     | 8.3  | N     |
| Tennessee   | Hamilton     | 47-065-4002 | RIVERSIDE SUBSTATION 911 SISKIN DR              | 19                                 | Y     | 7.7                                  | Y     | 22   | Y     | 8.4  | Y     |
| Tennessee   | Knox         | 47-093-1013 | 939 Stewart St. Knoxville, TN 37917             | 20                                 | Y     | 8.0                                  | Y     | 21   | Y     | 8.6  | Y     |
| Tennessee   | Knox         | 47-093-1017 | 1613 VERMONT AVENUE                             | 21                                 | Y     | 8.6                                  | N     | 23   | Y     | 9.2  | N     |
| Tennessee   | Knox         | 47-093-1020 | 4625 MILDRED DRIVE                              | 20                                 | Y     | 8.1                                  | Y     | 23   | Y     | 9.1  | Y     |
| Tennessee   | Lawrence     | 47-099-0003 | 80 Busby Road                                   | 15                                 | Y     | 5.8                                  | Y     | 16   | Y     | 6.8  | Y     |
| Tennessee   | Loudon       | 47-105-0109 | 2175 ROBERTS RD Loudon TN 37774                 | 15                                 | Y     | 6.6                                  | Y     | 17   | Y     | 6.9  | Y     |
| Tennessee   | McMinn       | 47-107-1002 | 707 NORTH JACKSON ST. Athens TN 37303           | 17                                 | Y     | 7.4                                  | Y     | 19   | Y     | 7.9  | Y     |
| Tennessee   | Madison      | 47-113-0010 | 210 Demonbreun Drive                            | 18                                 | Y     | 7.4                                  | Y     | 19   | Y     | 8.1  | Y     |
| Tennessee   | Maury        | 47-119-2007 | 1600 NASHVILLE HWY Columbia TN                  | 17                                 | Y     | 6.6                                  | Y     | 19   | Y     | 7.3  | Y     |
| Tennessee   | Montgomery   | 47-125-2001 | 1200 West Creek Coyote Trail                    | 17                                 | Y     | 7.0                                  | Y     | 19   | Y     | 7.2  | Y     |
| Tennessee   | Putnam       | 47-141-0005 | 830 EAST 20TH STREET Cookeville TN 38501        | 16                                 | Y     | 6.6                                  | Y     | 18   | Y     | 7.2  | Y     |
| Tennessee   | Roane        | 47-146-0004 | HARRIMAN HIGH 1002 N. ROAN ST Harriman TN 37748 | 17                                 | Y     | 7.1                                  | Y     | 18   | Y     | 7.4  | Y     |
| Tennessee   | Shelby       | 47-157-0024 | 416 ALABAMA AVENUE                              | 19                                 | Y     | 8.4                                  | Y     | 19   | Y     | 8.9  | Y     |
| Tennessee   | Shelby       | 47-157-0075 | 6388 Haley Rd. (Shelby Farms N CORE site)       | 19                                 | Y     | 7.6                                  | Y     | 21   | Y     | 8.3  | Y     |
| Tennessee   | Shelby       | 47-157-0100 | 5767 Macon Cove (Near Road Site)                | 19                                 | Y     | 8.2                                  | Y     | 19   | Y     | 8.4  | Y     |
| Tennessee   | Sullivan     | 47-163-1007 | 1649 D STREET Kingsport TN 37664                | 15                                 | Y     | 6.3                                  | Y     | 18   | Y     | 6.7  | Y     |
| Tennessee   | Sumner       | 47-165-0007 | ROCKLAND RECREATION AREA                        | 18                                 | Y     | 7.4                                  | Y     | 21   | Y     | 7.6  | Y     |
| Virginia    | Bristol City | 51-520-0006 | EADS STREET                                     | 14                                 | Y     | 6.5                                  | Y     | 17   | Y     | 7.3  | Y     |

Notes:

1. The daily design value (DV) standard is 35 ug/m3.
2. The annual DV standard is 9.0 ug/m3.
3. Invalid DVs may become valid upon further loading or additional analysis.
4. AQS data as of 7/3/2024 (may not be all data for year).
5. Validity = 'N' may indicate quality issues or lack of completeness.

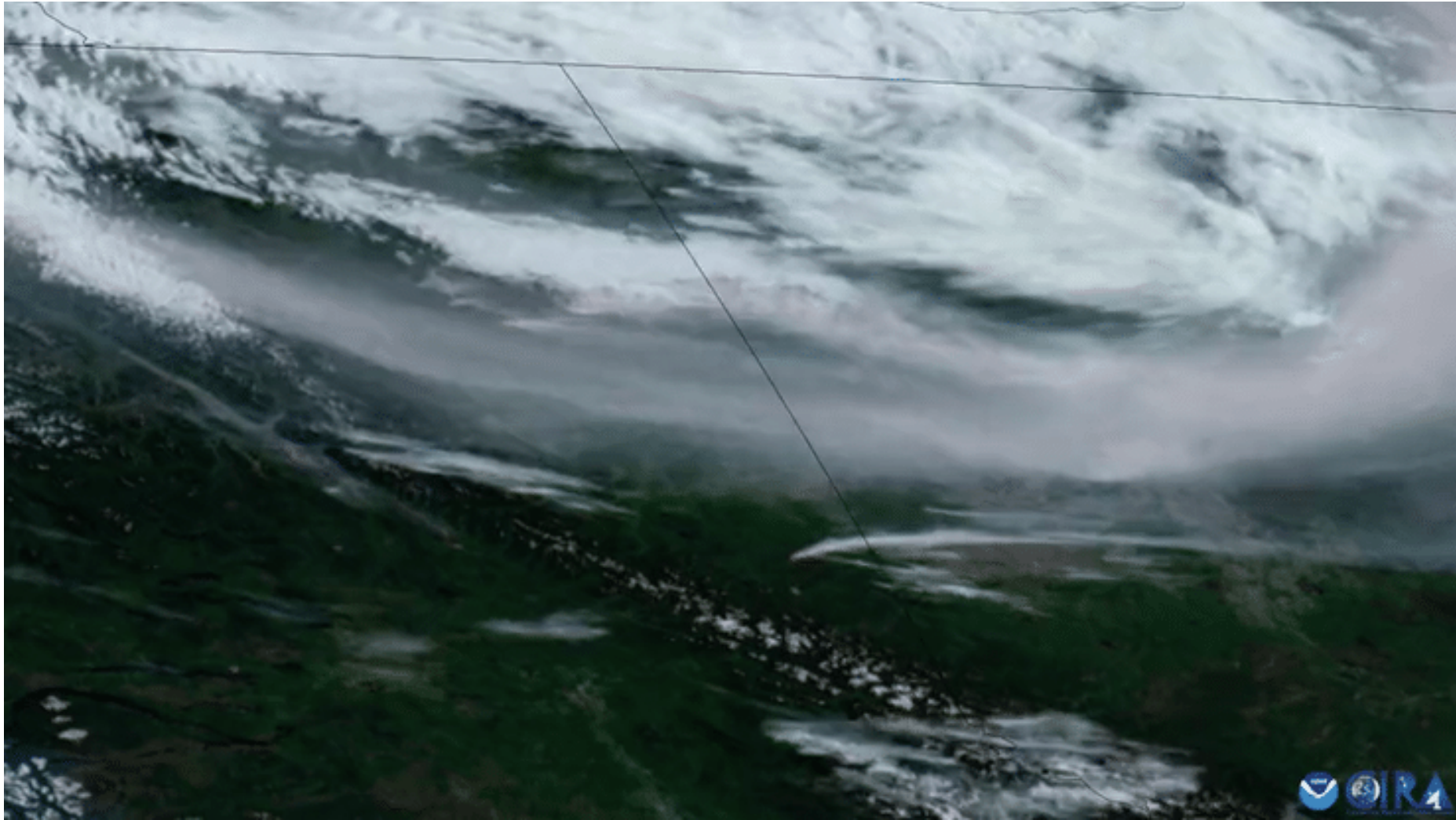
# Exceptional Events

- The Exceptional Events Rule provides a framework for states and air agencies to request exclusion of air quality data influenced by exceptional events, including wildfires and prescribed fires, from certain regulatory decisions such as **NAAQS designations**.
- Exceptional events are unusual or natural occurrences that can affect air quality but are not reasonably controllable or preventable using techniques state, local, or tribal air agencies may implement to attain and maintain the national ambient air quality standards (NAAQS).
- EPA is already working to ensure there is an **efficient, user-friendly pathway for excluding data impacted by prescribed fire and wildfire smoke**, including developing tools for and helping states with the Exceptional Events process.
- EPA is committed to ensuring that the process for requesting the exclusion of event-influenced data is clear. Where needed, EPA intends to offer clarifications or information to help agencies seek exclusion of air quality monitoring data influenced by wildland fire smoke events.

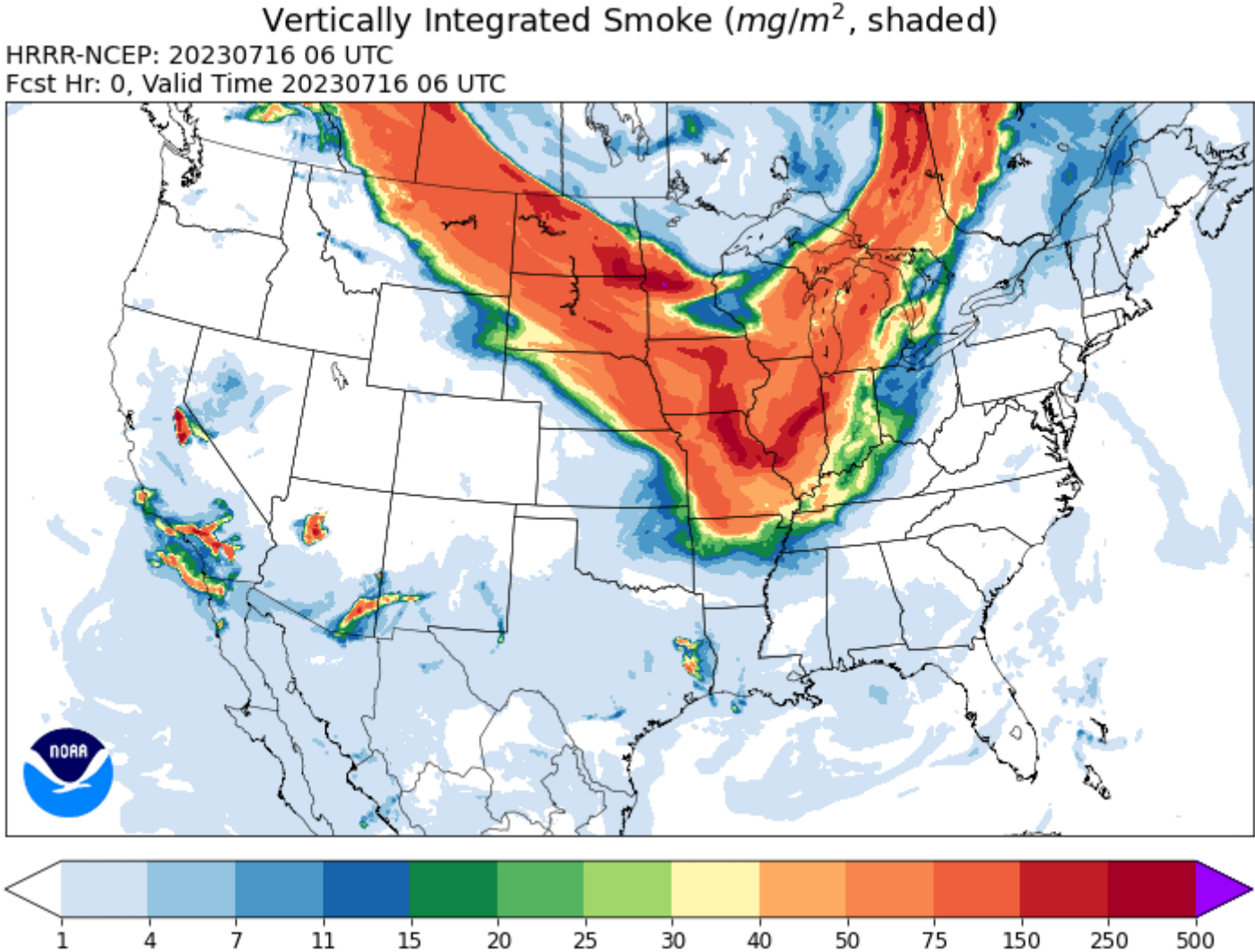
# Wildland Fires

- A wildland fire is any fire that occurs in an area where human activity and development, if any, is substantially non-existent, which can include forests, shrublands, grasslands, or wetlands.
- Wildland fires – including both wildfires and prescribed fires – account for **44 percent** of the nation's primary emissions of fine particulate matter (PM<sub>2.5</sub>).
- EPA will continue to support states in managing the impacts of wildland fire and smoke on attainment of the National Ambient Air Quality Standards (NAAQS) for PM.
- Both the Exceptional Events Rule and the PM<sub>2.5</sub> State Implementation Plan Requirements Rule address fire-related emissions, including emissions from wildfires and prescribed fires on wildland.

# Western Canadian Wildfires Satellite Imagery



# Smoke from Canadian Wildfires (7/16 – 7/17/2023)





# Exceptional Event Demonstrations

- APC Assisting Davidson and Knox Counties in Preparing Exceptional Event Demonstrations
- Georgia EPD working on Exceptional Event Demonstrations for Walker County, GA monitor.
- Using Wildfire Template Developed by Florida DEP
- If approved by EPA, Monitor Data During these Exceptional Event will be Excluded form Design Value Calculations

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

**DRAFT** EXCEPTIONAL EVENTS DEMONSTRATION



OCTOBER 2-4, 2023, CANADIAN WILDFIRE SMOKE  
EVENT

May 9, 2024

1

# Anticipated PM2.5 Exceptional Events Schedule

| Exceptional Events Action  | Applicable Data Years   | Anticipated Date               |
|--|-------------------------|--------------------------------|
| Initial Notifications for Intent to Submit Exceptional Events Demonstrations                           | 2021,2022,2023          | No later than January 1, 2025  |
| Exceptional Events Demonstration Submittal <b>and</b> State's Initial Area Designation Recommendations | 2021,2022,2023          | No later than February 7, 2025 |
| Initial Notification and Exceptional Events Demonstration Submittal                                    | 2024                    | September 30, 2025             |
| <b>EPA Promulgates Final Area Designations</b>   | <b>2022, 2023, 2024</b> | <b>February 6, 2026</b>        |

\*States and Tribes are not required to submit completed exceptional events demonstrations for data years that will not be relied upon for final area designations (e.g., data year 2021), but should address any data they believe was influenced by an exceptional event in their area designations recommendations to the EPA.

# Determining Attainment & Nonattainment Area Boundaries



OFFICE OF AIR AND RADIATION  
WASHINGTON, D.C. 20460

February 7, 2024

## MEMORANDUM

**SUBJECT:** Initial Area Designations for the 2024 Revised Primary Annual Fine Particle National Ambient Air Quality Standard

**FROM:** Joseph Goffman  
Assistant Administrator

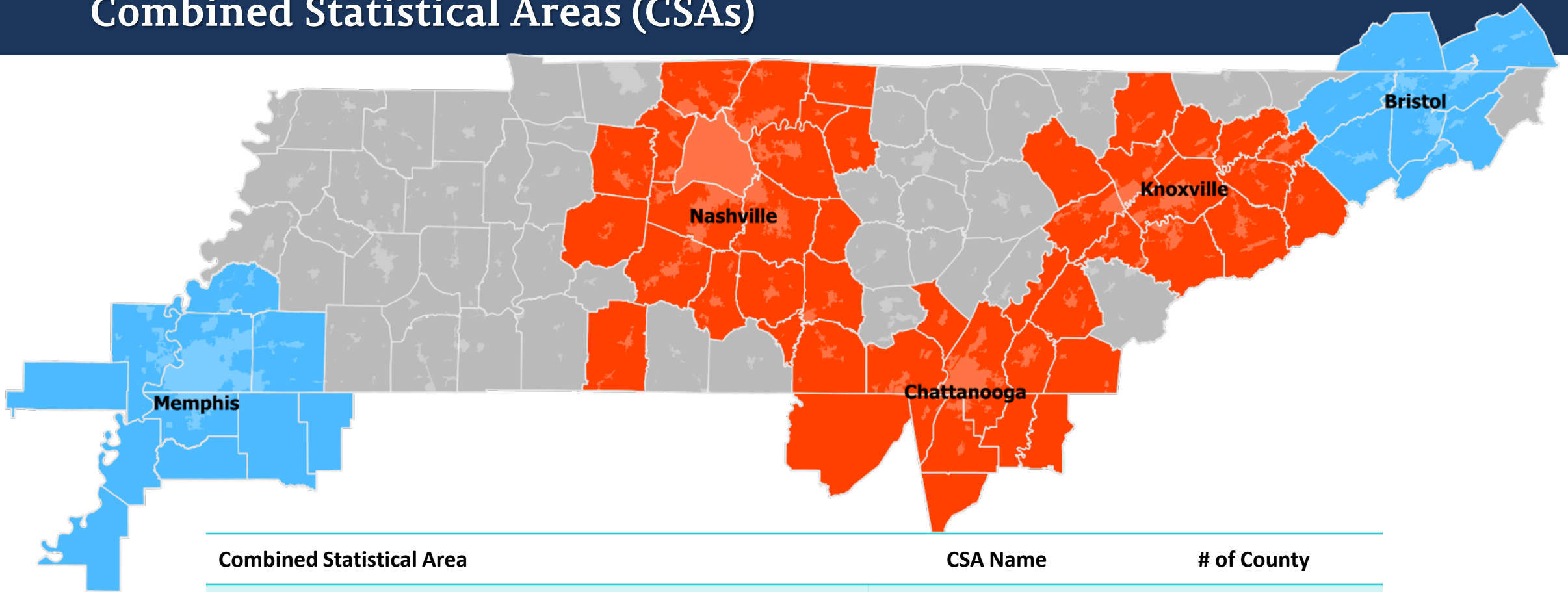
**TO:** Regional Administrators  
Regions 1-10

# Nonattainment Area Analyses and Boundary Determinations

- From p. 5 of Initial Area Designations Memo:

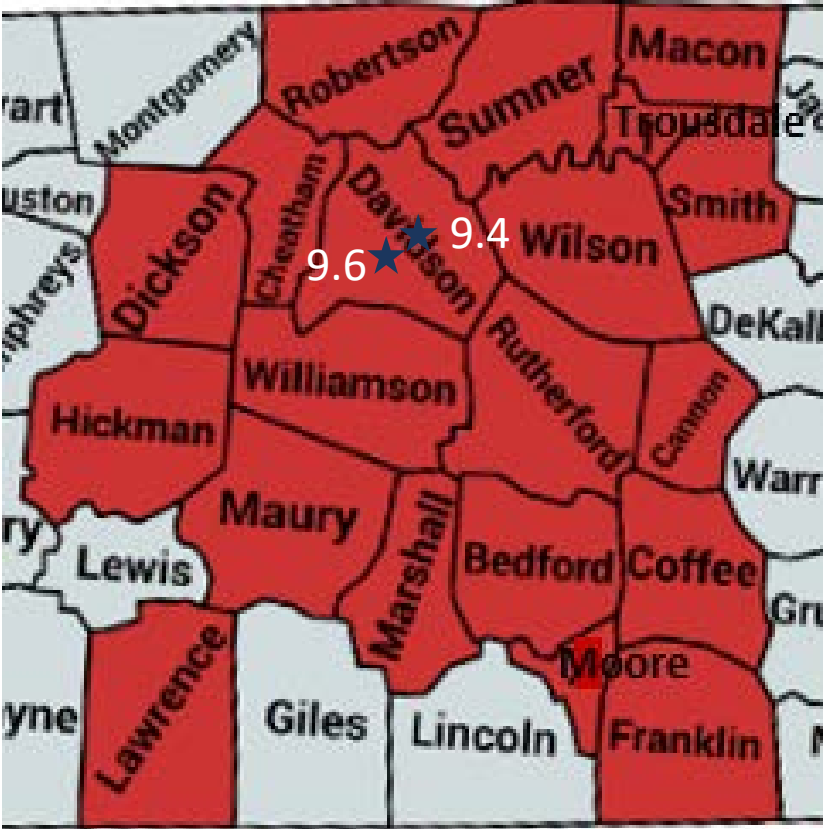
*After identifying each regulatory monitor or group of monitors that indicate a violation of the standard in an area, the EPA intends to **begin its analysis** of what nearby areas contribute to the violation(s) by considering those counties in the entire metropolitan area (i.e., Core Based Statistical Area (CBSA) or **Combined Statistical Area (CSA)**) in which the violating monitor(s) is (are) located. The EPA also intends to evaluate any adjacent counties to the CBSA or CSA that have the potential to contribute. It is appropriate to **start the analysis** with the relevant CBSA or **CSA** for the area because measured ambient PM<sub>2.5</sub> concentrations across urban-scale distances tend to be highly correlated and composed of direct emissions and multiple secondarily-formed pollutants attributable to a variety of sources commonly found throughout urbanized areas.*

# Combined Statistical Areas (CSAs)



| Combined Statistical Area                 | CSA Name | # of County |
|---|----------|-------------|
| Memphis–Clarksdale–Forrest City, TN–MS–AR | MCF      | 11          |
| Nashville–Davidson–Murfreesboro, TN       | NDM      | 20          |
| Chattanooga–Cleveland–Dalton, TN–GA–AL    | CCD      | 14          |
| Knoxville–Morristown–Sevierville, TN      | KMS      | 13          |
| Johnson City–Kingsport–Bristol, TN–VA     | JKB      | 9           |

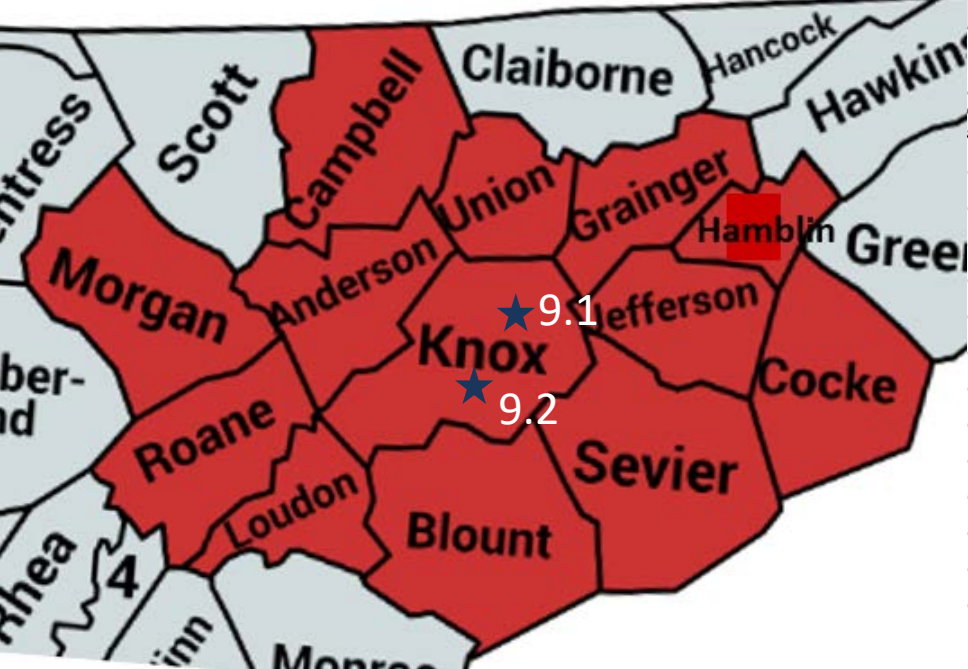
# Nashville-Davidson-Murfreesboro CSA



| CSA Title                           | County/County Equivalent | State Name |
|-------------------------------------|--------------------------|------------|
| Nashville-Davidson-Murfreesboro, TN | Lawrence County          | Tennessee  |
| Nashville-Davidson-Murfreesboro, TN | Marshall County          | Tennessee  |
| Nashville-Davidson-Murfreesboro, TN | Cannon County            | Tennessee  |
| Nashville-Davidson-Murfreesboro, TN | Cheatham County          | Tennessee  |
| Nashville-Davidson-Murfreesboro, TN | Davidson County          | Tennessee  |
| Nashville-Davidson-Murfreesboro, TN | Dickson County           | Tennessee  |
| Nashville-Davidson-Murfreesboro, TN | Hickman County           | Tennessee  |
| Nashville-Davidson-Murfreesboro, TN | Macon County             | Tennessee  |
| Nashville-Davidson-Murfreesboro, TN | Maury County             | Tennessee  |
| Nashville-Davidson-Murfreesboro, TN | Robertson County         | Tennessee  |
| Nashville-Davidson-Murfreesboro, TN | Rutherford County        | Tennessee  |
| Nashville-Davidson-Murfreesboro, TN | Smith County             | Tennessee  |
| Nashville-Davidson-Murfreesboro, TN | Sumner County            | Tennessee  |
| Nashville-Davidson-Murfreesboro, TN | Trousdale County         | Tennessee  |
| Nashville-Davidson-Murfreesboro, TN | Williamson County        | Tennessee  |
| Nashville-Davidson-Murfreesboro, TN | Wilson County            | Tennessee  |
| Nashville-Davidson-Murfreesboro, TN | Bedford County           | Tennessee  |
| Nashville-Davidson-Murfreesboro, TN | Coffee County            | Tennessee  |
| Nashville-Davidson-Murfreesboro, TN | Moore County             | Tennessee  |
| Nashville-Davidson-Murfreesboro, TN | Franklin County          | Tennessee  |

Source: census.gov July 2023 CBSA and CSA Delineation File

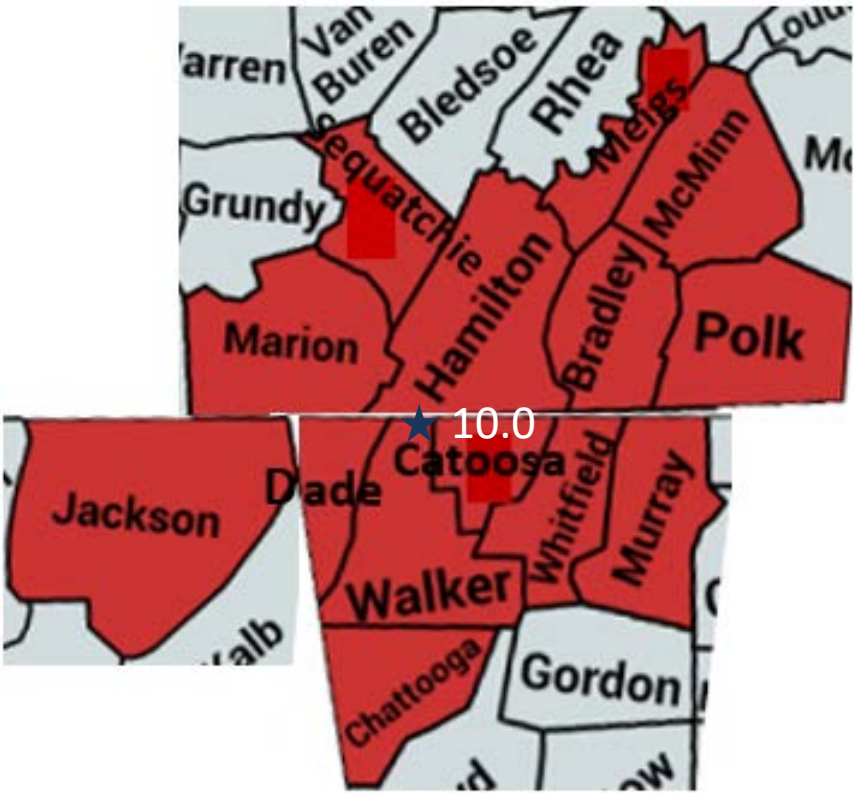
# Knoxville-Morristown-Sevierville CSA



| CSA Title                            | County/County Equivalent | State Name |
|--------------------------------------|--------------------------|------------|
| Knoxville-Morristown-Sevierville, TN | Anderson County          | Tennessee  |
| Knoxville-Morristown-Sevierville, TN | Blount County            | Tennessee  |
| Knoxville-Morristown-Sevierville, TN | Campbell County          | Tennessee  |
| Knoxville-Morristown-Sevierville, TN | Grainger County          | Tennessee  |
| Knoxville-Morristown-Sevierville, TN | Knox County              | Tennessee  |
| Knoxville-Morristown-Sevierville, TN | Loudon County            | Tennessee  |
| Knoxville-Morristown-Sevierville, TN | Morgan County            | Tennessee  |
| Knoxville-Morristown-Sevierville, TN | Roane County             | Tennessee  |
| Knoxville-Morristown-Sevierville, TN | Union County             | Tennessee  |
| Knoxville-Morristown-Sevierville, TN | Hamblen County           | Tennessee  |
| Knoxville-Morristown-Sevierville, TN | Jefferson County         | Tennessee  |
| Knoxville-Morristown-Sevierville, TN | Cocke County             | Tennessee  |
| Knoxville-Morristown-Sevierville, TN | Sevier County            | Tennessee  |

Source: census.gov July 2023 CBSA and CSA Delineation File

# Chattanooga-Cleveland-Dalton CSA



| G                                      | H                        | I          |
|--|--------------------------|------------|
| CSA Title                              | County/County Equivalent | State Name |
| Chattanooga-Cleveland-Dalton, TN-GA-AL | McMinn County            | Tennessee  |
| Chattanooga-Cleveland-Dalton, TN-GA-AL | Meigs County             | Tennessee  |
| Chattanooga-Cleveland-Dalton, TN-GA-AL | Catoosa County           | Georgia    |
| Chattanooga-Cleveland-Dalton, TN-GA-AL | Dade County              | Georgia    |
| Chattanooga-Cleveland-Dalton, TN-GA-AL | Walker County            | Georgia    |
| Chattanooga-Cleveland-Dalton, TN-GA-AL | Hamilton County          | Tennessee  |
| Chattanooga-Cleveland-Dalton, TN-GA-AL | Marion County            | Tennessee  |
| Chattanooga-Cleveland-Dalton, TN-GA-AL | Sequatchie County        | Tennessee  |
| Chattanooga-Cleveland-Dalton, TN-GA-AL | Bradley County           | Tennessee  |
| Chattanooga-Cleveland-Dalton, TN-GA-AL | Polk County              | Tennessee  |
| Chattanooga-Cleveland-Dalton, TN-GA-AL | Murray County            | Georgia    |
| Chattanooga-Cleveland-Dalton, TN-GA-AL | Whitfield County         | Georgia    |
| Chattanooga-Cleveland-Dalton, TN-GA-AL | Jackson County           | Alabama    |
| Chattanooga-Cleveland-Dalton, TN-GA-AL | Chattooga County         | Georgia    |

Source: census.gov July 2023 CBSA and CSA Delineation File



# Area Designations: Five Factors

## 1. Air Quality

- Monitoring Data
- State Recommendations: 2021-2023 data
- State Can Use 2022-2024 data if certified early
- Final EPA Recommendations: 2022-2024 data

## 2. Emissions and Emissions-Related Data

- See Next Slide

## 3. Meteorology

- E.g., Wind Direction, Wind Speed
- Source contributions crossing county-lines

## 4. Geography/topography

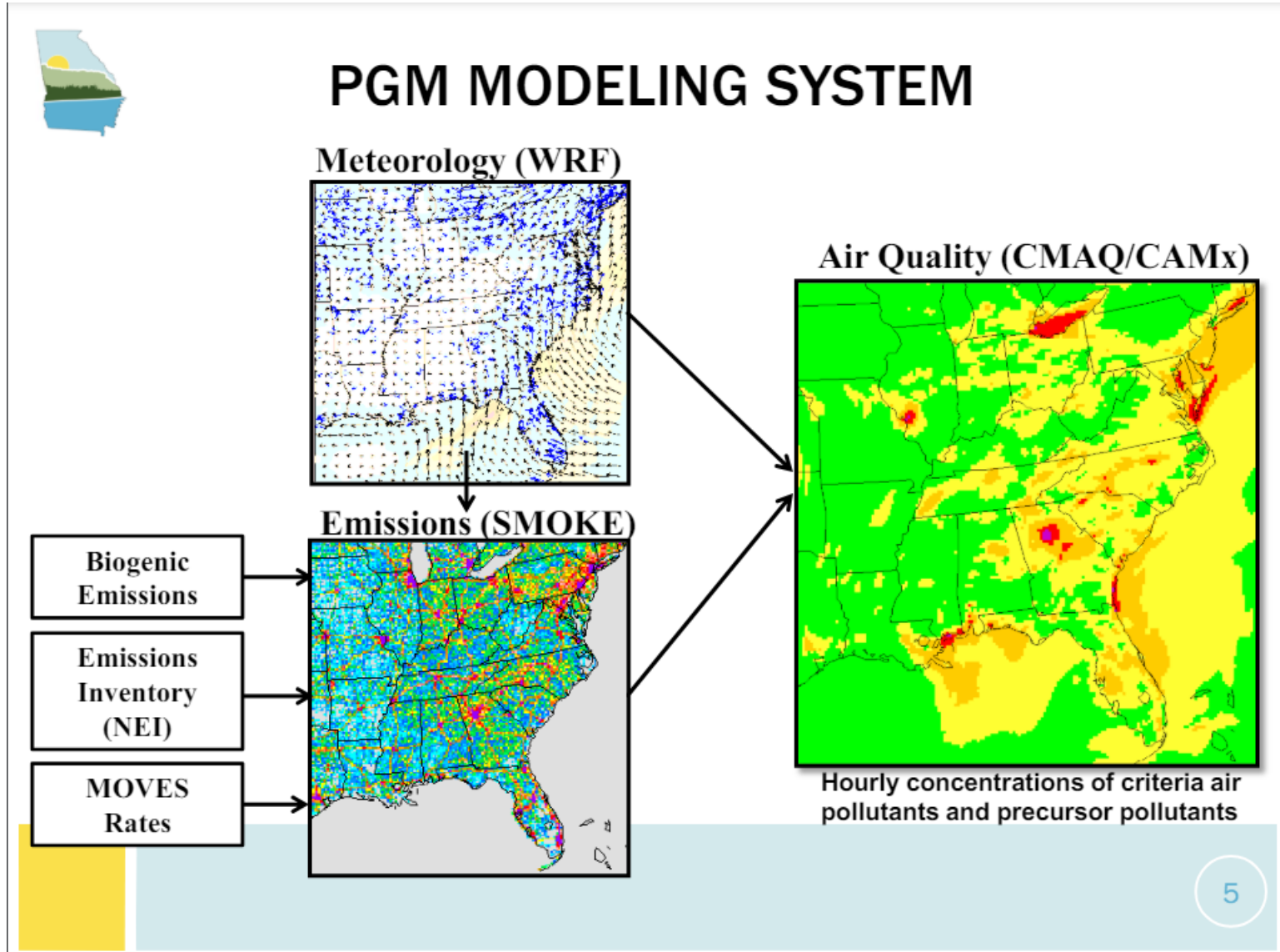
## 5. Jurisdictional Boundaries

# Emissions and Emissions-Related Data

- Emissions:
  - 2020 NEI
  - 2022 emissions modeling platform data
- Emissions-Related Data
  - PM<sub>2.5</sub> Speciation
  - Population Density
  - Population Growth
  - Degree of Urbanization
  - Vehicle Use Characteristics and Trends
  - Traffic and Commuting Patterns
  - Vehicle Miles Traveled (VMT)

# Additional Analytical Tools including Source Apportionment Modeling

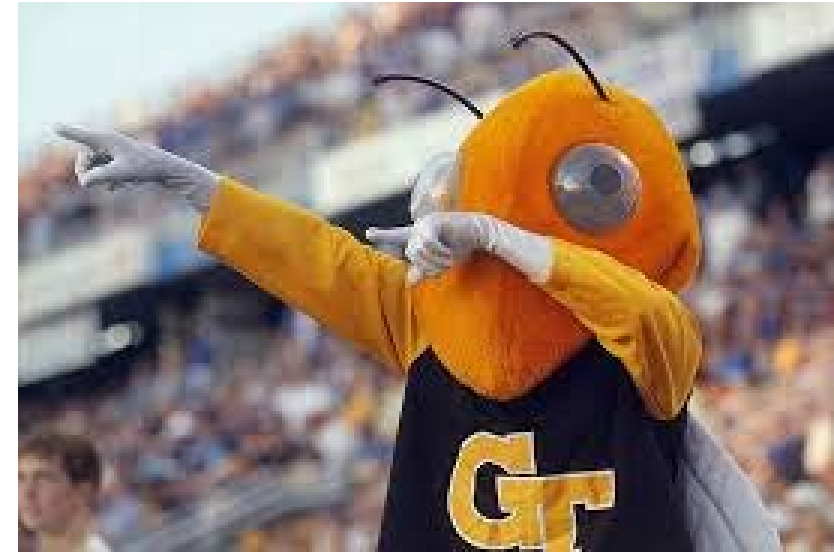
- Uses Photochemical Grid Modeling
- Determines the contribution of each county's emissions on a violating monitor



# Key Takeaways on Designations

- Awaiting Final Certified Design Values: July 2024
- If Non-Attainment Areas are identified, Exceptional Event Exclusions will be explored.
  - Submitted by Agency with Violating Monitor. TDEC APC to Provide Technical Assistance
  - Must be Approved by EPA
- State Designation Recommendations: Feb 2025
  - TDEC required to Submit for All of Tennessee.
    - Coordinating with Local Agencies (Nashville & Knoxville)
    - Working with Other States (Georgia & Alabama)
- Can 2024 Data be Early Certified so we can use 2022-2024 Design Values?
- Will we use “Unclassifiable” for any areas?
- Final EPA Designations: Feb 2026
  - Will Use 2022-2024 Design Values
  - Will One-Year Extension be Provided due Insufficient Data?
- Uncertainties: What will 2024 data look like?
  - Will Memphis Area agencies (Shelby County, Mississippi, Arkansas) need to Submit Exceptional Event Demonstrations?

Jimmy Johnston  
Deputy Director  
TDEC Division of Air Pollution Control  
[james.johnston@tn.gov](mailto:james.johnston@tn.gov)  
615-651-9691



Questions?

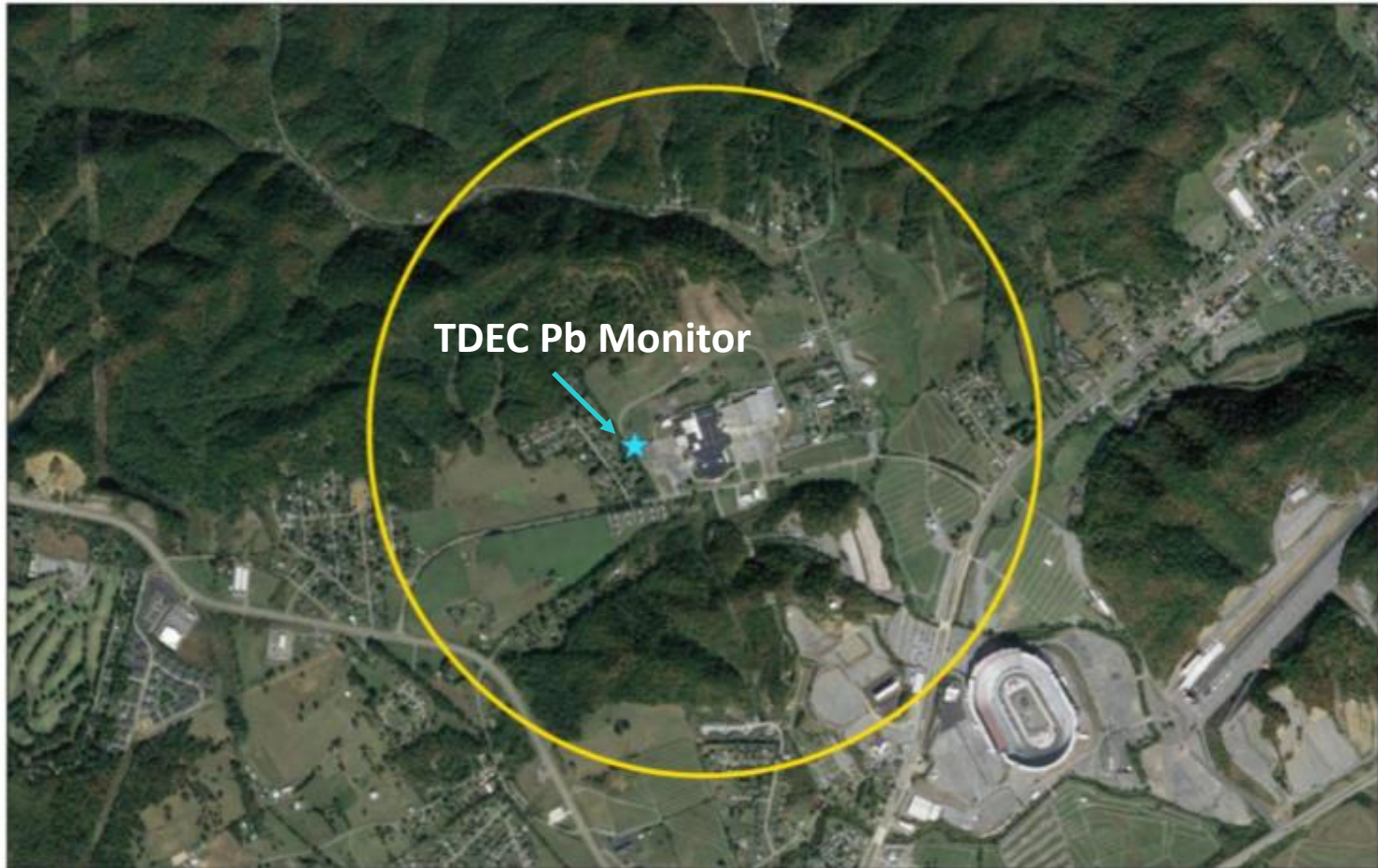


# Bristol Area Lead 2<sup>nd</sup> Maintenance Plan

# Nonattainment Area

- On November 12, 2008, EPA promulgated a revised Lead (Pb) National Ambient Air Quality Standard (NAAQS) of 0.15 ug/m<sup>3</sup>.
- In 2010, EPA designated a 1.25km radius around the former Bristol Technologies battery manufacturing facility as nonattainment for the Pb NAAQS based on violating monitoring data.

# Bristol Pb Non-Attainment Area





# Request for Redesignation

- In October 2014, Exide Technologies discontinued operations and subsequently surrendered its permit.
- On July 10, 2015, TDEC submitted a redesignation request for the 2008 Pb NAAQS as well as a maintenance plan for the Bristol area.

# Redesignation of the Non-Attainment Area

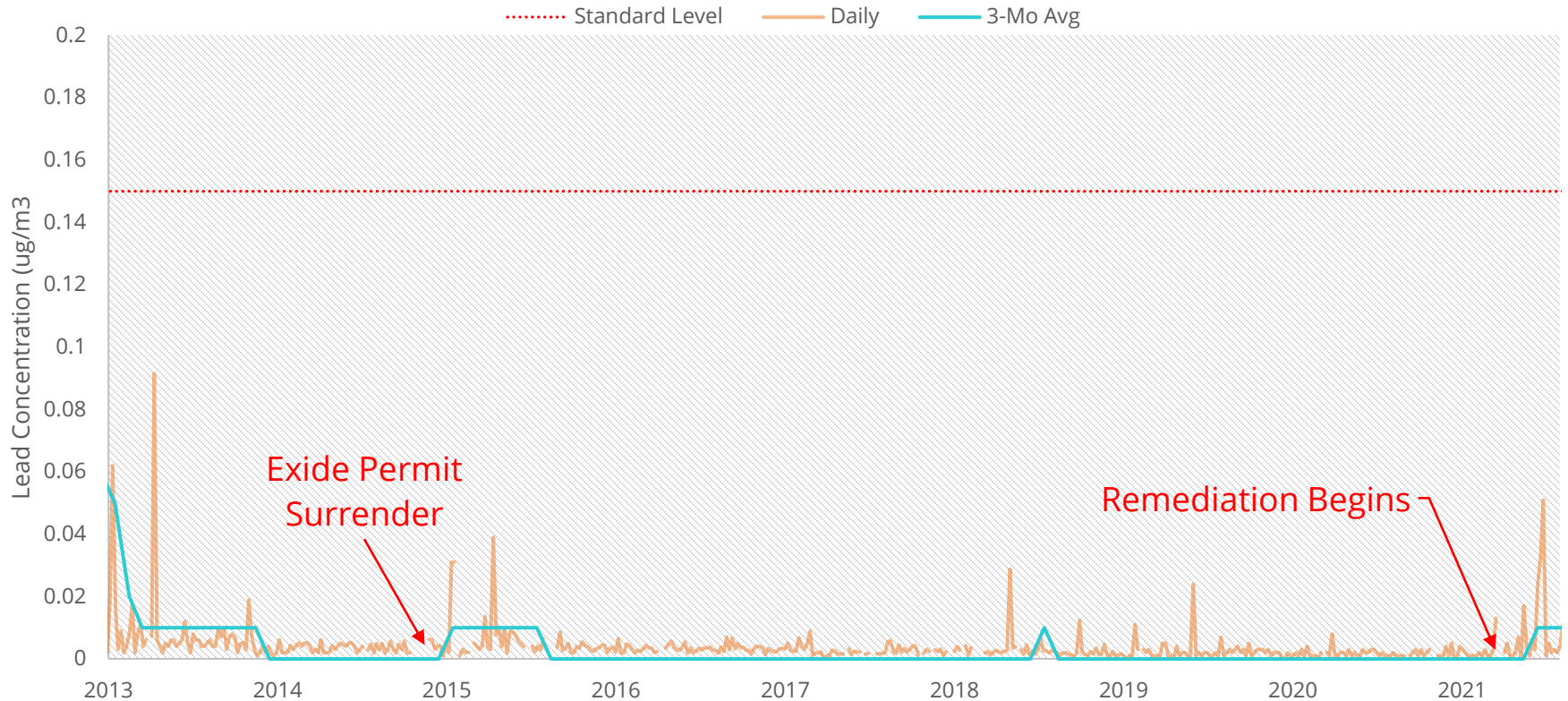
- On July 7, 2016, EPA redesignated this area to attainment/maintenance, with the first maintenance plan having an effective date of August 8, 2016.
- The Second Maintenance Plan is due 8 years after effective date of redesignation (August 8, 2024).

# Monitoring Network and Data

- TDEC operates a monitoring network near the former Exide Technologies facility.
- Until recent remediation activity, Pb concentrations decreased since the facility's discontinuation in 2014.
- In 2021, a third-party began remediation in this area, resulting in temporary, high Pb concentrations.

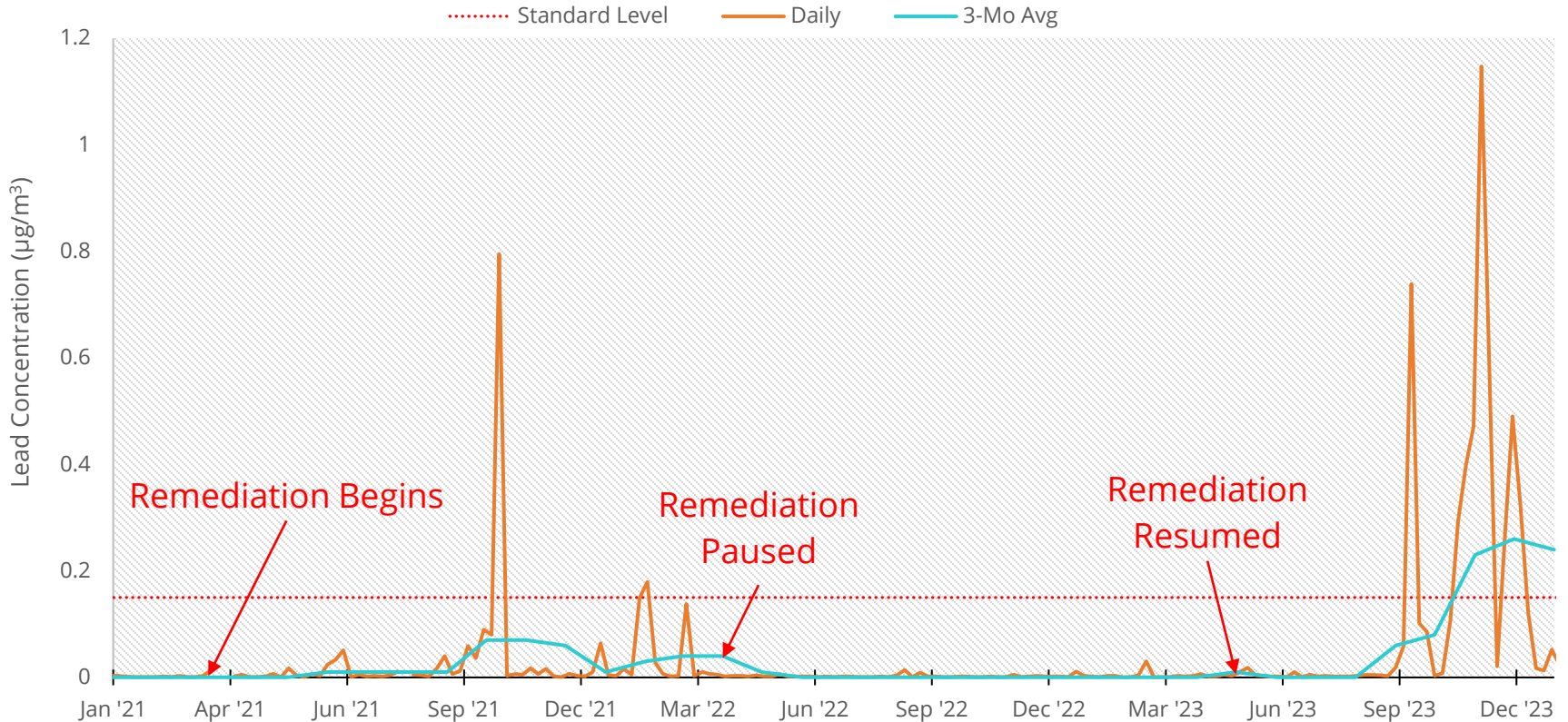
# Monitored Pb Prior to Remediation

## Lead Concentrations During Inactivity



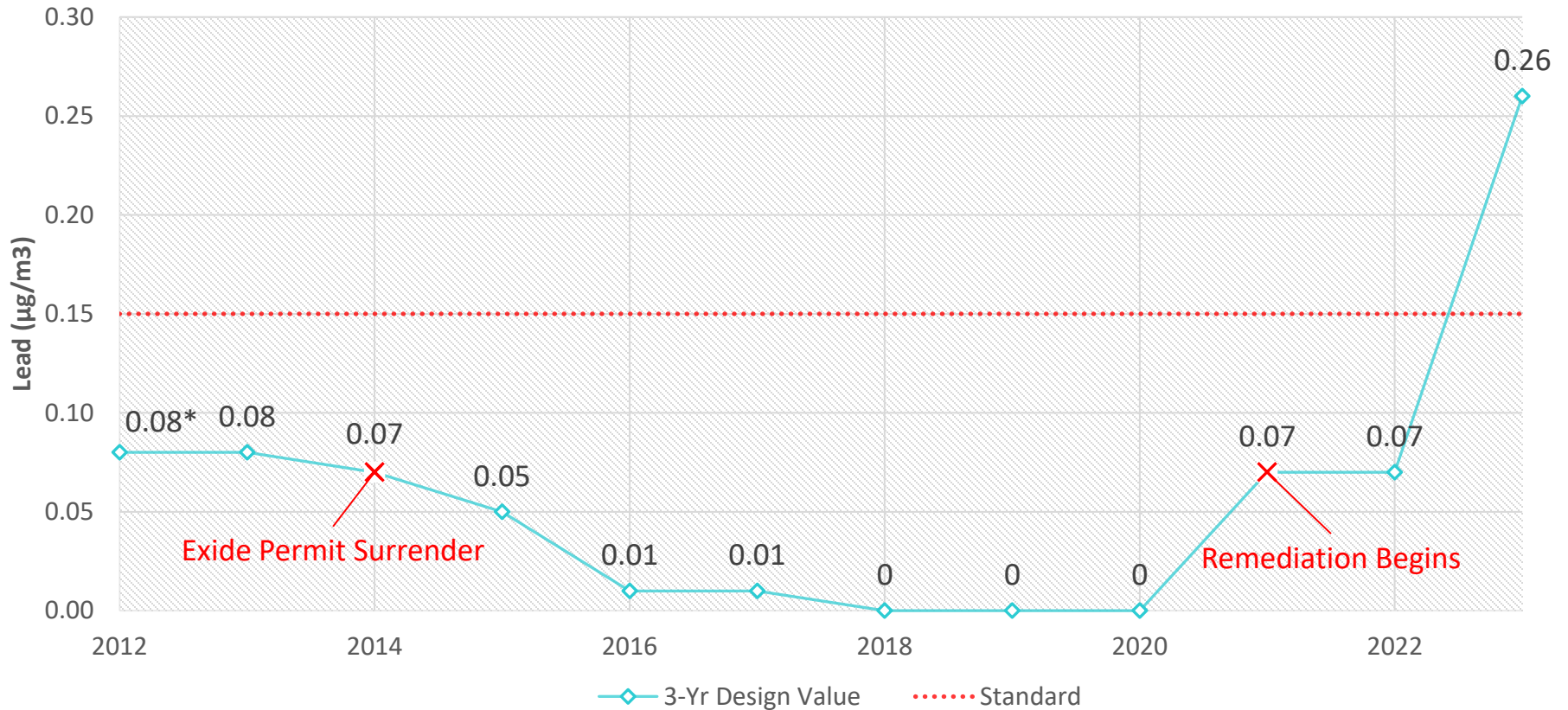
# Monitored Pb including Remediation

## Lead Concentrations During Remediation



# Monitored Pb Trends

Bristol Lead Design Values (3 Yr Highest 3-Month Mean)



\*Incomplete Design Value

# Monitored Pb Trends

- Monitored Trends display that data complied with the 2008 Pb NAAQS until recent remediation activity.
- TDEC is committed to monitoring at this site per regulatory guidelines.

# Pb Emissions in the Maintenance Area

- Emissions data can be used to demonstrate continued maintenance.
- Emission Inventories
  - Focus Area: Maintenance Area
  - Base Year: 2020
  - Future Years: 2030, 2035



# Base Year Emissions Inventory

## 2020 Pb Emissions (tons/year) in Bristol Maintenance Area

| Year | Point | Nonroad | Area   | Onroad | Total  |
|------|-------|---------|--------|--------|--------|
| 2020 | 0     | 0       | 0.0001 | 0      | 0.0001 |

- Virtually no point source emissions in the Maintenance Area since facility operations ceased.
- Base Year emissions in the Area are near zero.

# Continued Maintenance

- Future year (2035) emissions are the same as the base year (2020) emissions since there is no operating facility in the Maintenance Area.
- Continued maintenance is demonstrated since future year emissions are the same as the base year inventory.

# Contingency Measures

- Contingency measures
  - Control measures that could be put in place if air quality violated NAAQS
- Contingency measures are based on monitoring data in the Maintenance Area since there is no permitted facility.

# Contingency Measures

- With ongoing violations due to remediation, TDEC commits to the following measures.
  - Reporting Pb NAAQS exceedances to U.S. EPA
  - Notifying remediation, third-party entity of exceedances
  - Encouraging remediation, third-party entity to adopt a remediation plan and efforts to reduce Pb
  - Ensuring high levels return to sustained background levels

# Contingency Measures

- If monitoring activities are discontinued in collaboration with TDEC and EPA, contingency measures will be different.
- Under this circumstance, monitoring activities would resume in accordance with federal regulations.

# Schedule

| Event                   | Date          |
|-------------------------|---------------|
| APC Board Briefing      | July 10, 2024 |
| Public Notice           | July 2024     |
| Public Hearing          | August 2024   |
| APC Board Vote          | Sept/Oct 2024 |
| Submit final SIP to EPA | Sept/Oct 2024 |

# Questions

Michelle Oakes, Ph.D.

Environmental Manager

Tennessee Department of Environment and  
Conservation

Division of Air Pollution Control

Michelle.oakes@tn.gov

(615) 253-9944

# **Air Pollution Control Board Board Orientation Manual**

**2024**



# Table of Contents

1 – Board Description and Members

2 – OGC Attorney Points of Contact

3 – Robert’s Rules of Order

4 – Conflicts of Interest

5 – Past Audits

6 – Law Applicable to All Boards

7 – Rulemaking

8 – Travel Regulations

9 – Tennessee Air Quality Act,  
Rules, and UAPA

# Tab 1

## Board Description and Members

## Board Characteristics

Fourteen members: twelve appointed by the Governor for four-year terms and two ex officio. Tenn. Code Ann. § 68-201-104.

### Members include:

- A registered professional engineer with at least five years of experience in the field of air pollution control;
- A licensed physician with experience in health effects of air contaminants;
- A person working in a field directly related to agriculture or conservation;
- A person actively working in the management of and with current full-time employment in a private manufacturing concern and has a college degree and eight years of combined technical training and experience in permit compliance for Title 5 or Non-Title 5 sources for a manufacturing facility permitted in the State of Tennessee;
- A county mayor or chief executive officer of a Tennessee county;
- A person working in municipal government;
- Two persons from Tennessee industry and with current full-time employment with a private manufacturing concern and have a college degree in engineering or equal and eight years of combined technical training and experience in air pollution abatement for either a Title 5 permit holder or a Non-Title 5 permitted source in the State of Tennessee;
- A person involved in the program of an institute of higher learning in the state involved in the conducting of training in air pollution evaluation and control;
- A person representing conservation interests;
- A small generator of air pollution representing automotive interests;
- A person representing environmental interests;
- Commissioners of Environment and Conservation and Economic and Community Development or their designees.

| <b>Member</b>                             | <b>Term Expires</b> | <b>Representation</b>  |
|---|---------------------|--|
| Dr. John Benitez                          | 08-31-2025          | Licensed Physician with experience in health effects of air pollutants               |
| Dr. Chunrong Jia                          | 04-30-2026          | Environmental Interests  |
| Nicholas Ramos                            | 04-30-2026          | Conservation Interests   |
| Stephen Moore                             | 08-31-2023          | Working for Eastman Chemical Company with technical experience                       |
| Dr. Shawn A. Hawkins                      | 08-31-2024          | Working in field related to Agriculture or Conservation                              |
| Kyle Etheridge                            | 08-31-2027          | Representative of the Tennessee Industry   |
| The Honorable Ken Moore, City of Franklin | 08-31-2025          | Working in Municipal Government  |
| Dr. Joshua Fu, Ph.D.                      | 04-30-2026          | Involved with Institution of Higher Learning on air pollution evaluation and control |
| Michael Haverstick                        | 08-31-2026          | Working in management in Private Manufacturing                                       |
| Dr. Ronnè Adkins, Ph.D.                   | Ex-Officio          | Commissioner's Designee, Dept. of Environment and Conservation                       |
| Caitlin Roberts Jennings                  | 06-30-2022          | Small Generator of Air Pollution representing Automotive Interests                   |
| Amy Spann, P.E.                           | 08-31-2022          | Registered Professional Engineer   |
| The Honorable Larry Waters, Sevier County | 08-31-2024          | County Mayor   |
| Jimmy West                                | Ex-Officio          | Commissioner's Designee, Dept. of Economic and Community Development                 |

# Tab 2

## OGC Attorney Points of Contact

| <b>OGC PERSONNEL</b>     | <b>PHONE</b>                  | <b>CELL PHONE</b>  | <b>EMAIL</b>   |
|--------------------------|-------------------------------|--------------------|--|
| CATHERINE ANGLIN         | N/A                           | 865-306-0902       | <a href="mailto:Catherine.Anglin@tn.gov">Catherine.Anglin@tn.gov</a>           |
| BLAIR BEATY              | 615-253-1965                  | 615-664-8159       | <a href="mailto:Blair.Beaty@tn.gov">Blair.Beaty@tn.gov</a>                     |
| GEORGE BELL              | 615-741-3842                  | 615-906-6666       | <a href="mailto:George.Bell@tn.gov">George.Bell@tn.gov</a>                     |
| PAYTON BRADFORD          | N/A                           | 615-981-7480       | <a href="mailto:Payton.Bradford@tn.gov">Payton.Bradford@tn.gov</a>             |
| ERICA BROWN              | N/A                           | 615-218-9167       | <a href="mailto:Erica.M.Brown@tn.gov">Erica.M.Brown@tn.gov</a>                 |
| SAMANTHA BULLER-YOUNG    | N/A                           | 865-440-8303       | <a href="mailto:Samantha.Buller-Young@tn.gov">Samantha.Buller-Young@tn.gov</a> |
| MIRANDA CHRISTY          | 615-532-0124                  | 615-626-1948       | <a href="mailto:Miranda.Christy@tn.gov">Miranda.Christy@tn.gov</a>             |
| APRIL DOMINICK           | N/A                           | 615-339-0656       | <a href="mailto:April.Dominick@tn.gov">April.Dominick@tn.gov</a>               |
| DEBBIE DUREN             | 865-255-4384                  | N/A                | <a href="mailto:Debbie.Duren@tn.gov">Debbie.Duren@tn.gov</a>                   |
| STEPHANIE DURMAN         | N/A                           | 615-571-1413       | <a href="mailto:Stephanie.Durman@tn.gov">Stephanie.Durman@tn.gov</a>           |
| WAYNE GREGORY            | 615-253-5420                  | 615-330-7834       | <a href="mailto:Wayne.Gregory@tn.gov">Wayne.Gregory@tn.gov</a>                 |
| KAREN HEDDEN             | 865-403-1690                  | 865-801-0135       | <a href="mailto:Karen.Hedden@tn.gov">Karen.Hedden@tn.gov</a>                   |
| JENNY HOWARD             | 615-532-8685                  | 615-218-8143       | <a href="mailto:Jenny.Howard@tn.gov">Jenny.Howard@tn.gov</a>                   |
| AMY ILIA                 | 615-532-0497                  | 615-815-5146       | <a href="mailto:Amy.Ilia@tn.gov">Amy.Ilia@tn.gov</a>                           |
| HEATHER IVERSON          | N/A                           | 615-879-1444       | <a href="mailto:Heather.K.Iverson@tn.gov">Heather.K.Iverson@tn.gov</a>         |
| MICHAEL D. LEWIS         | N/A                           | 615-308-2770       | <a href="mailto:Michael.D.Lewis@tn.gov">Michael.D.Lewis@tn.gov</a>             |
| JAMES MARR               | 865-594-5541                  | 865-393-6018       | <a href="mailto:James.Marr@tn.gov">James.Marr@tn.gov</a>                       |
| DENARD MICKENS           | 615-532-0143                  | 615-981-9906       | <a href="mailto:Denard.Mickens@tn.gov">Denard.Mickens@tn.gov</a>               |
| BILL MILLER              | 615-532-0136                  | 615-626-4275       | <a href="mailto:William.F.Miller@tn.gov">William.F.Miller@tn.gov</a>           |
| AUSTIN MOORE             | N/A                           | 629-250-1158       | <a href="mailto:Austin.Moore@tn.gov">Austin.Moore@tn.gov</a>                   |
| SARA PAGE                | 615-532-0121                  | 629-867-7156       | <a href="mailto:Sara.Page@tn.gov">Sara.Page@tn.gov</a>                         |
| PATRICK PARKER           | 615-532-0129                  | 615-406-9902       | <a href="mailto:Patrick.Parker@tn.gov">Patrick.Parker@tn.gov</a>               |
| MITCH PORCELLO           | 615-532-0122                  | 615-714-2825       | <a href="mailto:Mitch.Porcello@tn.gov">Mitch.Porcello@tn.gov</a>               |
| LEE POPE                 | N/A                           | 615-748-0278       | <a href="mailto:Lee.Pope@tn.gov">Lee.Pope@tn.gov</a>                           |
| ELLERY RICHARDSON        | 615-532-0128                  | 615-290-6132       | <a href="mailto:Ellery.R.Richardson@tn.gov">Ellery.R.Richardson@tn.gov</a>     |
| GRANT RUHL               | N/A                           | 629-201-0016       | <a href="mailto:Grant.Ruhl@tn.gov">Grant.Ruhl@tn.gov</a>                       |
| CRAIG SERGEANT           | N/A                           | 615-339-0557       | <a href="mailto:Craig.Sergeant@tn.gov">Craig.Sergeant@tn.gov</a>               |
| JASON SUBLETTE           | 615-532-0482                  | 629-654-8258       | <a href="mailto:Jason.Sublette@tn.gov">Jason.Sublette@tn.gov</a>               |
| THEO VALLAS              | 615-532-0126                  | 615-210-7694       | <a href="mailto:Theo.Vallas@tn.gov">Theo.Vallas@tn.gov</a>                     |
| EMILY VANN               | N/A                           | 615-626-2782       | <a href="mailto:Emily.Vann@tn.gov">Emily.Vann@tn.gov</a>                       |
| SHELBY WARD              | N/A                           | 865-722-1982       | <a href="mailto:Shelby.Ward@tn.gov">Shelby.Ward@tn.gov</a>                     |
| KATIE WATTS              | N/A                           | 423-502-0854       | <a href="mailto:Katherine.Watts@tn.gov">Katherine.Watts@tn.gov</a>             |
| ALLI WILLIAMSON          | N/A                           | 629-401-9485       | <a href="mailto:Alli.F.Williamson@tn.gov">Alli.F.Williamson@tn.gov</a>         |
| JEFF ZENTNER             | 615-253-4169                  | 615-879-3854       | <a href="mailto:Jeff.Zentner@tn.gov">Jeff.Zentner@tn.gov</a>                   |
| <b>EDISON HELP DESK</b>  | <b>615-741-4357</b>           |                    |  |
| <b>TDEC HELP DESK</b>    | <b>615-532-0287</b>           |                    |  |
| <b>STS HELP DESK</b>     | <b>615-741-1001</b>           |                    |  |
| <b>CONFERENCE ROOM C</b> | <b>Telephone 615-532-5843</b> | <b>Polycom N/A</b> |  |
| <b>CONFERENCE ROOM D</b> | <b>Telephone N/A</b>          | <b>Polycom N/A</b> |  |
| <b>SECURITY</b>          | <b>615-741-2278</b>           |                    |  |
| <b>VOICEMAIL</b>         | <b>615-741-8999</b>           |                    |  |

# Tab 3

## Robert's Rules of Order

# ROBERT'S RULES IN SHORT: A GUIDE TO RUNNING AN EFFECTIVE MEETING

"Where there is no law, but every man does what is right in his own eyes, there is the least of real liberty." Henry M. Robert.

## Importance of Rules to an Effective Meeting:

While groups sometimes proceed informally or by consensus, it is generally accepted that deliberative bodies operate much more effectively when they follow known rules of procedure.

In most instances and except as changed by the deliberative body, the rules to be followed are **Robert's Rules of Order** (hereinafter referred to as RR). These rules were first established by General Henry M. Robert in 1876. The latest edition of RR is the 11th edition.

A complete copy of RR runs nearly 700 pages. Even abridged versions, which are quite useful, often run 200 pages. Thus it is clear that this is a very brief summary.

RR defines the role of the chair, of members of the body, and establishes rules of procedure. These rules have been crafted and adjusted over the years to assist in effective meetings, and to balance carefully the rights of the majority to act and the rights of the minority to be heard, and in some cases, prevent action.

## Robert's Rules of Order / Common Motions

- A. Proceed by Motion. The most basic element of RR is that matters come before the body by motion. A board member makes a motion simply by saying "I move that" or "Move adoption of," or "Move referral of," or "move to amend." It is not the form of the motion, but the substance of it which governs.
- B. Role of the Chair. It is the obligation of the Chair to run an orderly meeting. Members of the board should not to speak until they have been recognized by the Chair. Except for a limited class of motions, a member may not interrupt another member when they have the floor. The Chair also rules on any votes and rules on any questions of proper procedure. In the event of a disruption in the meeting, the Chair may call on the "sergeant at arms" or others to return the meeting to order. Generally, under RR, the Chair does not participate in debate or vote unless the chair's vote affects the outcome of the motion. Some committees have changed this by rule to always allow the chair to vote.
- C. Types of Motions. Under RR, motions generally fall into one of four classes. These are:



1. The Main Motion: This is the matter that is before the body at that moment. Nearly all other motions bear some relation to the main motion.
2. Subsidiary Motions: These are a series of motions which propose to do something to or with the main motion. Examples include amendment, referral, laying on the table, calling the question. These motions are all subject to an order of precedence which will be discussed below.

Note that what is the "main motion" for application of the rules of precedence may change during the course of consideration of a matter: For example, if the main motion is to adopt a resolution, and a member offers a subsidiary motion to amend the resolution, the proposal for amendment becomes the main motion for purposes of consideration of the order of precedence of other motions. That is, the motion to amend is subject to further amendment, referral, laying on the table, etc. It is only when that motion has been disposed of that the motion to adopt is then back before the body for consideration.

3. Incidental Motions: Incidental motions relate to the pending matter, but generally relate to it in a procedural way such that the incidental motion must be dealt with before the body may return to either the main or subsidiary motion before it. Incidental motions take precedence over whatever motion is before the body, and in some instances, may be made when the mover does not have the floor. Examples of incidental motions are a point of order or procedure, appeal of a ruling on a point of order or procedure, a point of information, call for a roll call (division of the assembly), or a suspension of the rules.
4. Privileged Motions: These are very few motions that take precedence over all other motions. They include motion to recess, question of privilege, and a motion to adjourn.

D. Common Motions. An almost limitless number of motions may be made. RR lists at least 84 potential motions. This section will discuss some common motions; the reader is also referred to the accompanying "cheat sheet" attached as an appendix to this manual.

1. Adjourn: To end the meeting. Not debatable.
2. Adoption: This is to adopt the matter before the body.
3. Amendment: To modify the main motion before the body.
4. Division of Assembly / Roll Call: A call for division is the same as calling for a roll call vote. Any member may do this and the motion need not be seconded; it is simply granted when asked for. It is not debatable.
5. Division of the Question / Separation: This is a request to have separate votes on different paragraphs or portions of the proposal before the body. It is not debatable,

but does require a second.

6. Lay on the Table / Take off the Table: This is a motion to temporarily defer consideration of a matter and then to ask that the matter be taken up again. It is often used, when, for some reason, information necessary for consideration is temporarily unavailable. Motions to lay on the table or take off the table are not debatable. The motion is often made simply as a motion to "table." The motion should not be used if the intent is essentially to kill a proposal.
7. Place on File / Postpone Indefinitely: This is a common motion and is the equivalent of a motion to postpone or defer indefinitely. This is the motion to be used if the intent is to not adopt the matter before the board, without explicitly voting it down.
8. Point of Information: This is an incidental motion in which a member of the board desires some information prior to proceeding to a vote on the matter before the board. It does not require a second and no vote is actually taken on the point of information. A member simply says "I rise to a point of information" or "Point of Information?" It is proper when another has the floor.
9. Point of Order or Procedure: This is another incidental motion and again is not subject to a second or a debate. It raises a question about the procedure being followed by the body. The ruling on the Point of Procedure is committed to the Chair of the board. If a member of the body disagrees with the ruling, they may appeal the ruling of the Chair to the full body. An appeal does require a second, and a majority of the body must disagree with the Chair's ruling for it to be reversed.
10. Point of Privilege: This is one of the privileged motions, and again does not require a second, nor is it debatable. This normally relates to some personal matter or something relating to the operation of the body, such as a room that is too hot, too cold, too loud, some confidential information which should not be discussed before the body, etc.
11. Previous Question: This is a motion requesting that the board immediately vote on whatever matter is otherwise before it; it cuts off debate and proceeds to an immediate vote. The motion can be made either by "calling the question", "moving the previous question," or simply stating "Question." The motion requires a second and is non-debatable and requires a two-thirds vote.
12. Recess. The motion asks that the board take a short break. The length of time of the recess should be established. This is a privileged motion, in that it takes precedence over almost all other pending motions. It requires a second, it is not debatable, and requires a majority vote.
13. Reconsideration: A motion for reconsideration asks that the body reconsider something it has already acted upon. It must be made either at the same meeting at which the matter was considered, or at the next succeeding meeting. If it is to be

made at the next succeeding meeting, it must be on the official agenda of the meeting.

A motion to reconsider may only be made by a member who voted on the winning side of the prior question. This normally will be a member in the majority, but if a matter fails because it does not reach the required majority, it may be that the motion for reconsideration may be made by a member who actually is less than a majority. For example, if a matter needing a 2/3 vote falls one vote short of 2/3, reconsideration may only be moved by a member of the minority. If the motion to reconsider is approved, the prior proposal is then again before the board.

14. Motion to Refer/Commit: This is a subsidiary motion which asks that a matter be referred to another body, or to another meeting of the same board. It is called a motion to commit in RR.
15. Suspension of the Rules: This is an incidental motion because it relates to the manner in which the board will take up an issue. It requires a two-thirds majority, but is not debatable.

E. Debate. Once a debatable motion is before the body, members of the body proceed to debate. In both the making of motions and in debating the motions, members should wait to be recognized by the Chair. The standing rules of a board may limit the number of times and length of time that a member of the board may participate in debate.

F. Unanimous Consent. Asking for unanimous consent is a quick way to dispose of non-controversial items. The board may do this by proposing a "consent agenda" near the beginning of a meeting. Items that no member of the board objects to can be disposed of by unanimous approval. The Chair may ask for unanimous consent, or a member may ask for it on any pending matter. The Chair may do this by asking: "Is there any objection to recording a unanimous vote on item \_\_\_\_\_?"

# Precedence of Motions

Some common motions are listed in descending order of precedence, that is, a motion is not in order if it has a higher number than the pending matter.

## Undeatable Motions

1. Adjourn
2. Recess
3. Question of Privilege
4. Lay on the Table
5. Previous Question
6. Limit or Extend Debate

## Deatable Motions

1. Postpone to a Definite Time
2. Refer or Commit
3. Amend
4. Postpone Indefinitely/ Place on File
5. Main Motion

Incidental Motions (e.g., Point of Order, Point of Information, Suspend the Rules, Division of the Assembly or of the Question) take precedence over whatever matter is pending.

# *Parliamentary Motions Guide*

Based on *Robert's Rules of Order Newly Revised (11<sup>th</sup> Edition)*

The motions below are listed in order of precedence. Any motion can be introduced if it is higher on the chart than the pending motion.

| <b>YOU WANT TO:</b>  | <b>YOU SAY:</b>   | <b>INTERRUPT?</b> | <b>2<sup>ND</sup>?</b> | <b>DEBATE?</b> | <b>AMEND?</b> | <b>VOTE?</b> |
|--|---|-------------------|------------------------|----------------|---------------|--------------|
| §21 Close meeting  | I move to <b>adjourn</b>                                | No                | Yes                    | No             | No            | Majority     |
| §20 Take break   | I move to <b>recess</b> for                             | No                | Yes                    | No             | Yes           | Majority     |
| §19 Register complaint                                     | I rise to a <b>question of privilege</b>                | Yes               | No                     | No             | No            | None         |
| §18 Make follow agenda                                     | I call for the <b>orders of the day</b>                 | Yes               | No                     | No             | No            | None         |
| §17 Lay aside temporarily                                  | I move to <b>lay</b> the question <b>on the table</b>   | No                | Yes                    | No             | No            | Majority     |
| §16 Close debate   | I move the <b>previous question</b>                     | No                | Yes                    | No             | No            | 2/3          |
| §15 <b>Limit or extend debate</b>                          | I move that debate be limited to ...                    | No                | Yes                    | No             | Yes           | 2/3          |
| §14 <b>Postpone to a certain time</b>                      | I move to postpone the motion to ...                    | No                | Yes                    | Yes            | Yes           | Majority     |
| §13 <b>Refer</b> to committee                              | I move to refer the motion to ...                       | No                | Yes                    | Yes            | Yes           | Majority     |
| §12 Modify wording of motion                               | I move to <b>amend</b> the motion by ...                | No                | Yes                    | Yes            | Yes           | Majority     |
| §11 Kill main motion                                       | I move that the motion be <b>postponed indefinitely</b> | No                | Yes                    | Yes            | No            | Majority     |
| §10 Bring business before assembly (a <b>main motion</b> ) | I move that [or "to"] ...                               | No                | Yes                    | Yes            | Yes           | Majority     |

# Parliamentary Motions Guide

Based on *Robert's Rules of Order Newly Revised (11<sup>th</sup> Edition)*

**Incidental Motions** - No order of precedence. Arise incidentally and decided immediately.

| YOU WANT TO:                     | YOU SAY:   | INTERRUPT?      | 2 <sup>ND</sup> ? | DEBATE? | AMEND? | VOTE?    |
|----------------------------------|--|-----------------|-------------------|---------|--------|----------|
| §23 Enforce rules                | <b>Point of order</b>                                | Yes             | No                | No      | No     | None     |
| §24 Submit matter to assembly    | <b>I appeal</b> from the decision of the chair       | Yes             | Yes               | Varies  | No     | Majority |
| §25 Suspend rules                | I move to <b>suspend the rules</b> which ...         | No              | Yes               | No      | No     | 2/3      |
| §26 Avoid main motion altogether | <b>I object to the consideration</b> of the question | Yes             | No                | No      | No     | 2/3      |
| §27 Divide motion                | I move to <b>divide the question</b>                 | No              | Yes               | No      | Yes    | Majority |
| §29 Demand rising vote           | I call for a <b>division</b>                         | Yes             | No                | No      | No     | None     |
| §33 Parliamentary law question   | <b>Parliamentary inquiry</b>                         | Yes (if urgent) | No                | No      | No     | None     |
| §33 Request information          | <b>Request for information</b>                       | Yes (if urgent) | No                | No      | No     | None     |

**Motions That Bring a Question Again Before the Assembly** - no order of precedence. Introduce only when nothing else pending.

|                                      |   |    |     |        |     |                       |
|--------------------------------------|---|----|-----|--------|-----|-----------------------|
| §34 Take matter from table           | I move to <b>take from the table</b> ...                        | No | Yes | No     | No  | Majority              |
| §35 Cancel or change previous action | I move to <b>rescind/ amend something previously adopted...</b> | No | Yes | Yes    | Yes | 2/3 or maj. w/ notice |
| §37 Reconsider motion                | I move to <b>reconsider</b> the vote ...                        | No | Yes | Varies | No  | Majority              |

# Tab 4

## Conflicts of Interest

TENNESSEE AIR POLLUTION CONTROL BOARD

Disclosure of Financial Interests or Other Potential Conflicts of Interest

Pursuant to the terms of Tenn. Code Ann. § 68-201-105(e) and Tenn. Comp. R. & Regs. 0400-30-17-.05(2), the undersigned member of the Air Pollution Control Board ("Board") discloses financial interests as of the date below that are or have the potential to become a conflict of interest (in terms of "significant portion of income") in handling a matter that may arise before the Board. The undersigned also discloses any other potential conflicts of interest (as of the date below) with regard to matters that may come before the Board.

**DIRECTIONS:** Check the appropriate response(s), provide any required explanation(s) in the lines below, and sign and date.

The undersigned member has none of the financial interests listed below that are or could have the potential to be a conflict of interest.

The undersigned member falls into one or more of the following financial categories that does or could pose a conflict of interest with a particular source because the member derives a "significant portion of income" from a particular source, as defined in rule 0400-30-17-.02(b).

*Please identify all of the following which are applicable and in the space below identify the name of the source(s) in which there is financial interest. Note the exception for mutual funds and other diversified investments.\**

Receives 10% or more of gross personal income for a calendar year, including retirement benefits, consultant fees, and stock dividends, from persons subject to Division of Air Pollution Control permits or enforcement orders (or 50% or more of gross personal income for a calendar year if the recipient is over 60 years of age and receiving such portion pursuant to retirement, pension, or similar arrangement).

Receives more than \$5,000 annually in investment income from a source. Said investment is limited to those that arise from the purchase of shares of stock in the source that were purchased on the open market and generally available to any person at that price.

Receives more than \$100 annually due to a private investment made in a source. Said private investment is one where the purchase of stock or interest in a partnership was made directly with the source and such opportunity was not generally available to the public as a whole.



( ) Receives a salary in any amount from a source for services rendered.

( ) Sells or is about to sell property or equipment to a source. For the purposes of this part, equipment does not include consumer goods that are offered to the public at the same price offered to the source.

( ) Buys or is about to buy property or equipment from a source. For the purposes of this part, equipment does not include consumer goods that can be purchased by the public at the same price the source offered to the Technical Secretary or Board Member.

( ) Has taken out a loan from a source in any amount unless:

(i) The loan is from a financial institution whose deposits are insured by an entity of the federal government, or such loan is made in accordance with existing law and is made in the ordinary course of business. A loan is made in the ordinary course of business if the lender is in the business of making loans, and the loan bears the usual and customary interest rate of the lender for the category of loan involved is made on a basis which assures repayment, is evidenced by a written instrument, and is subject to a due date or amortization schedule;

(ii) The loan is secured by a recorded security interest in collateral, bears the usual and customary interest rate of the lender for the category of loan involved, is made on a basis which assures repayment, is evidenced by a written instrument, and is subject to a due date or amortization schedule.

\*For purpose of the categories above, income derived from mutual-fund payments, or from other diversified investments as to which the recipient does not know the identity of the primary sources of income, shall be considered part of the recipient's gross personal income but shall not be treated as income derived from persons subject to permits or enforcement orders under this rule division 0400-30 or rule division 1200-03 (i.e., shall not be treated as a "significant portion of income"). Tenn. Comp. R. & Regs. 0400-30-17-.02(b).

Name of Source(s): \_\_\_\_\_

( ) The undersigned has the following other potential conflicts of interest:

\_\_\_\_\_  
\_\_\_\_\_

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**( ) The undersigned has no other potential conflicts of interest.**

\_\_\_\_\_  
**Signature of Board Member**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Please Print Name**

TENNESSEE AIR POLLUTION CONTROL BOARD

Acknowledgement -

Policy of Ethics and Conflicts of Interest Rule

Pursuant to Tenn. Code Ann. § 68-201-105(e) and Tenn. Comp. R. & Regs. 0400-30-17-.05(2), the undersigned member of the Air Pollution Control Board ("Board") acknowledges that, as of the date below, he or she has read and understands all aspects of the Board's Policy of Ethics and the Avoidance of Conflicts of Interest rule, found at Tenn. Comp. R. & Regs. 0400-30-17-.05 (the "Rule"). The undersigned also states, as a condition to serving on the Board, that he or she is not in conflict with the conditions of the Rule.

\_\_\_\_\_  
Signature of Board Member

\_\_\_\_\_  
Please Print Name

\_\_\_\_\_  
Date

TENNESSEE AIR POLLUTION CONTROL BOARD

Board Member Determination - Representing the Public Interest

To enable the Air Pollution Control Board ("Board") to determine whether a majority of Board members "represent the public interest", as required by Tenn. Comp. R. & Regs. 0400-30-17-.02(1), the undersigned board member indicates whether, as of the date below, he or she "represents the public interest."\*

DIRECTIONS: Check the appropriate response and sign and date below.

I do (  ) / I do not (  ):

Own a controlling interest in;

Have 5% or more of capital invested in;

Serve as an attorney for;

Act as a consultant for;

Serve as an officer or director of; or

Hold any other official or contractual relationship with :

- (1) Either a person subject to permits or enforcement orders under this rule division, 0400-30- or rule division 1200-03\*\*; or
- (2) Any trade or business association of which such person is a member.

\_\_\_\_\_  
Signature of Board Member

\_\_\_\_\_  
Date

\_\_\_\_\_  
Please Print Name

\*“Represent the public interest” means not owning a controlling interest in, having 5% or more of his or her capital invested in, serve as attorney for, act as a consultant for, serve as officer or director of, or hold any other official or contractual relationship with, either a person subject to permits or enforcement orders under this rule division, 0400-30 or rule division 1200-03, or a trade or business association of which such a person is a member. Tenn. Comp. R. & Regs. 0400-30-17-.02(2)(a)

\*\*“Persons subject to permits or enforcement orders under this rule division, 0400-30 or rule division 1200-03” or a “source,” as used in this chapter, includes any individual, corporation, partnership, or association who holds, is an applicant for, or is subject to any permit, or who is or may become subject to any enforcement order under this rule division, 0400-30 or rule division 1200-03, except that it does not include:

1. An individual who is or may become subject to an enforcement order by reason of his or her ownership or operation of a motor vehicle,
2. Any department or agency of a state, local, or regional government; or
3. Any individual who is involved in the program of an institute of higher learning whose duties do not include the institute’s compliance with this rule division, 0400-30 or rule division 1200-03. Tenn. Comp. R. & Regs. 0400-30-17-.02(2)(c).



STATE OF TENNESSEE  
**EXECUTIVE ORDER**  
BY THE GOVERNOR

No. 2

**AN ORDER CONCERNING ETHICS POLICIES APPLICABLE TO, AND ETHICS DISCLOSURES REQUIRED OF, EXECUTIVE BRANCH EMPLOYEES**

**WHEREAS**, establishing, communicating, complying with, and enforcing a robust and comprehensive ethics policy within the Executive Branch of the State of Tennessee is essential to maintaining public trust in government and ensuring the proper performance of government; and

**WHEREAS**, disclosure is an indispensable element of an effective ethics policy; and

**WHEREAS**, this Administration is committed to simplifying and streamlining government processes, systems, and policies to a point understandable by Tennessee citizens;

**WHEREAS**, this Executive Order No. 2 underscores, expands, and enhances the commitment of this Administration to the highest standards of ethics and transparency by employees of the Executive Branch.

**NOW THEREFORE**, I, Bill Lee, Governor of the State of Tennessee, by virtue of the power and authority vested in me by the Tennessee Constitution and the laws of Tennessee, do hereby direct and order that:

1. Except where otherwise noted, this Order applies to the following employees of the Executive Branch of the State of Tennessee: the Governor, members of the Governor's staff, members of the Governor's Cabinet, and all other Executive Branch employees.
2. Each employee shall avoid any action, whether or not specifically prohibited by statute, regulation, or this Order, which might result in or create the appearance of:
  - a. Using public office for private gain;
  - b. Giving preferential treatment to any person;
  - c. Impeding government efficiency or economy;
  - d. Losing complete independence or impartiality;

- e. Making a government decision outside of official channels; or
  - f. Affecting adversely the confidence of the public in the integrity of the government.
3. Each employee is expected to comply with the following ethical principles and policies governing financial interests, use of information, and use of government property:
- a. Financial interests.
    - i. No employee shall enter into or derive any benefit, directly or indirectly, from any contractual arrangement with the State or any of its agencies. In recognition of the fact that many spouses have separate careers, the normal employment compensation of a spouse whose regular, ongoing employer or business has a contractual arrangement with the State shall not be considered a “benefit” to the employee, provided the contract with the State was procured without any participation, assistance, or influence by the employee.
    - ii. No employee shall have a direct or indirect financial interest that conflicts substantially, or appears to conflict substantially, with his or her government duties or responsibilities. “Indirect financial interest” in this case includes a substantial interest on the part of a member of the employee’s household. This subsection shall not apply to interests that have been placed into a “blind trust” arrangement pursuant to which the employee does not have knowledge of the retention or disposition of such interests. This subsection also shall not apply to ownership of publicly traded stocks or bonds where such ownership constitutes less than two percent (2%) of the total outstanding amount of the stocks or bonds of the issuing entity. If, at the time the employee begins employment with the State or at any subsequent time during State employment, the employee possesses such direct or indirect financial interests, the employee shall divest such interest within a reasonable time.
  - b. Use of Information.
    - i. No employee shall directly or indirectly use, disclose, or allow the use of official information obtained through or in connection with the employee’s government employment and not available to the general public for the purpose of furthering the private interest of personal profit of any person, including the employee; or
    - ii. Engage in a financial transaction as a result of, or primarily relying upon, information obtained through the employee’s government employment.
  - c. Use of government property.

- i. No employee shall make use of the facilities, equipment, personnel, or supplies of the State or its agencies for private use or gain, except to the extent that the use is incidental or de minimis or is lawfully available to the general public.
4. Gifts.
- a. No Executive Branch employee shall solicit or accept, directly or indirectly, on behalf of himself or herself or any member of the employee's household, any gift, including but not limited to any gratuity, service, favor, food, beverage, refreshment, entertainment, lodging, transportation, loan, loan guarantee, or any other thing of monetary value, from any person or entity that: (i) has, or is seeking to obtain, contractual or other business or financial relations with the department or agency of the State of Tennessee in which the individual is employed; (ii) conducts operations or activities that are regulated by the department or agency of the State of Tennessee in which the employee is employed; or (iii) has interests that may be substantially affected by the performance or nonperformance of the employee's official duties.
  - b. Exceptions. The prohibition on accepting gifts in paragraph 4 does not apply in the following circumstances:
    - i. A gift given by a member of the employee's immediate family or by an individual if the gift is given for a nonbusiness purpose and is motivated by a close personal friendship and not by the position of the employee. In determining whether a gift falls within this subdivision, the factors contained in Tenn. Comp. R. & Regs. 0580-01-05-.04(2) shall apply;
    - ii. Informational materials in the form of books, articles, periodicals, other written materials, audiotapes, videotapes, or other forms of communication;
    - iii. Sample merchandise, promotional items, and appreciation tokens, if they are routinely given to customers, suppliers, or potential customers or suppliers in the ordinary course of business;
    - iv. Unsolicited tokens or awards of appreciation, honorary degrees, or bona fide awards in recognition of public service in the form of a plaque, trophy, desk item, wall memento, and similar items; provided that any such item shall not be in a form which can be readily converted to cash;
    - v. Food, refreshments, foodstuffs, entertainment, or beverages provided as part of a meal or other event, if the value of such items does not exceed, per occasion, the dollar amount provided in Tenn. Code Ann. § 3-6-305(b)(8), as updated via posting on the Tennessee Ethics Commission's website to account for changes in the average consumer price index; provided further, that the value of a gift made pursuant to this subsection may not be reduced below the monetary limit by



dividing the cost of the gift among two or more persons or entities identified in paragraph 4;

- vi. Food, refreshments, meals, foodstuffs, entertainment, beverages, or interstate travel expenses that are provided in connection with an event where the employee is attending a scheduled meeting of an established or recognized membership organization which holds regular meetings; and
  - vii. Loans from an established financial institution made in the ordinary course of business on usual and customary terms, so long as there are no guarantees or collateral provided by any person described in paragraph 4.
- c. There may be circumstances where refusal or reimbursement of a gift such as a lunch or dinner may be awkward and contrary to the larger interests of the State. In such circumstances, the employee is to use the employee's best judgment and disclose the gift, including a description, estimated value, the person or entity providing the gift, and any explanation necessary within fourteen (14) days to the Chief Ethics Officer on the form titled "Gift Prohibition Exception Disclosure" provided by the Department of Finance and Administration for that purpose.

5. Disclosures.

- a. The Commissioner of Finance and Administration shall prepare forms that should be utilized to report the information described in this Order and shall make those forms available to each individual on or before January 1 of each year. Such forms and statements can be located on the Commissioner of Finance and Administration's website and shall be completed and filed by the respective employees as follows:
  - i. The Governor and Governor's Cabinet and Cabinet Level Staff.
    - 1. Pursuant to Tenn. Code Ann. § 2-10-115 and §§ 8-50-501 and -502 the Governor and the Governor's Cabinet and Cabinet level staff shall file annually the "Statement of Disclosure of Interest Form" with the Tennessee Ethics Commission and the Counsel to the Governor on or before April 15th of each year.
      - a. The disclosure shall exceed the statutory requirements of Tenn. Code Ann. §§ 8-50-501 and -502 in one respect. Subsequent to appointment, each covered employee shall file annually the complete form required upon appointment (as set forth in Tenn. Code Ann. § 8-50-501), and may not file a letter simply indicating any, or no, changes from the initial filing as is currently authorized by Tenn. Code Ann. § 8-50-504.

2. The Governor and the Governor's Cabinet and Cabinet level staff shall file annually the "Ethics Policy Compliance Certification and Conflict of Interest Statement" with the Chief Ethics Officer on or before April 15th of each year.
  - ii. All other employees listed on Attachment A of this Order.
    1. All other employees listed on Attachment A of this Order shall file annually the "Statement of Disclosure of Interest Form" and the "Conflict of Interest and Ethics Policy Receipt Statement" with the Chief Ethics Officer on or before April 15th of each year.
6. I appoint the Counsel to the Governor to serve as the Chief Ethics Officer for the Executive Branch charged with administering the provisions of this Order and maintaining all records related to the ethics policy.
7. The Chief Ethics Officer shall convene a meeting of the Chief of Staff, the Commissioner of Finance and Administration, and the Commissioner of Human Resources to take any action necessary or convenient to determine or enforce the ethics policy and address any request for exemptions.
8. When an employee is in doubt as to the proper interpretation of this Order, the employee is expected to seek the advice of the Chief Ethics Officer.
9. The Chief Ethics Officer shall make the disclosures and statements required by this Order available for inspection by the public during normal working hours.
10. This Executive Order is intended only to improve the internal management of the Executive Branch of the State of Tennessee and does not create any right to administrative or judicial review, or any other right or benefit, substantive or procedural, enforceable at law or equity by a party against the State of Tennessee, its agencies or instrumentalities, its officers or employees, or any other person.
11. This Executive Order No. 2 supersedes and rescinds Governor Haslam's Executive Order No. 20, dated August 31, 2012, and all other directives and memoranda concerning ethics policies applicable to the Executive Branch, and all previous executive orders, the terms of which are inconsistent with the terms of this Executive Order No.2, are hereby repealed.

IN WITNESS WHEREOF, I have subscribed my signature and caused the Great Seal of the State of Tennessee to be affixed this 24th day of January, 2019.

*Bill Lee*  
GOVERNOR

ATTEST:

*Lee Hight*  
SECRETARY OF STATE



**ATTACHMENT A TO EXECUTIVE ORDER 2  
POSITIONS COVERED**

Office of the Governor

Governor  
Deputy to the Governor  
Chief of Staff  
Chief Operating Officer  
Counsel to the Governor  
Senior Advisor to the Governor  
Special Assistant to the Governor  
Deputy Counsel to the Governor  
Director of External Affairs  
Legislative Director  
All legislative liaisons  
Communications Director  
Policy Director

All Executive Branch Departments, Except for Department of Military

Commissioner  
All deputy commissioners  
All assistant commissioners  
All chiefs of staff  
All general counsels  
All chief operating officers  
All chief financial officers and budget directors  
All chief medical officers  
All senior advisors to the commissioner  
All special assistants to the commissioner  
All legislative directors or liaisons or the equivalent thereof

Department of Military

Adjutant General  
All assistant adjutant generals  
Director of TEMA  
General Counsel  
All legislative directors or liaisons or the equivalent thereof

Division of TennCare

Deputy Commissioner/Director  
Deputy Directors  
All assistant commissioners  
Chief of Staff  
Chief Medical Officer  
General Counsel  
Legislative director or legislative liaisons or the equivalent thereof

## ***Ex Parte* Communications**

An *ex parte* communication is any material oral or written communication relevant to the merits of an adjudicatory proceeding that was neither on the record nor on reasonable prior notice to all parties that takes place between (1) an interested person outside the Board (including such person's counsel) and (2) the administrative law judge handling that proceeding, a member of the Board, or a decisional employee.

From the time the notice is issued by the Board until the date that the Board issues its final decision, no interested person shall make an *ex parte* communication to a member of the Board, the administrative law judge, or a decisional employee (e.g., a staffmember who assists the Board). A request for status of the proceeding does not constitute an *ex parte* communication.

### Tenn. Code Ann. § 4-5-304

- (a) Unless required for the disposition of *ex parte* matters specifically authorized by statute, an administrative judge, hearing officer or agency member serving in a contested case proceeding may not communicate, directly or indirectly, regarding any issue in the proceeding, while the proceeding is pending, with any person without notice and opportunity for all parties to participate in the communication.
- (b) Notwithstanding subsection (a), an administrative judge, hearing officer or agency member may communicate with agency members regarding a matter pending before the agency or may receive aid from staff assistants, members of the staff of the attorney general and reporter, or a licensed attorney, if such persons do not receive *ex parte* communications of a type that the administrative judge, hearing officer or agency members would be prohibited from receiving, and do not furnish, augment, diminish or modify the evidence in the record.
- (c) Unless required for the disposition of *ex parte* matters specifically authorized by statute, no party to a contested case, and no other person may communicate, directly or indirectly, in connection with any issue in that proceeding, while the proceeding is pending, with any person serving as an administrative judge, hearing officer or agency member without notice and opportunity for all parties to participate in the communication.
- (d) If, before serving as an administrative judge, hearing officer or agency member in a contested case, a person receives an *ex parte* communication of a type that may not properly be received while serving, the person, promptly after starting to serve, shall disclose the communication in the manner prescribed in subsection (e).
- (e) An administrative judge, hearing officer or agency member who receives an *ex parte* communication in violation of this section shall place on the record of the pending matter all written communications received, all written responses to the communications, and a memorandum stating the substance of all oral communications received, all responses made, and the identity of each person from whom the person received an *ex parte* communication, and shall advise all parties that these matters have been placed on the record. Any party desiring to rebut

the ex parte communication shall be allowed to do so, upon requesting the opportunity for rebuttal within ten (10) days after notice of the communication.

- (f) An administrative judge, hearing officer or agency member who receives an ex parte communication in violation of this section may be disqualified if necessary to eliminate the effect of the communication.
- (g) The agency shall, and any party may, report any willful violation of this section to appropriate authorities for any disciplinary proceedings provided by law. In addition, each agency by rule may provide for appropriate sanctions, including default, for any violations of this section.

# Tab 5

## Past Audits

Air Pollution Control  
Board and Board of  
Ground Water  
Management





## Board Responsibilities

The Tennessee General Assembly created the Air Pollution Control Board pursuant to Chapter 367 of the Public Acts of 1967, codified in Section 68-201-104 et seq., *Tennessee Code Annotated*. The board's responsibilities include promulgating rules and regulations that define ambient air quality standards; setting emission standards; establishing general policies or plans; overseeing a permit system and a schedule of fees for reviewing plans and specifications; issuing or renewing permits; and inspecting air contaminant sources. The board is also authorized to hold hearings and issue orders and determinations to enforce these rules and regulations.

## Board Membership

The board is composed of the Commissioner of the Department of Environment and Conservation (TDEC); the Commissioner of the Department of Economic and Community Development (ECD); and 12 Governor-appointed members who represent a variety of fields related to air pollution, including engineering, medicine, academia, government, business, agriculture, conservation, and the environment. Statute also requires that at least 1 person appointed to serve on the board be 60 years of age or older and that at least 1 person be a member of a minority. The 12 Governor-appointed members serve 4-year terms. The other 2 members, the Commissioners of TDEC and ECD, or their designees, are ex-officio members. The commissioner of TDEC serves as chair. At the first meeting of each calendar year, the board elects a vice-chair. The director of TDEC's Division of Air Pollution Control serves as the board's technical secretary. (See **Appendix 1** for a list of members).

## Meetings

The board is required to meet at least twice each calendar year.<sup>39</sup> Eight members must be present for a quorum. To comply with the Tennessee Open Meetings Act, Section 8-44-101 et seq., *Tennessee Code Annotated*, the board's technical secretary submits information about the date, place, and time of board meetings to the department's Office of General Counsel for posting on the board's website. A court reporter provides transcription services for the meetings, and the board's technical secretary finalizes and distributes draft meeting minutes to the members. After the board votes on and approves the minutes, the board's technical secretary makes copies for the public upon request.

Members are reimbursed for travel expenses by TDEC and are allowed a per diem of \$50, but the per diem is only paid to members for meetings at which a quorum is present. For the period of July 2016 through June 2018, TDEC reported that board members received a total of \$19,875.75 in travel and per diem payments.

<sup>39</sup> The board met two times between July 1, 2015, and December 31, 2015; six times in calendar year 2016; eight times in calendar year 2017; and, as of June 2018, the board met two times in 2018.

5. **Audit Objective:** Did the board have a conflict-of-interest policy, and did members sign the disclosures?

**Conclusion:** In March 2018, at the board’s first meeting of the calendar year, members were provided the financial conflict-of-interest forms and the determination of public interest form. All current Governor-appointed members and ex-officio members completed the conflict-of-interest forms.

### Methodology to Achieve Objectives

We reviewed board membership; board meeting minutes for the period July 1, 2015, through June 30, 2018; and the board’s conflict-of-interest policy and the members’ disclosures, and we attended board meetings in December 2017, March 2018, and May 2018. We reviewed board minutes from July 1, 2015, through June 30, 2018, for evidence of activities to show that the board was meeting its statutory responsibilities. We interviewed the chair and the technical secretary of the board and reviewed the board’s process for public notices of its meetings. We obtained expense reimbursement information from TDEC’s Controller.

### **EMERGING ISSUE: POTENTIAL EMISSIONS TESTING CHANGES**

In the early 1990s, as part of the federal requirements of the Clean Air Act, Tennessee developed air regulations for mobile sources, such as vehicles, to help control pollution from harmful ozone in the state’s air. When the regulations were implemented, counties not meeting federal standards for air quality were required to implement emissions testing. The owner of a vehicle must show proof that the vehicle passed emissions testing prior to registering a vehicle in these counties. These counties were Davidson, Hamilton, Rutherford, Sumner, Williamson, and Wilson. The state has used vehicle emissions testing to improve air quality and meet federal air quality standards (National Ambient Air Quality Standards, or NAAQS) in the counties that have vehicle emissions testing.

Public Chapter 953, which Governor Haslam signed on May 15, 2018, amended Section 68-201-119 and Section 55-4-104, *Tennessee Code Annotated*, to effectively eliminate emissions testing in applicable counties.<sup>41</sup> However, before this measure is implemented, the Tennessee Department of Environment and Conservation must demonstrate to the federal Environmental Protection Agency (EPA) that the state will maintain acceptable ozone emission levels without the need to test vehicles. In August 2017, the EPA announced that all counties are now in attainment status for the NAAQS related to ozone; however, the state is required to maintain air quality. It must demonstrate to the EPA that eliminating the vehicle emissions testing program will not interfere with Tennessee meeting the NAAQS. The state must go through this process, or potentially lose federal transportation highway funds.

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<sup>41</sup> The law eliminated testing in Hamilton, Rutherford, Sumner, Williamson, and Wilson counties. It gave Metropolitan Nashville/Davidson County a choice whether to continue its testing program, and the Metropolitan Council voted to keep the program. 238

## Conflict-of-interest Disclosures

Section 68-201-105(e), *Tennessee Code Annotated*, requires the board to create for board members a conflict-of-interest policy with annual written disclosures.<sup>40</sup> The members sign conflict-of-interest statements annually at the first meeting of each calendar year. When new members join the board, they sign the conflict-of-interest form at their first meeting.

Board rules require that a majority of members must represent the public interest, meaning that members should not derive any significant portion of their income from people or organizations subject to permits under the rules of the board. At the first meeting of the year, each board member completes and signs a form used to determine if they represent the public interest. The determination is based on whether the member has an investment in, receives income from, or is an officer of entities subject to permits for which the board promulgates rules. An attorney with the TDEC Office of General Counsel explains both forms to members and then reviews the forms after they are signed.

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### **Audit Results**

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**1. Audit Objective:** Did the Air Pollution Control Board meet its statutory responsibilities?

**Conclusion:** Board meeting minutes record discussion of monitoring the Clean Air Act and promulgating rules and regulations.

**2. Audit Objective:** Did the board members meet statutory requirements for membership composition?

**Conclusion:** Yes, the board members met the requirements in statute. As of June 30, 2018, one Governor-appointed member's term had expired, but the member is serving until a successor is appointed.

**3. Audit Objective:** Did the board have a quorum at its meetings?

**Conclusion:** Yes, the board had a quorum at its meetings. However, one Governor-appointed board member did not attend 8 of 14 meetings between July 1, 2016, and June 30, 2018.

**4. Audit Objective:** Did the board comply with the Tennessee Open Meetings Act for public notice and meeting minute requirements?

**Conclusion:** Yes, the board provided adequate public notice and recorded minutes of its meetings as required by the Clean Air Act.

# Tab 6

## Laws Applicable to All Boards

# Highlights of General Statutes Applicable to All Boards

## **I. Public Records § 10-7-503**

All state, county, and municipal governmental records are open, unless there is an exception in the law. The public records statute is different from the federal Freedom of Information Act (FOIA). Records are open for personal inspection by any citizen of Tennessee. Records do not include the device used to create or store the public record.

## **II. Sunshine Law § 8-44-101, et seq.**

All meetings of multi-member bodies are open and notice must be given. Minutes must be kept. Meetings are prohibited without notice, including those of a subset of the board. This statute also pertains to deliberations and voting.

## **III. Sunset Law § 4-29-201, et seq.**

All entities of state government terminate, unless extended by the General Assembly. The Comptroller does a performance audit of larger entities in year prior to sunset. Legislation is required for setting the term of extension for a particular board or group extension.

## **IV. Contested Cases § 4-5-301, et seq.**

- Due process is background
- Determines rights of a single person in regard to a permit/license or violation
- Appeals
- Roles of Board, Staff, Attorneys, ALJs at hearings
- Representation by Counsel
- Procedure and conduct at the Hearing
- Declaratory Order
- Procedural requirements before and after hearing

## **V. Rule Making § 4-5-201, et seq.**

The statute lays out the rules' place in the legal system, and the steps of the rulemaking process.

## Excerpts of General Statutes Applicable to All Boards

### I. Public Records § 10-7-503

(a)(1)(A)(i) As used in this part and title 8, chapter 4, part 6, “public record or records” or “state record or records” means all documents, papers, letters, maps, books, photographs, microfilms, electronic data processing files and output, films, sound recordings or other material, regardless of physical form or characteristics, made or received pursuant to law or ordinance or in connection with the transaction of official business by any governmental agency.

(a)(1)(A)(ii) “Public record or records” or “state record or records” does not include the device or equipment, including, but not limited to, a cell phone, computer, or other electronic or mechanical device or equipment, that may have been used to create or store a public record or state record.

(a)(2)(A) All state, county and municipal records shall, at all times during business hours, which for public hospitals shall be during the business hours of their administrative offices, be open for personal inspection by any citizen of this state, and those in charge of the records shall not refuse such right of inspection to any citizen, unless otherwise provided by state law.

(a)(2)(B) The custodian of a public record or the custodian's designee shall promptly make available for inspection any public record not specifically exempt from disclosure. In the event it is not practicable for the record to be promptly available for inspection, the custodian shall, within seven (7) business days:

(a)(2)(B)(i) Make the information available to the requestor;

(a)(2)(B)(ii) Deny the request in writing or by completing a records request response form developed by the office of open records counsel. The response shall include the basis for the denial; or

(a)(2)(B)(iii) Furnish the requestor a completed records request response form developed by the office of open records counsel stating the time reasonably necessary to produce the record or information.

### II. Open Meetings Act (“Sunshine Law”)

#### § 8-44-102

(a) All meetings of any governing body are declared to be public meetings open to the public at all times, except as provided by the Constitution of Tennessee.

(b)(1) “Governing body” means:

(b)(1)(A) The members of any public body which consists of two (2) or more members, with the authority to make decisions for or recommendations to a public body on policy or administration and also means a community action agency which administers community action programs under the provisions of 42 U.S.C. § 2790. Any governing body so defined by this section shall remain so defined, notwithstanding the fact that such governing body may have designated itself as a negotiation committee for collective bargaining purposes, and strategy sessions of a governing body under such circumstances shall be open to the public at all times;

(c) Nothing in this section shall be construed as to require a chance meeting of two (2) or more members of a public body to be considered a public meeting. No such chance meetings, informal assemblages, or electronic communication shall be used to decide or deliberate public business in circumvention of the spirit or requirements of this part.

### **§ 8-44-103**

(a) NOTICE OF REGULAR MEETINGS. Any such governmental body which holds a meeting previously scheduled by statute, ordinance, or resolution shall give adequate public notice of such meeting.

(b) NOTICE OF SPECIAL MEETINGS. Any such governmental body which holds a meeting not previously scheduled by statute, ordinance, or resolution, or for which notice is not already provided by law, shall give adequate public notice of such meeting.

(c) The notice requirements of this part are in addition to, and not in substitution of, any other notice required by law.

### **§ 8-44-105**

Any action taken at a meeting in violation of this part shall be void and of no effect; provided, that this nullification of actions taken at such meetings shall not apply to any commitment, otherwise legal, affecting the public debt of the entity concerned.

### **§ 8-44-108**

(b)(1) A governing body may, but is not required to, allow participation by electronic or other means of communication for the benefit of the public and the governing body in connection with any meeting authorized by law; provided, that a physical quorum is present at the location specified in the notice of the meeting as the location of the meeting.

(b)(2) If a physical quorum is not present at the location of a meeting of a governing body, then in order for a quorum of members to participate by electronic or other means of communication, the governing body must make a determination that a necessity exists. Such determination, and a recitation of the facts and circumstances on which it was based, must be included in the minutes of the meeting.

(b)(3) If a physical quorum is not present at the location of a meeting of a governing body other than a state debt issuer, the governing body other than a state debt issuer must file such determination of necessity, including the recitation of the facts and circumstances on which it was based, with the office of secretary of state no later than two (2) working days after the meeting. The secretary of state shall report, no less than annually, to the general assembly as to the filings of the determinations of necessity. This subdivision (b)(3) shall not apply to the board of regents, to the board of trustees of the University of Tennessee or to the Tennessee higher education commission.

(4) Nothing in this section shall prohibit a governing body from complying with § 8-44-109.

(c)(1) Any meeting held pursuant to the terms of this section shall comply with the requirements of the Open Meetings Law, codified in this part, and shall not circumvent the spirit or requirements of that law.

(c)(2) Notices required by the Open Meetings Law, or any other notice required by law, shall state that the meeting will be conducted permitting participation by electronic or other means of communication.

(c)(3) Each part of a meeting required to be open to the public shall be audible to the public at the location specified in the notice of the meeting as the location of the meeting. Each member participating electronically or otherwise must be able to simultaneously hear each other and speak to each other during the meeting. Any member participating in such fashion shall identify the persons present in the location from which the member is participating.

(c)(4) Any member of a governing body not physically present at a meeting shall be provided, before the meeting, with any documents that will be discussed at the meeting, with substantially the same content as those documents actually presented.

(c)(5) All votes taken during a meeting held pursuant to the terms of this section shall be by roll call vote.

(c)(6) A member participating in a meeting by this means is deemed to be present in person at the meeting for purposes of voting, but not for purposes of determining per diem eligibility. However, a member may be reimbursed expenses of such electronic communication or other means of participation.

#### **§ 8-44-112**

(a) A governing body shall, for each public meeting, reserve a period for public comment to provide the public with the opportunity to comment on matters that are germane to the items on the agenda for the meeting.



(b) The governing body may put reasonable restrictions on the period for public comment, such as the length of the period, the number of speakers, and the length of time that each speaker will be allowed to provide comment. The governing body may require a person to give notice in advance of the desire to offer comments at a meeting. The governing body shall take all practicable steps to ensure that opposing viewpoints are represented fairly, if any.

(c) A notice for a public meeting shall indicate the manner in which a person may indicate the person's desire to provide public comment at the meeting.

(d) This section does not apply to:

(1) A meeting of a governing body, or a portion thereof, where the governing body is conducting a disciplinary hearing for a member of the governing body or a person whose profession or activities fall within the jurisdiction of the governing body; or

(2) A meeting for which there are no actionable items on the agenda.

### **III. Uniform Administrative Procedures Act**

#### **§ 4-5-202**

(a)(1) and (2) An agency shall precede all its rulemaking with notice and a public hearing unless the rule is adopted as an emergency rule; or the proposed rule is posted to the administrative register web site within the secretary of state's web site within seven (7) days of receipt, together with a statement that the agency will adopt the proposed rule without a public hearing unless within ninety (90) days after filing of the proposed rule with the secretary of state, a petition for a public hearing on the proposed rule is filed by ten (10) persons who will be affected by the rule, an association of ten (10) or more members, a municipality or by a majority vote of any standing committee of the general assembly. If an agency receives such a petition, it shall not proceed with the proposed rulemaking until it has given notice and held a hearing as provided in this section. The agency shall forward the petition to the secretary of state. The secretary of state shall not be required to compile all filings of the preceding month into one (1) document.

(b) Subdivision (a)(2) does not apply if another statute specifically requires the agency to hold a hearing prior to adoption of the rule under consideration.

#### **§ 4-5-203**

(a)(1) and (2) Whenever an agency is required by law to hold a public hearing as part of its rulemaking process, the agency shall transmit written notice of the hearings to the secretary of state for publication in the notice section of the administrative register web site and, if a statute applicable to the specific agency or a specific rule or class of rules under consideration requires some other form of publication, publish notice as required by that statute in addition to publication in the notice section of the administrative register web site. Such notice of a hearing

shall remain on the web site until the date of such hearing; and take such other steps as it deems necessary to convey effective notice to persons who are likely to have an interest in the proposed rulemaking.

(b) Except as otherwise permitted by § 4-5-204(e), notice through publication on the administrative register web site shall be given at least forty-five (45) days prior to the date set for the hearing and shall be deemed to have been given seven (7) days from the date notice was transmitted to the secretary of state for such publication.

#### **§ 4-5-211**

No rule shall be filed in the office of the secretary of state until such rule has been filed with the office of the attorney general and reporter. The office of the attorney general and reporter shall review the legality and constitutionality of every rule filed pursuant to this section and shall approve or disapprove of rules based upon the attorney general's determination of the legality of such rules. The attorney general and reporter shall not disapprove an emergency rule filed pursuant to § 4-5-208 solely on the basis of failure to meet the statutory criteria for adoption of the rule contained in this chapter, unless the attorney general and reporter determines and states in writing that the attorney general and reporter could not defend the legality of the rule on the basis of failure to meet the statutory criteria for adoption of the rule contained in this chapter, in any action contesting the legal validity of the rule.

#### **§ 4-5-301**

(a)(1) and (2) In the hearing of any contested case, the proceedings or any part thereof shall be conducted in the presence of the requisite number of members of the agency as prescribed by law and in the presence of an administrative judge or hearing officer; or by an administrative judge or hearing officer sitting alone.

(c) The agency shall determine whether a contested case shall be conducted by an administrative judge or hearing officer sitting alone or in the presence of members of the agency; provided, that administrative judges or hearing officers employed in the office of the secretary of state shall not be required to conduct a contested case sitting alone in the absence of agreement between the agency and the secretary of state.

# Tab 7

## Rulemaking

## **RULE MAKING**

### **AN OVERVIEW**

#### **Section .01 – Scope**

This is an overview of the legal requirements for the promulgation of rules as they apply to the Department of Environment and Conservation. The primary law governing this subject is the Uniform Administrative Procedures Act (UAPA) compiled in Tenn. Code Ann. Sections 4-5-101 et seq. Although the UAPA establishes the general rulemaking requirements, additional requirements may be established by any other statute administered by the Department of Environment and Conservation (TDEC). The area in which this most commonly occurs is in specifying how notice must be given to the public or the regulated community. If there are any applicable additional requirements, they must also be complied with or the rule may be invalid.

#### **Section .02 - What is a Rule?**

(1) The term “rule” should be understood as being synonymous with “regulation.” A rule is defined by Section 4-5-102 of the UAPA as:

An agency's statement of general applicability that implements or prescribes law or policy, or describes the procedures or practice requirements of the agency. The term includes the amendment or repeal of a prior rule, but does not include:

- (a) Statements concerning only the internal management of state government and not affecting private rights, privileges, or procedures available to the public; or
- (b) Declaratory orders;
- (c) Intra-agency memoranda; or
- (d) General policy statements that are substantially repetitious of existing law.

(2) A properly promulgated rule has the full force and effect of any law passed by the legislature. The sanction for violating a rule varies and is set by the legislation authorizing the Board or Commissioner to adopt rules.

#### **Section .03 - Is a rule authorized?**

(1) Once it has been determined that a statement needs to be made into a rule, it must be determined whether the agency has the authority to make the proposed rule.

(2) An agency may do only what the legislature has delegated to it. An agency may not make a rule which exceeds its delegated authority or which in effect conflicts with any statutory

provision governing the agency. Statutes may contain "express" or "implied" authority for the agency to make rules on a particular subject.

(3) "Express authority" is easy to find in a statute. For example, Tenn. Code Ann. Section 69-3-105(b) says the Board of Water Quality, Oil, and Gas has the power, responsibility and duty to "adopt, modify, repeal, and promulgate after due notice and enforce rules and regulations which the board deems necessary for the proper administration of this part, the prevention, control and abatement of pollution, or...". It is clear that the Board can make rules on all matters pertaining to activities that impact the quality of state waters.

(5) "Implied authority" can be more difficult to identify. What is an implication to one person may be nothing but silence to another. When in doubt, consult the Office of General Counsel (OGC).

#### **Section .04 - What type of rule is required?**

(1) Once it has been determined that a contemplated statement needs to be a rule and that authority exists for the rule, it must be determined which type of rule is appropriate. There are three types of rules that differ only in the circumstances under which they may be used, the effective date, and length of time they are effective.

(2) The three types of rules are:

- (a) Proposed Rules
- (b) Emergency Rules
- (c) Rulemaking Hearing Rules

(3) The first two rule types are rarely used by TDEC. Emergency Rules are only temporary. They expire after 180 days. If the content of those rules needs to be permanent, they will have to be followed immediately by a properly promulgated Rulemaking Hearing Rule. The Rulemaking Hearing Rule is the most common type used by TDEC regulatory boards and the Commissioner. Generally, the following determines when a particular type of rule should be used:

(a) A Proposed Rule, authorized by Tenn. Code Ann. Section 4-5-202(a)(2), is typically used only for minor, non-controversial matters or purely housekeeping matters. A proposed rule is filed without a rulemaking hearing.

(b) An Emergency Rule, authorized by Tenn. Code Ann. Section 4-5-208, is used only when:

1. An immediate danger to the public health, safety, or welfare exists, and the nature of this danger is such that the use of any other form of rulemaking would not adequately protect the public;

2. The rule only delays the effective date of another rule that is not yet effective;

3. The rule is required by the Constitution, or court order;

4. The rule is required by an agency of the federal government and adoption of the rule through ordinary rulemaking procedures described in the UAPA might jeopardize the loss of a federal program or funds; or

5. The agency is required by an enactment of the General Assembly to implement rules within a prescribed period of time that precludes utilization of rulemaking procedures described in the UAPA the promulgation of permanent rules (Proposed or Rulemaking Hearing rules).

(c) A Rulemaking Hearing Rule, authorized by Tenn. Code Ann. Sections 4-5-202 through 4-5-204, follows the public notice and approval process prescribed by the UAPA and is used for almost all of the promulgation of new rules and changes or modifications to existing rules by TDEC regulatory boards and the Commissioner..

### **Section .05 - How to process a rule**

(1) Once it has been decided that a rule is necessary, authorized, and what type of rule is needed, the drafting begins. Each of the three types of rules is different in the forms, procedure and format used to process them. However, methods of drafting all types of rules are substantially similar.

(2) Generally, the process to draft and promulgate a rule follows this sequence:

(a) Decide “type” of Rulemaking;

(b) Drafting the rule;

(c) Review by Rulemaking Coordinator and OGC;

(d) Obtaining the concurrence of management;

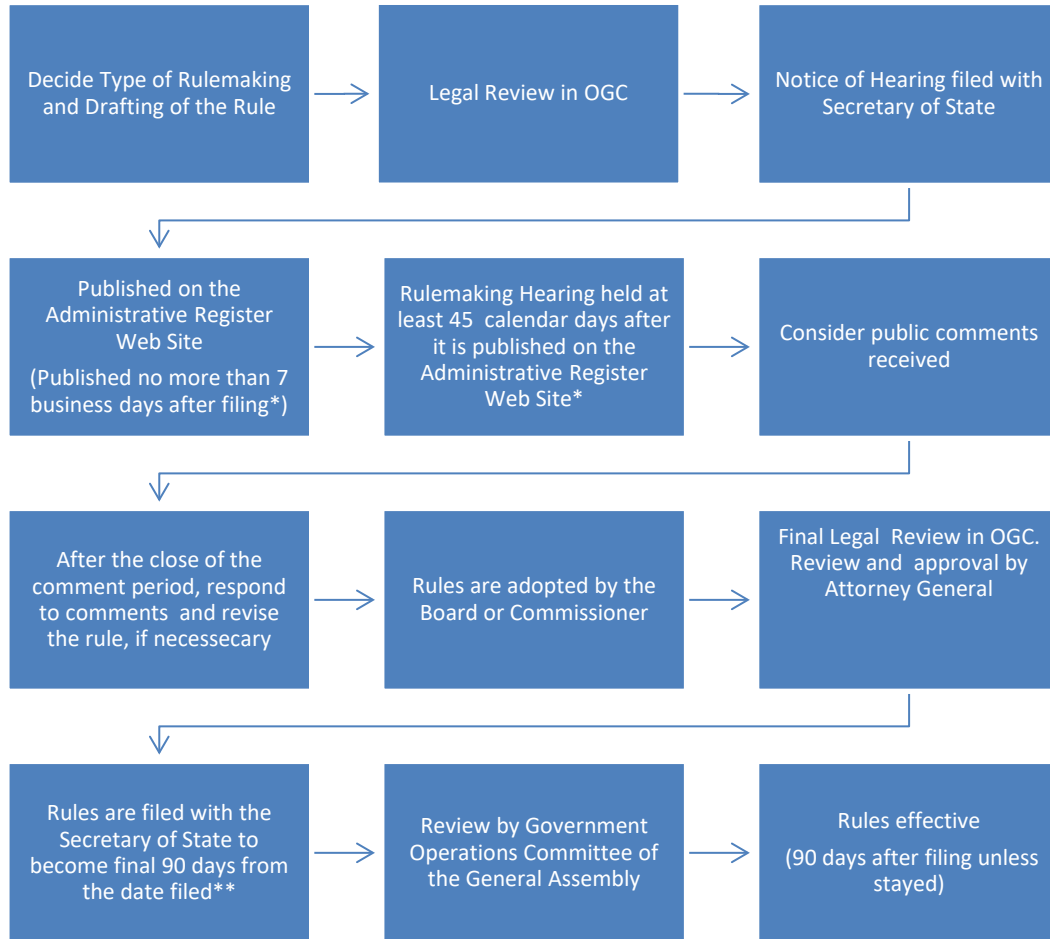
(e) Filing Notice with Secretary of State;

(f) Notifying the public;

- (g) Conduct public hearing(s);
- (h) Consider comments received and revising the rule, if appropriate;
- (i) Review by Rulemaking Coordinator and OGC;
- (j) Adoption of the rule by the Board or Commissioner;
- (k) Review and approval by Rulemaking Coordinator and OGC;
- (l) Review and approval by the Attorney General;
- (m) Filing with the Secretary of State's Office, Division of Publications; and
- (n) Explaining the rule to the Government Operations Committees of the General Assembly and obtaining their recommendation of the rule.
- (o) Rules become effective on the effective date assigned by the Secretary of State's Office, Division of Publications (typically 90 days after filing with Secretary of State or as prescribed by the rule).

## PROCESS FLOW DIAGRAM FOR RULEMAKING HEARING RULES

The following flow diagram shows the basic steps used to draft and promulgate Rulemaking Hearing Rules



\*TCA 4-5-203

\*\*TCA 4-5-207

Note: Rules may be stayed for up to 75 days within the 90 day period by the agency and up to 75 days by the Government Operations Committees following the filing with the Secretary of State.

Note: Rules may be withdrawn before they become effective by filing a “Withdrawal of Rules”. Withdrawal of Rules nullifies all procedures undertaken to promulgate the rules. See Tenn. Code Ann. Section 4-5-214.



(b)(1)(A) The members of any public body which consists of two (2) or more members, with the authority to make decisions for or recommendations to a public body on policy or administration and also means a community action agency which administers community action programs under the provisions of 42 U.S.C. § 2790. Any governing body so defined by this section shall remain so defined, notwithstanding the fact that such governing body may have designated itself as a negotiation committee for collective bargaining purposes, and strategy sessions of a governing body under such circumstances shall be open to the public at all times;

(c) Nothing in this section shall be construed as to require a chance meeting of two (2) or more members of a public body to be considered a public meeting. No such chance meetings, informal assemblages, or electronic communication shall be used to decide or deliberate public business in circumvention of the spirit or requirements of this part.

### **§ 8-44-103**

(a) NOTICE OF REGULAR MEETINGS. Any such governmental body which holds a meeting previously scheduled by statute, ordinance, or resolution shall give adequate public notice of such meeting.

(b) NOTICE OF SPECIAL MEETINGS. Any such governmental body which holds a meeting not previously scheduled by statute, ordinance, or resolution, or for which notice is not already provided by law, shall give adequate public notice of such meeting.

(c) The notice requirements of this part are in addition to, and not in substitution of, any other notice required by law.

### **§ 8-44-105**

Any action taken at a meeting in violation of this part shall be void and of no effect; provided, that this nullification of actions taken at such meetings shall not apply to any commitment, otherwise legal, affecting the public debt of the entity concerned.

### **§ 8-44-108**

(b)(1) A governing body may, but is not required to, allow participation by electronic or other means of communication for the benefit of the public and the governing body in connection with any meeting authorized by law; provided, that a physical quorum is present at the location specified in the notice of the meeting as the location of the meeting.

(b)(2) If a physical quorum is not present at the location of a meeting of a governing body, then in order for a quorum of members to participate by electronic or other means of communication, the governing body must make a determination that a necessity exists. Such determination, and a recitation of the facts and circumstances on which it was based, must be included in the minutes of the meeting.

(b)(3) If a physical quorum is not present at the location of a meeting of a governing body other than a state debt issuer, the governing body other than a state debt issuer must file such determination of necessity, including the recitation of the facts and circumstances on which it was based, with the office of secretary of state no later than two (2) working days after the meeting. The secretary of state shall report, no less than annually, to the general assembly as to the filings of the determinations of necessity. This subdivision (b)(3) shall not apply to the board of regents, to the board of trustees of the University of Tennessee or to the Tennessee higher education commission.

(4) Nothing in this section shall prohibit a governing body from complying with § 8-44-109.

(c)(1) Any meeting held pursuant to the terms of this section shall comply with the requirements of the Open Meetings Law, codified in this part, and shall not circumvent the spirit or requirements of that law.

(c)(2) Notices required by the Open Meetings Law, or any other notice required by law, shall state that the meeting will be conducted permitting participation by electronic or other means of communication.

(c)(3) Each part of a meeting required to be open to the public shall be audible to the public at the location specified in the notice of the meeting as the location of the meeting. Each member participating electronically or otherwise must be able to simultaneously hear each other and speak to each other during the meeting. Any member participating in such fashion shall identify the persons present in the location from which the member is participating.

(c)(4) Any member of a governing body not physically present at a meeting shall be provided, before the meeting, with any documents that will be discussed at the meeting, with substantially the same content as those documents actually presented.

(c)(5) All votes taken during a meeting held pursuant to the terms of this section shall be by roll call vote.

(c)(6) A member participating in a meeting by this means is deemed to be present in person at the meeting for purposes of voting, but not for purposes of determining per diem eligibility. However, a member may be reimbursed expenses of such electronic communication or other means of participation.

#### **§ 8-44-112**

(a) A governing body shall, for each public meeting, reserve a period for public comment to provide the public with the opportunity to comment on matters that are germane to the items on the agenda for the meeting.

(b) The governing body may put reasonable restrictions on the period for public comment, such as the length of the period, the number of speakers, and the length of time that each speaker will be allowed to provide comment. The governing body may require a person to give notice in advance of the desire to offer comments at a meeting. The governing body shall take all practicable steps to ensure that opposing viewpoints are represented fairly, if any.

(c) A notice for a public meeting shall indicate the manner in which a person may indicate the person's desire to provide public comment at the meeting.

(d) This section does not apply to:

(1) A meeting of a governing body, or a portion thereof, where the governing body is conducting a disciplinary hearing for a member of the governing body or a person whose profession or activities fall within the jurisdiction of the governing body; or

(2) A meeting for which there are no actionable items on the agenda.

### **III. Uniform Administrative Procedures Act**

#### **§ 4-5-202**

(a)(1) and (2) An agency shall precede all its rulemaking with notice and a public hearing unless the rule is adopted as an emergency rule; or the proposed rule is posted to the administrative register web site within the secretary of state's web site within seven (7) days of receipt, together with a statement that the agency will adopt the proposed rule without a public hearing unless within ninety (90) days after filing of the proposed rule with the secretary of state, a petition for a public hearing on the proposed rule is filed by ten (10) persons who will be affected by the rule, an association of ten (10) or more members, a municipality or by a majority vote of any standing committee of the general assembly. If an agency receives such a petition, it shall not proceed with the proposed rulemaking until it has given notice and held a hearing as provided in this section. The agency shall forward the petition to the secretary of state. The secretary of state shall not be required to compile all filings of the preceding month into one (1) document.

(b) Subdivision (a)(2) does not apply if another statute specifically requires the agency to hold a hearing prior to adoption of the rule under consideration.

#### **§ 4-5-203**

(a)(1) and (2) Whenever an agency is required by law to hold a public hearing as part of its rulemaking process, the agency shall transmit written notice of the hearings to the secretary of state for publication in the notice section of the administrative register web site and, if a statute applicable to the specific agency or a specific rule or class of rules under consideration requires some other form of publication, publish notice as required by that statute in addition to publication in the notice section of the administrative register web site. Such notice of a hearing

shall remain on the web site until the date of such hearing; and take such other steps as it deems necessary to convey effective notice to persons who are likely to have an interest in the proposed rulemaking.

(b) Except as otherwise permitted by § 4-5-204(e), notice through publication on the administrative register web site shall be given at least forty-five (45) days prior to the date set for the hearing and shall be deemed to have been given seven (7) days from the date notice was transmitted to the secretary of state for such publication.

#### **§ 4-5-211**

No rule shall be filed in the office of the secretary of state until such rule has been filed with the office of the attorney general and reporter. The office of the attorney general and reporter shall review the legality and constitutionality of every rule filed pursuant to this section and shall approve or disapprove of rules based upon the attorney general's determination of the legality of such rules. The attorney general and reporter shall not disapprove an emergency rule filed pursuant to § 4-5-208 solely on the basis of failure to meet the statutory criteria for adoption of the rule contained in this chapter, unless the attorney general and reporter determines and states in writing that the attorney general and reporter could not defend the legality of the rule on the basis of failure to meet the statutory criteria for adoption of the rule contained in this chapter, in any action contesting the legal validity of the rule.

#### **§ 4-5-301**

(a)(1) and (2) In the hearing of any contested case, the proceedings or any part thereof shall be conducted in the presence of the requisite number of members of the agency as prescribed by law and in the presence of an administrative judge or hearing officer; or by an administrative judge or hearing officer sitting alone.

(c) The agency shall determine whether a contested case shall be conducted by an administrative judge or hearing officer sitting alone or in the presence of members of the agency; provided, that administrative judges or hearing officers employed in the office of the secretary of state shall not be required to conduct a contested case sitting alone in the absence of agreement between the agency and the secretary of state.

# Tab 8

## Travel Regulations

## **Board Member Travel Overview**

Reimbursement of travel expenses for board members traveling to and from official board meetings must be in accordance with the State of Tennessee, *Department of Finance and Administration Comprehensive Travel Regulations (Policy 8)*.

All claims for travel reimbursement must be made on the **State of Tennessee Claim for Travel Expenses form**.

Current Travel Regulations and Reimbursement Rates can be found at:

<https://www.teamtn.gov/finance/travel-information.html>

### **Mileage Reimbursement:**

- Reimbursement for the use of personally owned cars is at the standard mileage rate, as reflected in the Reimbursement Rate Schedule (currently \$0.67 per mile).

### **Meals:**

- Per Diem rates, as reflected in the Reimbursement Rate Schedule, include a fixed allowance for meals and incidentals.
- No itemization of expenses is required.
- No receipts are required.
- Reimbursement for meals and incidentals for the day of departure and day of return is three-fourths of the appropriate per diem rate.
- Reimbursement of meals is allowed only when overnight travel is involved.

### **Parking:**

- No receipt is required for daily parking fee of \$8.00 or less.
- Receipt is required for daily parking fee greater than \$8.00.

### **Lodging:**

- Will be reimbursed for actual lodging costs plus tax up to the applicable maximum amounts listed on the Reimbursement Rate Schedule.
- Receipts are required.
- Receipts must itemize room charges and taxes by date.

# Tab 9

## Tennessee Air Quality Act, Rules, and the UAPA

## **68-201-101. Short title.**

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This part shall be known and may be cited as the "Tennessee Air Quality Act."

## **68-201-102. Part definitions.**

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As used in this part, unless the context otherwise requires:

- (1) "Air contaminant" means particulate matter, dust, fumes, gas, mist, smoke, or vapor, or any combinations thereof;
- (2) "Air contaminant source" means any and all sources of emission of air contaminants, whether privately or publicly owned or operated. Without limiting the generality of the definition of air contaminant source, air contaminant source includes all types of business, commercial and industrial plants, works, shops and stores, and heating and power plants and stations, buildings and other structures of all types, including multiple family residences, apartments, houses, office buildings, hotels, restaurants, schools, hospitals, churches and other institutional buildings, automobiles, trucks, tractors, buses and other motor vehicles, garages and vending and service locations and stations, railroad locomotives, ships, boats and other waterborne craft, portable fuel-burning equipment, incinerators of all types, indoor and outdoor, refuse dumps and piles, and all stack and other chimney outlets from any of the foregoing;
- (3) "Air pollution" means presence in the outdoor atmosphere of one (1) or more air contaminants in sufficient quantities and of such characteristics and duration as to be injurious to human, plant or animal life or to property, or which unreasonably interfere with the enjoyment of life and property;
- (4) "Board" means the air pollution control board;
- (5) "Commissioner" means the commissioner of environment and conservation or the commissioner's duly authorized representative or, in the event of such person's absence or a vacancy in the office of commissioner, the deputy commissioner;
- (6) "Department" means the department of environment and conservation;
- (7) "Person" means any individual, partnership, copartnership, firm, company, corporation, association, joint stock company, trust, estate, political subdivision, an agency, authority, commission or department of the United States government or of the state of Tennessee government, or any other legal entity, or their legal representative, agent, or assigns;
- (8) "Political subdivision" means any municipality, city, incorporated town, county, district or authority, or any portion or combination of two (2) or more thereof;
- (9) "Regulations" means the standards, policies, rules and regulations promulgated by the board to attain and maintain ambient air quality standards within the intent and purpose of this part; and
- (10) "Technical secretary" means the technical secretary of the air pollution control board.



## **68-201-103. Intent and purpose.**

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It is the intent and purpose of this part to maintain purity of the air resources of the state consistent with the protection of normal health, general welfare and physical property of the people, maximum employment and the full industrial development of the state. The board and department shall seek the accomplishment of these objectives through the prevention, abatement and control of air pollution by all practical and economically feasible methods. It is also the intent of this part to qualify for receipt of federal funds available for state air pollution control programs and, to that end, this part shall be construed to give the authority to so qualify and maintain such qualification.

## **68-201-104. Creation of air pollution control board — Members — Meetings — Organization.**

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(a) There is created an agency to be known as the air pollution control board.

(b)

(1) The members of the board shall be the commissioner of environment and conservation, the commissioner of economic and community development, and twelve (12) other members who shall be appointed by the governor, as follows:

(A) One (1) shall be a registered professional engineer as defined in title 62, chapter 2, who shall have at least five (5) years' experience in the field of air pollution control;

(B) One (1) shall be a physician, licensed in compliance with title 63, chapter 6, who shall be experienced in the health effects of air contaminants;

(C) One (1) shall be engaged in a field which is directly related to agriculture or conservation;

(D) One (1) shall be actively engaged in the management of and with current full-time employment in a private manufacturing concern and have a college degree and eight (8) years' of combined technical training and experience in permit compliance for Title 5 or non-Title 5 sources for a manufacturing facility permitted in the state of Tennessee, and may be appointed from lists of qualified persons submitted by interested manufacturing groups, including, but not limited to, the Tennessee Chamber of Commerce and Industry;

(E) One (1) shall be a county mayor or chief executive officer of a Tennessee county who may be appointed from lists of qualified persons submitted by interested county services groups, including, but not limited to, the Tennessee county services association;

(F) One (1) shall be engaged in municipal government who may be appointed from lists of qualified persons submitted by interested municipal groups, including, but not limited to, the Tennessee Municipal League;

(G) Two (2) shall be from Tennessee industry and with current full-time employment with a private manufacturing concern and have a college degree in engineering or equal and eight (8) years of combined technical training and experience in air pollution abatement for either a Title 5 permit holder or a non-Title 5 permitted source in the state of Tennessee, and may be appointed from lists of qualified persons submitted by interested manufacturing groups, including, but not limited to, the Tennessee Chamber of Commerce and Industry;

(H) One (1) shall be involved in the program of an institute of higher learning in the state involved in the conducting of training in air pollution evaluation and control;

(I) One (1) who may be appointed from lists of nominees submitted to the governor by interested conservation groups, including, but not limited to, the Tennessee Conservation League;

(J) One (1) shall be a small generator of air pollution who may be appointed from lists of qualified persons submitted by interested automotive groups, including, but not limited to, the Tennessee Automotive Association; and

(K) One (1) may be appointed from lists of qualified persons submitted by interested environmental groups, including, but not limited to, the Tennessee Environmental Council.

(2) The governor shall consult with interested groups, including, but not limited to, the organizations listed in subdivision (b)(1) to determine qualified persons to fill positions on the board.

(3) The twelve (12) appointed members' terms of office shall be four (4) years and until their successors are selected and qualified, except that the terms of those first appointed shall expire as follows: two (2) at the end of one (1) year after date of appointment, two (2) at the end of two (2) years after date of appointment, two (2) at the end of three (3) years after date of appointment, two (2) at the end of four (4) years after the date of appointment, and, of the two (2) appointed in 1970 pursuant to former subdivisions (b)(8) and (9), one (1) at the end of two (2) years after date of appointment and one (1) at the end of four (4) years after date of appointment as designated by the governor at the time of appointment. In making appointments to the board, the governor shall strive to ensure that at least one (1) person appointed to serve on the board is sixty (60) years of age or older and that at least one (1) person appointed to serve on the board is a member of a racial minority. If a vacancy occurs, the governor may appoint a member for the remaining portion of the unexpired term created by the vacancy. The governor may remove any appointed member for cause. Each member shall be reimbursed for travel in accordance with the comprehensive travel regulations as approved by the attorney general and reporter and the commissioner of finance and administration. A per diem allowance of fifty dollars (\$50.00) shall only be paid to members for meetings at which a quorum is present.

(c) The board shall hold at least two (2) regular meetings each calendar year at a place and time to be fixed by the board. The commissioner of environment and conservation shall be chair of the board and the board shall select at its first meeting one (1) of its members to serve as vice chair. At the first regular meeting in each calendar year thereafter, the vice chair for the ensuing year shall be selected from among the members of the board. The director of the air pollution control division or service of the department of environment and conservation shall be technical secretary of the board. The director shall receive no additional compensation for such services. Special meetings may be called by the chair or by three (3) members of the board upon delivery of written notice to the office of each member of the board. Eight (8) members of the board shall constitute a quorum, and a quorum may act for the board in all matters. The decision of a majority of a quorum shall be determinative of any question before the board except as otherwise specially provided in this part.

## **68-201-105. Powers and duties of board — Notification of vacancy — Termination due to vacancy — Conflict of interest policy.**

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(a)

(1) The board has the power and duty to:

(A) Promulgate rules and regulations to effect the intent and purpose of this part, pursuant to the Uniform Administrative Procedures Act, compiled in title 4, chapter 5. Such rules and regulations may include, but are not necessarily limited to, those defining: ambient air quality standards; emission standards; general policies or plans; a system of permits; and a schedule of fees for review of plans and specifications, issuance or renewal of permits or inspection of air contaminant sources. Emission standards for stationary sources adopted by the board shall include regulations

based on the weight of materials entering the process causing the emission as an optional alternative to regulations previously adopted;

**(B)** Promulgate rules that authorize the technical secretary to issue permits that contain all provisions applicable to sources that are necessary under the federal Clean Air Act (42 U.S.C. § 7401 et seq.) and the effective regulations pursuant to such act, and that are necessary under this chapter and the effective rules of the board. The issuance of a permit by the technical secretary under the rules authorized by this subsection (a) shall not repeal by implication any rules of the board. The board shall monitor regulations under the Clean Air Act that are proposed by the United States environmental protection agency. If the environmental protection agency promulgates a rule that would roll back federal requirements under the Clean Air Act, the board shall initiate rulemaking on that subject and determine whether Tennessee should have a more restrictive rule than the federal rule on that subject;

**(2)** Hold hearings and issue such orders and determinations as may be necessary to effect the intent and purpose of this part;

**(3)** Establish, modify, or amend, without hearing, policies, practices, rules or regulations with respect to procedural aspects of board activities; and

**(4)** Cause legal proceedings to be instituted in a court of competent jurisdiction, to compel compliance with any order issued by the board, requirement of this part, or rule or regulation adopted pursuant to this part.

**(b)** The department has the power and duty to:

**(1)** Develop and recommend to the board plans for a comprehensive air pollution control program for the state, to review such plans from time to time and recommend to the board such changes as may be deemed appropriate;

**(2)** Require that any person furnish the department information required by it in discharge of its duties under this part, if the department has reason to believe such person is, or may be about to, causing or contributing to air pollution; provided, that no such person shall be required to disclose any secret formulae, processes or methods used in any manufacturing operation carried on by such person or under such person's direction. The composition of air contaminants shall not be considered secret unless so declared by the department, and the department shall have the power to issue protection orders to prevent public dissemination;

**(3)** Enter at all reasonable times in or upon any private or public property except private residences for the purpose of inspecting and investigating any condition which the department shall have reasonable cause to believe to be an air contaminant source;

**(4)** Provide such technical, scientific and other services as may be required for carrying out this part. The basic personnel for such purposes shall be those employed by the department; however, the department, may, by agreement, secure these or other services from any other agency, and within budgetary limitations may arrange compensation for such services;

**(5)** Receive, budget, receipt for and administer such moneys as are duly appropriated or granted for the purpose of this part; provided, that all such moneys shall be deposited with the state treasurer;

**(6)** Represent the state in matters pertaining to plans, procedures or negotiations for interstate compacts relative to air pollution or in matters pertaining to air quality control regions;

**(7)** Collect and disseminate information relative to air pollution; encourage voluntary cooperation of affected persons or groups in preserving and restoring a reasonable degree of air purity; advise, consult and cooperate with other agencies, persons or groups in matters pertaining to air pollution; and encourage authorized air pollution agencies of political subdivisions to handle air pollution problems within their respective jurisdictions to the greatest extent possible and to provide technical assistance to political subdivisions requesting same; and

(8) Cause to be instituted in a court of competent jurisdiction legal proceedings to compel compliance with any order issued by the board.

(c) In exercising their powers and duties relative to major energy projects, as defined in § 13-18-102, the board and the departments shall participate in the joint review process and expedited review process provided for by the Major Energy Project Act of 1981, compiled in title 13, chapter 18.

(d)

(1) If the board incurs a vacancy, it shall notify the appointing authority in writing within ninety (90) days after the vacancy occurs. All vacancies on the board, other than ex officio members, shall be filled by the appointing authority within ninety (90) days of receiving written notice of the vacancy and sufficient information is provided for the appointing authority to make an informed decision in regard to filling such vacancy. If sufficient information has been provided and the board has more than one (1) vacancy that is more than one hundred eighty (180) days in duration, the board shall report to the government operations committees of the house of representatives and the senate as to why such vacancies have not been filled.

(2) If more than one-half (½) of the positions on the board are vacant for more than one hundred eighty (180) consecutive days, the board shall terminate; provided, that the board shall wind up its affairs pursuant to § 4-29-112. If the board is terminated pursuant to subdivision (d)(1) it shall be reviewed by the evaluation committees pursuant to the Uniform Administrative Procedures Act before ceasing all its activities. Nothing in subdivision (d)(1) shall prohibit the general assembly from continuing, restructuring, or re-establishing the board.

(e) The board shall adopt and implement rules and regulations to create a conflict of interest policy for board members. The policy shall mandate annual written disclosures of financial interests, other possible conflicts of interest, and an acknowledgement by board members that they have read and understand all aspects of the policy. The policy shall also require persons who are to be appointed to the board to acknowledge, as a condition of appointment, that they are not in conflict with the conditions of the policy.

## **68-201-106. Matters to be considered in exercising powers.**

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Nothing in this part shall be deemed to grant the board or department any jurisdiction or authority with respect to air pollution existing solely within commercial or industrial plants, works or shops or to affect the relations between employers and employees with respect to or arising out of any condition of air pollution. In exercising powers to prevent, abate and control air pollution, the board or department shall give due consideration to all pertinent facts, including, but not necessarily limited to:

- (1) The character and degree of injury to, or interference with, the protection of the health, general welfare and physical property of the people;
- (2) The social and economic value of the air contaminant source;
- (3) The suitability or unsuitability of the air pollution source to the area in which it is located. In this respect it is expressly anticipated that the board may establish zones and categories of air contaminant sources in which the standards, rules and regulations may differ according to zone and category of air contaminant source;
- (4) The technical practicability and economic reasonableness of reducing or eliminating the emission of such air contaminants;
- (5) The economic benefit gained by the air contaminant source through any failure to comply with this part and regulations promulgated thereunder; and
- (6) The amount or degree of effort put forth by the air contaminant source to attain compliance.

## **68-201-107. Powers and duties of technical secretary.**

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The technical secretary or such secretary's authorized representative has the power and duty to:

- (1) Attend all meetings of the board, but not be entitled to a vote;
- (2) Exercise general supervision over all persons employed by the board and by the air pollution control division or service of the department;
- (3) Make or cause to be made such investigations as the board may direct or authorize, or as may be warranted due to receipt of information concerning an alleged violation of this part or of any rule, regulation or order promulgated under this part; or as the technical secretary otherwise deems advisable, and for this purpose the technical secretary shall have the right to enter at all reasonable times in or upon any private or public property except private residences;
- (4) Endeavor to the fullest extent possible to obtain compliance with this part and with rules and regulations promulgated pursuant to this part by conference, conciliation and persuasion;
- (5) Issue formal notice of complaint and prosecute such complaints before the board;
- (6) Handle correspondence, keep records, prepare reports and perform such other duties as the board may direct or authorize or as may ensue as an employee of the department;
- (7) Initiate alert, warning and emergency action in accordance with emergency episode plans and procedures promulgated as rules or regulations by the board;
- (8) At the technical secretary's discretion, request the presence of an alleged violator of this part or of the regulations at an informal meeting of the staff of the division of air pollution control to show cause why further enforcement action ought not be taken by the department. The proceedings of this meeting need not be recorded; and
- (9) Establish an expedited review process for any permit filed by a combined heat and power plant or a recoverable waste energy plant as such plant is defined under Subtitle D of the 2007 Energy Independence and Security Act, P.L. 110-140, H.R. 6.

## **68-201-108. Hearings.**

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(a)

- (1) Except as provided in subdivision (a)(2), a person aggrieved by a final action of the technical secretary on a permit, order, or assessment may request a hearing before the board pursuant to this section by filing a petition with the technical secretary within thirty (30) days of issuance of the permit or service of the order or assessment. The hearing shall be conducted as a contested case and shall be heard before an administrative judge sitting alone pursuant to §§ 4-5-301(a)(2) and 4-5-314(b), unless settled by the parties. The administrative judge to whom the case has been assigned shall convene the parties for a scheduling conference within thirty (30) days of the date the petition is filed. The scheduling order for the contested case issued by the administrative judge shall establish a schedule that results in a hearing being completed within one hundred eighty (180) days of the scheduling conference, unless the parties agree to a longer time or the administrative judge allows otherwise for good cause shown, and an initial order being issued within sixty (60) days of completion of the record of the hearing. The administrative judge's initial order, together with any earlier orders issued by the administrative judge, shall become final unless appealed to the board by the commissioner or other party within thirty (30) days of entry of the initial order or, unless the board passes a motion to review the initial order pursuant to § 4-5-315, within the longer of thirty (30) days or seven (7) days after the

first board meeting to occur after entry of the initial order. Upon appeal to the board by a party, or upon passage of a motion of the board to review the administrative judge's initial order, the board shall afford each party an opportunity to present briefs, shall review the record and allow each party an opportunity to present oral argument. If appealed to the board, the review of the administrative judge's initial order shall be limited to the record, but shall be de novo with no presumption of correctness. In such appeals, the board shall thereafter render a final order, in accordance with § 4-5-314, affirming, modifying, remanding, or vacating the administrative judge's order. A final order rendered pursuant to this section is effective upon its entry, except as provided in § 4-5-320(b) unless a later effective date shall be stated therein. A petition to stay the effective date of a final order may be filed under § 4-5-316. A petition for reconsideration of a final order may be filed pursuant to § 4-5-317. Judicial review of a final order may be sought by filing a petition for review in accordance with § 4-5-322. An order of an administrative judge that becomes final in the absence of an appeal or review by the board shall be deemed to be a decision of the board in that case for purposes of the standard of review by a court; however, in other matters before the board, it may be considered but shall not be binding on the board.

(2) A petition for permit appeal by an aggrieved party other than a permit applicant may only be filed pursuant to this section by an aggrieved person who participated in the public comment period or gave testimony at a formal public hearing. The appeal shall be based upon one (1) or more of the issues that were provided to the commissioner in writing during the public comment period or in testimony at a formal public hearing on the permit application. Additionally, for those permits for which the department gives public notice of a draft permit, any permit applicant or aggrieved person may base a permit appeal on any material change to conditions in the final permit from those in the draft, unless the material change has been subject to additional opportunity for public comment. A petition for permit appeal shall be filed with the technical secretary within thirty (30) days after the commissioner's final decision to issue or deny the permit is posted on the department website. Notwithstanding § 4-5-223 or any other law to the contrary, this section shall be the exclusive means for obtaining administrative review of the commissioner's issuance or denial of a permit by such an aggrieved person, and its process shall be exhausted before judicial review may be sought.

(3) Hearings before the board on requests for variances and certificates of exemption may be conducted as contested case hearings in accordance with the Uniform Administrative Procedures Act, compiled in title 4, chapter 5.

(b) The board or the commissioner or the commissioner's representative may hold public hearings on any matter, within their jurisdiction under this part. The board may promulgate regulations concerning subjects on which public hearings are required and the procedures for those hearings. Reasonable notice of such public hearings shall be given.

## **68-201-109. Emergency stop orders for air contaminant sources — Hearings.**

Any other law to the contrary notwithstanding, if the commissioner finds that emissions from the operation of one (1) or more air contaminant sources are causing imminent danger to human health and safety, the commissioner may, with the approval of the governor, order the person or persons responsible for the operation or operations in question, or the person or persons causing or contributing to the air pollution, to reduce or discontinue immediately the emission of air contaminants, and such order shall fix a place and time, not later than twenty-four (24) hours thereafter, for a hearing to be held before the commissioner. Not more than twenty-four (24) hours after the commencement of such hearing, and without adjournment thereof, the commissioner shall affirm, modify or set aside the commissioner's previous order. The commissioner shall cause a transcript to be made of the proceedings in any such hearing, copies of which shall be made available to all parties affected, at a reasonable cost.

## **68-201-110. Judicial review.**

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An appeal may be taken from any final order or other final determination pursuant to this part by any party, including the department, who is or may be adversely affected by such order or determination. Such appeals shall be conducted in accordance with the Uniform Administrative Procedures Act, compiled in title 4, chapter 5, part 3; provided, that no hearing shall be allowed by the chancery court from any disposition made by the board if such disposition has become final as a result of a person's failure to appear at a hearing after having requested such hearing or after having received adequate notice.

## **68-201-111. Right of board or commissioner to injunctive relief.**

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The board or commissioner may cause to be instituted a civil action in any court of competent jurisdiction for injunctive relief to prevent violation of any duly promulgated rule or regulation or of any order of the board.

## **68-201-112. Penalty for violations — Duty of district attorneys general — Abatement of public nuisance.**

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(a) Any person who knowingly:

- (1) Violates or fails to comply with any provision of this part, any board or administrative order, or any duly promulgated air pollution control regulation, or any ordinance adopted pursuant to this part or permit condition;
- (2) Makes any false material statement, representation, or certification in any record, report, plan or other document required by permit to be either filed or maintained;
- (3) Falsifies, tampers with, or renders inaccurate any monitoring device or method required to be maintained or followed; or
- (4) Fails to pay a fee established by the air pollution control board;

commits a Class C misdemeanor with the fine not to exceed ten thousand dollars (\$10,000) per day per violation. For the purpose of this section, each day of continued violation constitutes a separate offense and is punishable as such.

(b) No warrant, presentment or indictment arising under this part shall be issued except upon application, authorized in writing, by the board, the commissioner, or either of them, or by a local pollution control program operating under a certificate of exemption pursuant to § 68-201-115, for a violation within its jurisdiction.

(c) It is the duty of the district attorneys general in the various judicial districts throughout the state to assist the board or commissioner, upon request, either by prosecuting or by assisting the board or the commissioner in prosecuting those persons the board or commissioner has reasonable cause to believe are violating any provision of this part or any rule or regulation duly promulgated in accordance with this part.

(d) In addition and supplemental to any criminal action that may be prosecuted under this section, the board and commissioner have and are vested with jurisdiction and authority to determine whether or not any provision of this part, or rules or regulations adopted pursuant to this part, or any order of the board has

been violated, and whether or not such violation constitutes a public nuisance. Upon such finding that a public nuisance exists, the board or commissioner has authority to abate any such public nuisance in the manner provided by the general law relating to the abatement of public nuisances.

### **68-201-113. Existing civil or criminal remedies not impaired.**

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No existing civil or criminal remedy for any wrongful action that is a violation of any provision of this part or that is a violation of any rule or regulation of the board promulgated under this part shall be impaired by this part.

### **68-201-114. Intent of remedies — Rights of action unaffected.**

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The remedies provided for in this part are intended to provide additional and cumulative remedies to prevent, abate and control air pollution in this state. Nothing in this part shall be construed to abridge or alter any rights of action, civil or criminal, arising from statute, common law or equity.

### **68-201-115. Local pollution control programs — Exemption from state supervision — Applicability of part to air contaminant sources burning wood waste — Open burning of wood waste.**

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(a) Any municipality or county in this state may enact, by ordinance or resolution respectively, air pollution control regulations not less stringent than the standards adopted for the state pursuant to this part, or any such municipality or county may also adopt or repeal an ordinance or resolution which incorporates by reference any or all of the regulations of the board, or any federal regulations including any changes in such regulations, when such regulations are properly identified as to date and source. Copies of air pollution regulations shall be made available to any interested party, and the city or municipality may charge reasonable compensatory fees for providing such copies. At least three (3) copies of such regulations that are incorporated by reference shall be filed in the office of the county clerk and there kept for public use, inspection and examination. The filing requirements shall not be deemed to be complied with, unless the required copies of such regulations are filed with the clerk for a period of thirty (30) days before the adoption of the ordinance or resolution which incorporated such regulations by reference. No ordinance or resolution incorporating regulations by reference shall be effective until published in a newspaper having a general circulation in the municipality or county.

(b) Before such ordinances or resolutions enacting air pollution control regulations becomes effective, such municipality or county must apply for and receive from the board a certificate of exemption by the following procedure:

(1) Any political subdivision desiring to be exempted from this part may file a petition for certificate of exemption with the technical secretary. The technical secretary shall promptly investigate such petition and make recommendation to the board as to its disposition;

(2) Upon receiving the recommendation of the technical secretary, the board may, if such recommendation is for the granting of the petition, do so without hearing. If the recommendation of the technical secretary is against the granting of the petition or the board, in its discretion, concludes that a hearing would be advisable, then a hearing shall be held not later than sixty (60) days after receipt of recommendation of the technical secretary by the board;



**(3)** The certificate of exemption shall be granted if the board determines that:

**(A)** The municipality or county has enacted provisions for the control of air pollution not less stringent than this part;

**(B)** The enactments referenced in subdivision (b)(3)(A) are being, or will be, adequately enforced; and

**(C)** The granting of the certificate will not interfere with the state's goal of maintaining the purity of the air resources of the state;

**(4)** The board may grant a certificate of exemption, in whole or in part, may prescribe a time schedule for various parts of an exemption to become effective, and may make a certificate of exemption conditional or provisional as is deemed appropriate;

**(5)** In granting any certificate of exemption, there is reserved to the state the right to initiate proceedings to enforce any applicable resolution, ordinance or regulation of the municipality or county should it fail to obtain compliance with the resolution, ordinance or regulation. Such proceedings shall be the same as for enforcement of any duly promulgated rule or regulation of the board;

**(6)** In granting any certificate of exemption, the exemption is to be strictly construed as limited to the language of the exemption. No power or authority that is not expressly stated in the certificate of exemption may be implied. The municipality or county may further petition the board for such power or authority; and

**(7)** The department shall frequently determine whether or not any exempted municipality or county meets the terms of the exemption granted and continues to comply with this section. If a determination is made that the municipality or county does not meet the terms of the exemption granted or does not comply with this section, the department shall so notify the board, and the board, upon reasonable notice to the municipality, may suspend the exemption in whole or in part until such time as the municipality or county complies with the state standards.

**(c)**

**(1)** All new certificates of exemption shall be for a fixed term not to exceed two (2) years. This part does not apply to emissions from any air contaminant source, as defined in this part, which burns wood waste solely for the disposition of such wood waste; provided, however, that open burning of wood waste within two hundred feet (200') of an occupied building by any person other than an occupant of the building shall only be conducted as follows:

**(A)** At least one (1) person shall be constantly present at the burning during the entire time of the burn;

**(B)** Each burn shall not exceed forty-eight (48) hours in duration;

**(C)** Burning shall not occur more than twice in any thirty-day period; and

**(D)** If the burning occurs within one hundred feet (100') of an occupied building, it may only occur if an adult occupant of the building gives written authorization for the burn to occur and has not rescinded the authorization in writing.

**(2)** Provided further, however, that, if a local government has enacted or enacts more stringent requirements concerning such open burning of wood waste, those provisions shall control over the requirements of this subsection (c).

**(d)** Local government actions taken in accordance with this section shall be conducted in accordance with the Major Energy Project Act of 1981, compiled in title 13, chapter 18, when the action includes a major energy project, as defined in § 13-18-102.

**(e)**

- (1) If a municipality or county has received a certificate of exemption pursuant to this section, then the municipality or county shall offer a process to grant waivers from its open burning regulations.
  - (2) Open burning waivers may be approved by the director of the municipal or county air pollution program, if there is no other practical, safe, and lawful method of disposal; provided, that the burning is conducted in a manner to protect public health and the environment.
  - (3) Nothing in this subsection (e) shall be construed as eliminating or limiting the sanctions or obligations imposed by title 39, chapter 14, part 3.
- (f) No municipality or county shall include land use or zoning requirements in its air pollution control regulations or the municipality's or county's certificate of exemption granting the municipality or county the authority to enact the regulations.
- (g) No municipality or county shall request that the board include land use or zoning requirements in the state implementation plan submitted to the United States environmental protection agency pursuant to 42 U.S.C. § 7410.

## **68-201-116. Orders and assessments of damages and civil penalty — Appeal.**

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- (a) When the technical secretary discovers that any provision of this part or of any regulation promulgated under this part has been violated, the technical secretary may issue an order for correction to the responsible person, and this order shall be complied with within the time limit specified in the order. Such order shall be served by personal service or sent by certified mail, return receipt requested. The recipient of such an order may appeal in the same manner as with an assessment of damages or civil penalty under subsection (b).
- (b)
- (1) In addition to the criminal penalties of § 68-201-112, any person who violates or fails to comply with any provision of this part or any rule, regulation, ordinance, or standard adopted pursuant to this part shall be subject to a civil penalty of up to twenty-five thousand dollars (\$25,000) per day for each day of violation. Any person against whom an assessment in excess of ten thousand dollars (\$10,000) for each violation has been issued by a local pollution control program pursuant to this section may petition the technical secretary for de novo review of the assessment under this section. The technical secretary shall render an initial determination, and that initial determination may be appealed to the board pursuant to this section. Each day such violation continues constitutes a separate punishable offense, and such person shall also be liable for any damages to the state resulting from the continued violation.
  - (2) Any civil penalty or damages shall be assessed in the following manner:
    - (A) The technical secretary or any municipality or county operating under a certificate of exemption pursuant to § 68-201-115 may issue an assessment against any person responsible for the violation or damages. Such person shall receive notice of such assessment by certified mail, return receipt requested;
    - (B) Any person against whom an assessment has been issued may appeal the assessment by filing a petition for review with the technical secretary or the respective municipality or county within thirty (30) days of receipt of the assessment, setting forth the grounds and reasons for such person's objections and requesting a hearing on the matter; and
    - (C) If a petition for review of the assessment is not filed within thirty (30) days after the date the assessment is served, the violator shall be deemed to have consented to the assessment and it shall become final.

(c) In assessing such civil penalty, the factors specified in § 68-201-106 may be considered. Damages to the state or respective municipality or county may include any expenses incurred in investigating the enforcing of this part, in removing, correcting, or terminating the effects of air pollution and also compensation for any expense, loss or destruction of plant or animal life or any other actual damages or clean-up expenses caused by the pollution or by the violation. The plea of financial inability to prevent, abate or control pollution by the polluter or violator shall not be a valid defense to liability for violations of this part or of regulations or ordinances promulgated under this part.

(d) The issuance of an order or assessment of civil penalty by a municipality or county operating under a certificate of exemption as provided for in this part is intended to provide additional and cumulative remedies to prevent, abate and control air pollution in this state. Nothing in this subsection (d) shall be construed to preempt, supersede, abridge or otherwise alter any rights, action or remedies of the technical secretary, board or commissioner.

(e)

(1) Whenever any order or assessment under this section has become final, a notarized copy of the order or assessment may be filed in the office of the clerk of:

(A) The chancery court of Davidson County, if the final order or assessment is from the board, the commissioner or the technical secretary; or

(B) The chancery court of the county in which all or part of the violation or failure to comply occurred, if the final order or assessment is from any municipality or county.

(2) When filed in accordance with subdivision (e)(1), a final order or assessment shall be considered as a judgment by consent of the parties on the same terms and conditions as those recited in the order of assessment. Such judgment shall be promptly entered by the court. Except as otherwise provided in this section, the procedure for entry of the judgment and the effect of the judgment shall be the same as provided in title 26, chapter 6.

(3)

(A) A judgment under subdivision (e)(2) shall become final thirty (30) days after the date a summons has been served upon the defendant, if the final order or assessment resulting in the judgment is from the board.

(B) Except as provided in subdivision (e)(3)(A), within forty-five (45) days after entry of a judgment under subdivision (e)(2), any citizen shall have the right to intervene on the ground that the penalties or remedies provided are inadequate or are based on erroneous findings of facts. Upon receipt of a timely motion to intervene, the court shall determine whether it is duplicitous or frivolous, and shall notify the movant and the parties of its determination. If the motion is determined not to be duplicitous or frivolous, all parties shall be considered to have sought review of the final order or assessment, and the court shall proceed in accordance with § 4-5-322. If no timely motion to intervene is filed, or if any such motion is determined to be duplicitous or frivolous, the judgment shall become final forty-five (45) days after the date of entry.

(4) A final judgment under this subsection (e) has the same effect, is subject to the same procedures, and may be enforced or satisfied in the same manner, as any other judgment of a court of record of this state.

## **68-201-117. Levy of noncompliance and nonpayment penalties — Suit for collection or assessment of penalty.**

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The technical secretary, the board, and within their respective jurisdictions, the local pollution control programs operating under a certificate of exemption pursuant to § 68-201-115 are authorized to levy

noncompliance and nonpayment penalties after appropriate notice and hearing, against any air contaminant source not in final compliance with the applicable Tennessee air pollution control regulations by July 1, 1979. The technical secretary, the board, and the duly exempted local pollution control programs are specifically authorized to accept enforcement responsibility for these civil penalties from the United States environmental protection agency. These penalties are to be equivalent to the economic value a person may realize by a delay in compliance beyond July 1, 1979, including the amount it would have cost the person to comply with all applicable air pollution control regulations had the person chosen to do so. The board shall promulgate regulations specifying the procedures to be used in calculating the penalty and providing for quarterly payment of annualized cost. The technical secretary, the board, and the duly exempted local pollution control programs shall consider the matters in § 120 of the federal Clean Air Act (42 U.S.C. § 7420) in their actions. The commissioner, the board, and the duly exempted local pollution control programs are also authorized to file suit for the assessment of the penalties as part of any other civil action brought under this part. The commissioner, the board, and the duly exempted local pollution control programs are authorized to file suit for collection or assessment of the civil penalty, along with other equitable relief pursuant to § 68-201-111 in the chancery courts of the county where the pollution is occurring or where the violator or polluter is doing business. The chancery court shall treat a failure to appeal a civil penalty assessment as a confession of judgment by the polluter or violator to the amount of the assessment; and the court is authorized to render judgment and provide for execution of such civil penalties. Such actions for civil penalties shall be triable without a jury.

## **68-201-118. Variances.**

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- (a)** Any person seeking a variance shall do so by filing a petition for variance with the technical secretary. The technical secretary shall promptly investigate such petition and make recommendation to the board as to its disposition.
- (b)** Upon receiving the recommendation of the technical secretary, the board may, if such recommendation is for the granting of a variance, do so without hearing. If the recommendation of the technical secretary is against the granting of a variance, or the board, in its discretion, concludes that a hearing would be advisable, then a hearing shall be held not later than sixty (60) days after the board receives the recommendation of the technical secretary.
- (c)** The petitioner shall be given written notice at the earliest practicable time as to the time and place of such hearing.
- (d)** Any member of the board, or, with the approval of the governor, any person licensed to practice law in the state of Tennessee and designated by the board to act as hearing examiner, may act as hearing examiner to conduct hearings, administer oaths, subpoena witnesses, and enforce the attendance of witnesses at the hearing. Any member of the board, the hearing examiner or counsel representing the board may examine or cross-examine all witnesses. A complete record of the hearing shall be made for review by the board members.
- (e)** All testimony shall be under oath and stenographically recorded. The transcript so recorded shall be made available to the petitioner or any party to the hearing upon payment of the usual charges for such transcript.
- (f)** The board in considering the granting of a variance shall give due consideration to the equities of the petitioner and others who may be affected by granting or denial of the petition.
- (g)** The board may make the granting of a petition for variance contingent upon such other requirements or restrictions on the petitioner as it may deem appropriate and reasonable.
- (h)** Any variance granted shall be for a period not to exceed one (1) year, but may be extended from time to time but in no case for longer than one (1) year at a time upon recommendation of the technical secretary and affirmative action by the board.

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- (i) The board shall issue, enter and mail to the petitioner in writing, by certified mail, return receipt requested, within sixty (60) days following the final argument in such hearing or within sixty (60) days following receipt of the recommendation of the technical secretary when no hearing is held, its final order or determination. Such order or determination shall be approved in writing by at least seven (7) members of the board.
- (j) Upon failure of the board to issue, enter and mail to the petitioner a final order or determination within sixty (60) days after the final argument in any such hearing or within sixty (60) days following receipt of the recommendation of the technical secretary when no hearing is held, the petitioner shall be entitled to treat for all purposes such failure to act as a granting of the variance requested.
- (k) The burden of proof in such hearings shall be upon the petitioner.
- (l)
  - (1) The board may delegate the authority to approve certain types of variances to the commissioner, or the commissioner's designee, pursuant to this subsection (l).
  - (2) The types of variances that may be delegated for granting by the commissioner upon recommendation by the technical secretary include, but are not limited to, the following:
    - (A) The use of open burning, not otherwise permitted by rules or regulations, for the limited purpose of testing a fire control device or system in order to obtain insurance; and
    - (B) The use of a variance in the case of financial hardship or other extenuating circumstances under which a vehicle that fails emissions testing required by § 55-4-130 and for which a waiver under § 55-4-128, or any rules and regulations promulgated pursuant thereto, is not permitted.
  - (3) Any petitioner for a variance who objects to a conditional grant of a variance by the commissioner may seek a hearing before the full board as if the variance was denied. Any such hearing shall be subject to the procedural requirements for hearings conducted under subsection (b).

## **68-201-119. Rules regarding vehicle inspection and maintenance program.**

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- (a) The Tennessee air pollution control board shall promulgate rules that:
  - (1) Specify the type of vehicle inspection and maintenance program to be established and implemented; and
  - (2) Establish that the inspection associated with the vehicle inspection and maintenance program will occur on an annual basis in connection with vehicle registration renewal.
- (b)
  - (1) Notwithstanding subsection (a) or any other law to the contrary, no inspection and maintenance program shall be employed in this state on or after the effective date of this subsection (b) [see Compiler's Notes], except in accordance with subsection (c).
  - (2) If at any time under the federal Clean Air Act (42 U.S.C. § 7401 et seq.) an inspection and maintenance program is mandated instead of available as a voluntary state implementation plan measure in any county of this state, then subdivision (b)(1) shall not apply in that county.
- (c) An inspection and maintenance program may be employed in a county that, on May 15, 2018, has a local air pollution control program and implements its own inspection and maintenance program, if the county authorizes the continuation of its own inspection and maintenance program by action of its governing body; provided, that in order to authorize the continuation of the inspection and maintenance program, the governing body must authorize the continuation within thirty (30) days of May 15, 2018, and the presiding officer of the county governing body must furnish a certified copy of the approved resolution to the technical secretary of the air pollution control board within sixty (60) days of May 15, 2018.

(d) Any new contract between the department or a local government and a contractor providing inspection services, any new contract between a local government and the department relative to the inspection and maintenance program, and any renewals of such contracts occurring after May 15, 2018, shall include a provision stating that the contract must conform to any changes in state law. Any existing contracts as described in this section shall be amended to include a provision stating that the contract must conform to any changes in state law.

## **68-201-120. Removal or rendering inoperative emission control devices from motor vehicles.**

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It is unlawful for any person to remove or render inoperative any device or element of design installed on or in a motor vehicle or motor vehicle engine in compliance with regulations under the federal Clean Air Act (42 U.S.C. § 7401 et seq.) prior to its sale and delivery to the ultimate purchaser, or for any person knowingly to remove or render inoperative any such device or element of design after such sale and delivery to the ultimate purchaser.

## **68-201-121. Report by TACIR concerning state plan to implement state obligations under federal emission guidelines regulating covered electric-generating units. [Contingent effective date. — See Compiler's Notes.]**

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(a) As used in this section:

- (1) "Covered electric-generating unit" means an existing fossil-fuel-fired electric-generating unit located within this state that is subject to regulation under EPA emission guidelines;
- (2) "Environmental protection agency" or "EPA" means the United States environmental protection agency;
- (3) "Federal emission guidelines" means any final rules, regulations, guidelines, or other requirements that the EPA adopts for regulating carbon dioxide emissions from covered electric-generating units under Section 111(d) of the federal Clean Air Act (42 U.S.C. § 7401 et seq.);
- (4) "State" means the state of Tennessee;
- (5) "State plan" means any plan to establish and enforce carbon dioxide emission control measures adopted by the department to implement the obligations of the state under the federal emission guidelines; and
- (6) "TACIR" means the Tennessee Advisory Commission on Intergovernmental Relations.

(b) Upon submission of the final state plan to EPA by the department, TACIR shall prepare a report as described in this subsection (b). To the extent the department can produce the information without additional expenditures and using the department's existing resources, the department shall provide available information to TACIR upon request. The report shall assess the effects of the state plan on:

- (1) The electric power sector, including:
  - (A) The ability of this state to provide affordable electricity through diversified sources of electricity generation;
  - (B) The type and amount of electric-generating capacity within this state that the electric power sector is likely to retire or replace with other energy sources;
  - (C) Stranded investment in electric-generating capacity and other infrastructure;

## 68-201-202. Local ordinances.

- (D) The amount of investment necessary to offset the retirement of electric-generating capacity and maintain generation reserve margins;
  - (E) Potential risks to reliable sources of electricity, including resource adequacy risks and transmission constraints; and
  - (F) The amount by which retail electricity prices within this state are predicted to increase;
  - (2) Electricity consumers within this state, including any disproportionate impacts of electricity and other energy price increases on middle-income and lower-income households;
  - (3) Employment within this state, both directly and indirectly, including jobs lost within affected sectors of this state's economy;
  - (4) Economic development in this state, including the effects on manufacturing, commercial, and other sectors of this state's economy;
  - (5) The competitive position of this state relative to neighboring states and other economic competitors;
  - (6) State and local governments, including the potential impacts resulting from changes in tax revenues; and
  - (7) Existing state laws, and any proposed legislation that may be necessary to implement the state plan.
- (c) After the development of the report described in subsection (b), TACIR shall transmit a copy of the report to the chairs of the government operations committees of the senate and the house of representatives and shall present the findings of the report at the next regularly scheduled meeting of the joint government operations committee.
- (d) Notwithstanding subsection (b), a report does not have to be prepared by TACIR if the final federal emission guidelines approved by the EPA:
- (1) Do not establish carbon dioxide emission control requirements for this state that are based on the decrease in carbon dioxide emissions resulting from the operation of new nuclear-generating facilities currently under construction in this state; and
  - (2) Authorize this state to receive full credit for the decrease in carbon dioxide emissions resulting from nuclear-generating facilities under construction as of the effective date of this act, for purposes of demonstrating compliance with carbon dioxide emission control requirements under the final EPA emission guidelines.

## 68-201-201. [Reserved]

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## 68-201-202. Local ordinances.

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- (a) Any city, town or county having a population of six hundred thousand (600,000) or more, according to the federal census of 1960 or any subsequent federal census, is authorized to enact, by its chief legislative body, ordinances or regulations not less stringent than part 1 of this chapter. A violation of any of the ordinances or enactments of the chief legislative body is punishable as a Class A misdemeanor.
- (b) Actions taken in accordance with this section shall be conducted in accordance with the Major Energy Project Act of 1981, compiled in title 13, chapter 18, when the action involves a major energy project, as defined in § 13-18-102.

**RULES  
OF THE  
TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
AIR POLLUTION CONTROL**

**CHAPTER 0400-30-17  
CONFLICT OF INTEREST**

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**0400-30-17-.01 PURPOSE AND INTENT.**

- (1) It is the purpose of this chapter to address requirements for the state air pollution control board imposed through the federal Clean Air Act, as amended, (42 USC §§ 7401 et seq.) with respect to the composition of the board and conflict-of-interest provisions in hearing cases involving permits and enforcement and also to adopt a conflict of interest policy required by T.C.A § 68-201-105(e). Conflict of interest described at 42 USC § 7428 is addressed in Rules 0400-30-17-.02 and 0400-30-17-.03. Conflict of interest described at 42 USC § 7429(e) is addressed in Rule 0400-30-17-.04. The conflict of interest policy required by T.C.A. § 68-201-105(e) is addressed in Rule 0400-30-17-.05.

**Authority:** T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq. **Administrative History:** Original rule filed June 25, 2013; effective September 23, 2013. Rule renumbered from 1200-03-17.

**0400-30-17-.02 PROTECTING THE PUBLIC INTEREST.**

- (1) The Board shall at its first meeting in a calendar year or after receiving a new member determine that it has at least a majority of members who represent the public interest and who do not derive any significant portion of their income from persons subject to permits or enforcement orders under this rule division, 0400-30 or rule division 1200-03.
- (2) Definitions
  - (a) "Represent the public interest" means not owning a controlling interest in, having 5% or more of his or her capital invested in, serve as attorney for, act as a consultant for, serve as officer or director of, or hold any other official or contractual relationship with, either a person subject to permits or enforcement orders under this rule division, 0400-30 or rule division 1200-03, or a trade or business association of which such a person is a member.
  - (b) "Significant portion of income" means 10% or more of gross personal income for a calendar year, including retirement benefits, consultant fees, and stock dividends, except that it shall mean 50% or more of gross personal income for a calendar year if the recipient is over 60 years of age and receiving such a portion pursuant to retirement, pension, or similar arrangement. The term "significant portion of income" also means any one or more of the following situations:
    1. When the Technical Secretary or the Board Member receives more than \$5,000 annually in investment income from a source. Said investment is limited to those that arise from the purchase of shares of stock in the source that were purchased on the open market and generally available to any person at that price.



(Rule 0400-30-17-.02, continued)

2. When the Technical Secretary or Board Member receives more than \$100 annually due to a private investment made in a source. Said private investment is one where the purchase of stock or interest in a partnership was made directly with the source and such opportunity was not generally available to the public as a whole.
3. When the Technical Secretary or Board Member receives a salary in any amount from a source for services rendered.
4. When the Technical Secretary or Board Member sells or is about to sell property or equipment to a source. For the purposes of this part, equipment does not include consumer goods that are offered to the public at the same price offered to the source.
5. When the Technical Secretary or Board Member buys or is about to buy property or equipment from a source. For the purposes of this part, equipment does not include consumer goods that can be purchased by the public at the same price the source offered to the Technical Secretary or Board Member.
6. When the Technical Secretary or Board Member has taken out a loan from a source in any amount unless:
  - (i) The loan is from a financial institution whose deposits are insured by an entity of the federal government, or such loan is made in accordance with existing law and is made in the ordinary course of business. A loan is made in the ordinary course of business if the lender is in the business of making loans, and the loan bears the usual and customary interest rate of the lender for the category of loan involved is made on a basis which assures repayment, is evidenced by a written instrument, and is subject to a due date or amortization schedule;
  - (ii) The loan is secured by a recorded security interest in collateral, bears the usual and customary interest rate of the lender for the category of loan involved, is made on a basis which assures repayment, is evidenced by a written instrument, and is subject to a due date or amortization schedule.

For purpose of this subparagraph, income derived from mutual-fund payments, or from other diversified investments as to which the recipient does not know the identity of the primary sources of income, shall be considered part of the recipient's gross personal income but shall not be treated as income derived from persons subject to permits or enforcement orders under this rule division, 0400-30 or rule division 1200-03.

- (c) "Persons subject to permits or enforcement orders under this rule division, 0400-30 or rule division 1200-03" or a "source," as used in this chapter, includes any individual, corporation, partnership, or association who holds, is an applicant for, or is subject to any permit, or who is or may become subject to any enforcement order under this rule division, 0400-30 or rule division 1200-03, except that it does not include:
  1. An individual who is or may become subject to an enforcement order by reason of his or her ownership or operation of a motor vehicle,
  2. Any department or agency of a state, local, or regional government; or
  3. Any individual who is involved in the program of an institute of higher learning whose duties do not include the institute's compliance with this rule division, 0400-30 or rule division 1200-03.

(Rule 0400-30-17-.02, continued)

- (3) Upon the request of the Technical Secretary, members of the Board shall provide the necessary information needed to determine compliance with paragraph (1) of this rule.
- (4) In the event that the Board cannot make a finding that at least a majority of the Board as constituted by appointment of its members meets the requirements required by the Clean Air Act, as amended, at § 128 (42 USC § 7428), then the Technical Secretary shall notify the Governor of the Board's failure to make a determination that at least a majority of its membership meets § 128 requirements. The Technical Secretary shall also advise and make recommendations regarding corrective action necessary to allow the Board to be qualified under § 128 including substitutionary appointments of a member or members. The Board shall not act to hear contested cases until it has determined that it can do so consistent with § 128.

**Authority:** T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq. **Administrative History:** Original rule filed June 25, 2013; effective September 23, 2013. Rule renumbered from 1200-03-17.

### **0400-30-17-.03 CONFLICT OF INTEREST ON THE PART OF THE BOARD AND TECHNICAL SECRETARY.**

- (1) Definition - A "conflict of interest" occurs when a Board member or the Technical Secretary takes an action in the performance of their duties that singularly benefits a source when the Board member or the Technical Secretary has a significant portion of their personal income derived from the operations of said source.

The actual or potential receipt of penalties, judgments, grant awards, or fees by the State of Tennessee as a result of promulgated rules, orders by the Technical Secretary, Board orders, judgments awarded in a court of law, or grant applications to government or private entities shall not identify the State of Tennessee as a source as that term is defined in subparagraph (2)(c) of Rule 0400-30-17-.02. If a specific case involves a source of pollution owned or operated by state or federal government, the Technical Secretary or Board member shall have a conflict of interest only if a significant portion of his or her income is derived from the operation of that source of pollution.

- (2) Declaration - Prior to the issuance of a permit, variance or an enforcement order that requires an action on their part, the Technical Secretary or a Board member shall issue a written statement that declares any conflict of interest that they may have in the matter. Statements by the Technical Secretary shall be written and delivered to the Chairman or Vice-Chairman of the Board. Statements by Board members may either be in writing or be verbal and made part of the Board Meeting minutes. No Board Member or the Technical Secretary shall be required to quantify their conflict of interest or make a more detailed explanation of their conflict than otherwise required by Rule 0400-30-17-.05 or by T.C.A. § 4-5-302. For the purpose of this chapter, a "yes" or "no" declaration is sufficient and that is required only if a conflict of interest is present.
- (3) Rulemaking Exclusion - It is recognized that the Board's make-up is such that certain interest groups are represented by each Board member. To that end, a Board member supporting rulemaking for their interest group as a whole will not be viewed as having a conflict of interest for such advocacy. However, industry-specific rulemaking that would relax an otherwise general emission standard or procedural requirement for a source that causes a Board member to have a conflict of interest shall be subject to a disclosure of conflict of interest by Board members.
- (4) Procedure When a Conflict of Interest is Encountered –

(Rule 0400-30-17-.03, continued)

- (a) Procedure for the Technical Secretary - In the event that the Technical Secretary has a conflict of interest, his actions in such matters shall be subject to ratification by the Board. The Board shall have the power to affirm, modify or set aside the proposed actions of the Technical Secretary. Upon ratification, the Technical Secretary's action shall become final.
  - 1. Any timelines for action placed upon the Technical Secretary or Department in this rule division, 0400-30 or rule division 1200-03, shall be extended by the amount of time needed to bring the proposed action to the Board for review and ratification. Deadlines for action imposed by federal regulations of the United States Environmental Protection Agency are not eligible for such extension. Similarly, deadlines specifically imposed in Tennessee statutes are not eligible for such extension.
- (b) Procedure for Board Members - In the event that a Board member has a conflict of interest, the following procedures shall apply:
  - 1. If a Board member has a conflict of interest as that term is defined in this chapter, the Board member shall recuse himself or herself from participation in the matter for which the conflict exists as provided in Rule 0400-30-17-.05.

**Authority:** T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq. **Administrative History:** Original rule filed June 25, 2013; effective September 23, 2013. Rule renumbered from 1200-03-17.

#### **0400-30-17-.04 CONFLICT OF INTEREST IN THE PERMITTING OF MUNICIPAL SOLID WASTE INCINERATION UNITS.**

- (1) No permit for a solid waste incineration unit that combusts municipal waste shall be issued by the Technical Secretary if he is responsible in whole or part, for the design and construction or operation of the unit. In the event that the Technical Secretary faces such a permit decision, the procedures of subparagraph (4)(a) of Rule 0400-30-17-.03 shall apply to his development of a draft permit for Board ratification.
- (2) No permit for a solid waste incineration unit that combusts municipal solid waste shall be approved or denied by a Board member that is a person responsible in whole or part, for the design and construction or operation of the unit. Such Board member shall recuse himself or herself as provided in Rule 0400-30-17-.05.

**Authority:** T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq. **Administrative History:** Original rule filed June 25, 2013; effective September 23, 2013. Rule renumbered from 1200-03-17.

#### **0400-30-17-.05 POLICY OF ETHICS AND THE AVOIDANCE OF CONFLICTS OF INTEREST.**

- (1) The Policy of the Board
  - (a) No member of the Board shall participate in making any decision concerning a permit, enforcement case, or upon a case in which the municipality, firm or organization which the member represents, or by which the member is employed, or in which the member derives a significant portion of income, is involved, or is in any way a conflict of interest as defined by Rules 0400-30-17-.03 and 0400-30-17-.04.
  - (b) Each member of the Board shall avoid any action, whether or not specifically prohibited by statute or regulation, which might result in or create the appearance of:
    - 1. Using public office for private gain;

(Rule 0400-30-17-.05, continued)

2. Losing complete independence or impartiality;
  3. Making a government decision outside of official channels; or
  4. Affecting adversely the confidence of the public in the integrity of the government.
- (c) No member of the Board shall, directly or indirectly:
1. Use, disclose, or allow the use of official information which was obtained through or in connection with his or her appointment to the board and which has not been made available to the general public for the purpose of furthering the private interest or personal profit or any person, including the board member; or
  2. Engage in a financial transaction as a result of, or primarily relying upon, information obtained through his or her appointment to the board.
- (d) No member of the Board shall make use of the facilities, equipment, personnel, or supplies of the State or its agencies for private use or gain, except to the extent that the use is de minimis or it's lawfully available to the general public.
- (e) Each member of the Board shall avoid all known conflicts of interest, and to the extent the member of the Board becomes aware of a conflict of interest in connection with any matter brought before the Board, the member of the Board shall disclose such conflict, as provided in paragraph (2) of Rule 0400-30-17-.03, to the other members of the Board, Administrative Law Judge, and/or other appropriate person(s) and will further recuse himself or herself from participating in any consideration of the matter.
- (f) No member of the Board shall participate in discussions or actions involving individuals in his or her immediate family, individuals employed by the member of the Board or the member of the Board's business or any other matter in which the member of the Board's participation may create an appearance of bias or impropriety.
- (g) When a member of the Board is in doubt as to the proper interpretation of this rule, he or she shall seek the advice of the Department's Office of General Counsel.
- (2) Each member of the Board during the first meeting of the Board each calendar year, or the member's first attendance of a Board meeting of the calendar year, shall:
- (a) Make a written disclosure of financial interests or other possible conflicts of interest;
  - (b) Acknowledge in writing that they have read and understand all aspects of this rule; and
  - (c) State as a condition of serving as a member of the board that he or she is not in conflict with the conditions of this rule.

**Authority:** T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq. **Administrative History:** Original rule filed June 25, 2013; effective September 23, 2013. Rule renumbered from 1200-03-17.

**RULES  
OF  
THE TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
AIR POLLUTION CONTROL**

**CHAPTER 0400-30-38  
EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS**

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0400-30-38-.01 Federal Standards for Hazardous Air Pollutants  
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**0400-30-38-.01 FEDERAL STANDARDS FOR HAZARDOUS AIR POLLUTANTS.**

- (1) The provisions of the subparts and appendices of 40 CFR 63 listed in subparagraph (b) of this paragraph are hereby incorporated by reference as published in the July 1, 2020 edition of the Code of Federal Regulations (CFR), except as provided in subparagraph (a) of this paragraph. In certain cases, a different version of the federal regulation is incorporated by reference which will be specified in subparagraph (b) of this paragraph.
- (a) Any reference contained in 40 CFR 63 (as published July 1, 2020) to the:
1. Administrator shall instead be a reference to the Technical Secretary; and
  2. EPA regional office shall instead be a reference to the EPA Region IV office.
- (b) List of federal regulations under 40 CFR Part 63:
1. 40 CFR Part 63 Subpart A: General Provisions;
  2. 40 CFR Part 63 Subpart B: Requirements for Control Technology Determinations for Major Sources in Accordance With Clean Air Act Sections, Sections 112(g) and 112(j);
  3. 40 CFR Part 63 Subpart D: Regulations Governing Compliance Extensions for Early Reductions of Hazardous Air Pollutants;
  4. 40 CFR Part 63 Subpart F: National Emission Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry;
  5. 40 CFR Part 63 Subpart G: National Emission Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater;
  6. 40 CFR Part 63 Subpart H: National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks;
  7. 40 CFR Part 63 Subpart I: National Emission Standards for Organic Hazardous Air Pollutants for Certain Processes Subject to the Negotiated Regulation for Equipment Leaks;
  8. 40 CFR Part 63 Subpart J: National Emission Standards for Hazardous Air Pollutants for Polyvinyl Chloride and Copolymers Production;
  9. Reserved;

(Rule 0400-30-38-.01, continued)

10. 40 CFR Part 63 Subpart L: National Emission Standards for Coke Oven Batteries;
11. 40 CFR Part 63 Subpart M: National Perchloroethylene Air Emission Standards for Dry Cleaning Facilities;
12. 40 CFR Part 63 Subpart N: National Emission Standards for Chromium Emissions From Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks;
13. 40 CFR Part 63 Subpart O: Ethylene Oxide Emissions Standards for Sterilization Facilities;
14. Reserved;
15. 40 CFR Part 63 Subpart Q: National Emission Standards for Hazardous Air Pollutants for Industrial Process Cooling Towers;
16. 40 CFR Part 63 Subpart R: National Emission Standards for Gasoline Distribution Facilities (Bulk Gasoline Terminals and Pipeline Breakout Stations);
17. 40 CFR Part 63 Subpart S: National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry;
18. 40 CFR Part 63 Subpart T: National Emission Standards for Halogenated Solvent Cleaning;
19. 40 CFR Part 63 Subpart U: National Emission Standards for Hazardous Air Pollutant Emissions: Group I Polymers and Resins;
20. Reserved;
21. 40 CFR Part 63 Subpart W: National Emission Standards for Hazardous Air Pollutants for Epoxy Resins Production and Non-Nylon Polyamides Production;
22. 40 CFR Part 63 Subpart X: National Emission Standards For Hazardous Air Pollutants From Secondary Lead Smelting;
23. 40 CFR Part 63 Subpart Y: National Emission Standards for Marine Tank Vessel Loading Operations;
24. Reserved;
25. 40 CFR Part 63 Subpart AA: National Emission Standards for Hazardous Air Pollutants from Phosphoric Acid Manufacturing Plants;
26. 40 CFR Part 63 Subpart BB: National Emission Standards for Hazardous Air Pollutants from Phosphate Fertilizers Production Plants;
27. 40 CFR Part 63 Subpart CC: National Emission Standards for Hazardous Air Pollutants From Petroleum Refineries;
28. 40 CFR Part 63 Subpart DD: National Emission Standards for Hazardous Air Pollutants from Off-Site Waste and Recovery Operations;

(Rule 0400-30-38-.01, continued)

29. 40 CFR Part 63 Subpart EE: National Emission Standards for Magnetic Tape Manufacturing Operations;
30. Reserved;
31. 40 CFR Part 63 Subpart GG: National Emission Standards for Aerospace Manufacturing and Rework Facilities;
32. 40 CFR Part 63 Subpart HH: National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities;
33. 40 CFR Part 63 Subpart II: National Emission Standards for Shipbuilding and Ship Repair (Surface Coating);
34. 40 CFR Part 63 Subpart JJ: National Emission Standards for Wood Furniture Manufacturing Operations;
35. 40 CFR Part 63 Subpart KK: National Emission Standards for the Printing and Publishing Industry;
36. 40 CFR Part 63 Subpart LL: National Emission Standards for Hazardous Air Pollutants for Primary Aluminum Reduction Plants;
37. 40 CFR Part 63 Subpart MM: National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mills;
38. 40 CFR Part 63 Subpart NN: National Emission Standards for Hazardous Air Pollutants for Wool Fiberglass Manufacturing at Area Sources;
39. 40 CFR Part 63 Subpart OO: National Emission Standards for Tanks—Level 1;
40. 40 CFR Part 63 Subpart PP: National Emission Standards for Containers;
41. 40 CFR Part 63 Subpart QQ: National Emission Standards for Surface Impoundments;
42. 40 CFR Part 63 Subpart RR: National Emission Standards for Individual Drain Systems;
43. 40 CFR Part 63 Subpart SS: National Emission Standards for Closed Vent Systems, Control Devices, Recovery Devices and Routing to a Fuel Gas System or a Process;
44. 40 CFR Part 63 Subpart TT: National Emission Standards for Equipment Leaks—Control Level 1;
45. 40 CFR Part 63 Subpart UU: National Emission Standards for Equipment Leaks—Control Level 2 Standards;
46. 40 CFR Part 63 Subpart VV: National Emission Standards for Oil-Water Separators and Organic-Water Separators;
47. 40 CFR Part 63 Subpart WW: National Emission Standards for Storage Vessels (Tanks)—Control Level 2;

(Rule 0400-30-38-.01, continued)

48. 40 CFR Part 63 Subpart XX: National Emission Standards for Ethylene Manufacturing Process Units: Heat Exchange Systems and Waste Operations;
49. 40 CFR Part 63 Subpart YY: National Emission Standards for Hazardous Air Pollutants for Source Categories: Generic Maximum Achievable Control Technology Standards;
50. Reserved;
51. Reserved;
52. Reserved;
53. 40 CFR Part 63 Subpart CCC: National Emission Standards for Hazardous Air Pollutants for Steel Pickling—HCl Process Facilities and Hydrochloric Acid Regeneration Plants;
54. 40 CFR Part 63 Subpart DDD: National Emission Standards for Hazardous Air Pollutants for Mineral Wool Production;
55. 40 CFR Part 63 Subpart EEE: National Emission Standards for Hazardous Air Pollutants from Hazardous Waste Combustors;
56. Reserved;
57. 40 CFR Part 63 Subpart GGG: National Emission Standards for Pharmaceuticals Production;
58. 40 CFR Part 63 Subpart HHH: National Emission Standards for Hazardous Air Pollutants From Natural Gas Transmission and Storage Facilities;
59. 40 CFR Part 63 Subpart III: National Emission Standards for Hazardous Air Pollutants for Flexible Polyurethane Foam Production;
60. 40 CFR Part 63 Subpart JJJ: National Emission Standards for Hazardous Air Pollutant Emissions: Group IV Polymers and Resins;
61. Reserved;
62. 40 CFR Part 63 Subpart LLL: National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry;
63. 40 CFR Part 63 Subpart MMM: National Emission Standards for Hazardous Air Pollutants for Pesticide Active Ingredient Production;
64. 40 CFR Part 63 Subpart NNN: National Emission Standards for Hazardous Air Pollutants for Wool Fiberglass Manufacturing;
65. 40 CFR Part 63 Subpart OOO: National Emission Standards for Hazardous Air Pollutant Emissions: Manufacture of Amino/Phenolic Resins;
66. 40 CFR Part 63 Subpart PPP: National Emission Standards for Hazardous Air Pollutant Emissions for Polyether Polyols Production;
67. 40 CFR Part 63 Subpart QQQ: National Emission Standards for Hazardous Air Pollutants for Primary Copper Smelting;



(Rule 0400-30-38-.01, continued)

68. 40 CFR Part 63 Subpart RRR: National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production;
69. Reserved;
70. 40 CFR Part 63 Subpart TTT: National Emission Standards for Hazardous Air Pollutants for Primary Lead Smelting;
71. 40 CFR Part 63 Subpart UUU: National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units;
72. 40 CFR Part 63 Subpart VVV: National Emission Standards for Hazardous Air Pollutants: Publicly Owned Treatment Works;
73. Reserved;
74. 40 CFR Part 63 Subpart XXX: National Emission Standards for Hazardous Air Pollutants for Ferroalloys Production: Ferromanganese and Silicomanganese;
75. Reserved;
76. Reserved;
77. 40 CFR Part 63 Subpart AAAA: National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills;
78. Reserved;
79. 40 CFR Part 63 Subpart CCCC: National Emission Standards for Hazardous Air Pollutants: Manufacturing of Nutritional Yeast;
80. 40 CFR Part 63 Subpart DDDD: National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products;
81. 40 CFR Part 63 Subpart EEEE: National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline);
82. 40 CFR Part 63 Subpart FFFF: National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing;
83. 40 CFR Part 63 Subpart GGGG: National Emission Standards for Hazardous Air Pollutants: Solvent Extraction for Vegetable Oil Production;
84. 40 CFR Part 63 Subpart HHHH: National Emission Standards for Hazardous Air Pollutants for Wet-Formed Fiberglass Mat Production;
85. 40 CFR Part 63 Subpart IIII: National Emission Standards for Hazardous Air Pollutants: Surface Coating of Automobiles and Light-Duty Trucks;
86. 40 CFR Part 63 Subpart JJJJ: National Emission Standards for Hazardous Air Pollutants: Paper and Other Web Coating;
87. 40 CFR Part 63 Subpart KKKK: National Emission Standards for Hazardous Air Pollutants: Surface Coating of Metal Cans;

(Rule 0400-30-38-.01, continued)

88. Reserved;
89. 40 CFR Part 63 Subpart MMMM: National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products;
90. 40 CFR Part 63 Subpart NNNN: National Emission Standards for Hazardous Air Pollutants: Surface Coating of Large Appliances;
91. 40 CFR Part 63 Subpart OOOO: National Emission Standards for Hazardous Air Pollutants: Printing, Coating, and Dyeing of Fabrics and Other Textiles;
92. 40 CFR Part 63 Subpart PPPP: National Emission Standards for Hazardous Air Pollutants for Surface Coating of Plastic Parts and Products;
93. 40 CFR Part 63 Subpart QQQQ: National Emission Standards for Hazardous Air Pollutants: Surface Coating of Wood Building Products;
94. 40 CFR Part 63 Subpart RRRR: National Emission Standards for Hazardous Air Pollutants: Surface Coating of Metal Furniture;
95. 40 CFR Part 63 Subpart SSSS: National Emission Standards for Hazardous Air Pollutants: Surface Coating of Metal Coil;
96. 40 CFR Part 63 Subpart TTTT: National Emission Standards for Hazardous Air Pollutants for Leather Finishing Operations;
97. 40 CFR Part 63 Subpart UUUU: National Emission Standards for Hazardous Air Pollutants for Cellulose Products Manufacturing;
98. 40 CFR Part 63 Subpart VVVV: National Emission Standards for Hazardous Air Pollutants for Boat Manufacturing;
99. 40 CFR Part 63 Subpart WWWW: National Emissions Standards for Hazardous Air Pollutants: Reinforced Plastic Composites Production;
100. 40 CFR Part 63 Subpart XXXX: National Emissions Standards for Hazardous Air Pollutants: Rubber Tire Manufacturing;
101. 40 CFR Part 63 Subpart YYYYY: National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines;
102. 40 CFR Part 63 Subpart ZZZZ: National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines;
103. 40 CFR Part 63 Subpart AAAAA: National Emission Standards for Hazardous Air Pollutants for Lime Manufacturing Plants;
104. 40 CFR Part 63 Subpart BBBB: National Emission Standards for Hazardous Air Pollutants for Semiconductor Manufacturing;
105. 40 CFR Part 63 Subpart CCCCC: National Emission Standards for Hazardous Air Pollutants for Coke Ovens: Pushing, Quenching, and Battery Stacks;

(Rule 0400-30-38-.01, continued)

106. 40 CFR Part 63 Subpart DDDDD: National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters;
107. 40 CFR Part 63 Subpart EEEEE: National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries;
108. 40 CFR Part 63 Subpart FFFFF: National Emission Standards for Hazardous Air Pollutants for Integrated Iron and Steel Manufacturing Facilities;
109. 40 CFR Part 63 Subpart GGGGG: National Emission Standards for Hazardous Air Pollutants: Site Remediation;
110. 40 CFR Part 63 Subpart HHHHH: National Emission Standards for Hazardous Air Pollutants: Miscellaneous Coating Manufacturing;
111. 40 CFR Part 63 Subpart IIIII: National Emission Standards for Hazardous Air Pollutants: Mercury Emissions From Mercury Cell Chlor-Alkali Plants;
112. 40 CFR Part 63 Subpart JJJJJ: National Emission Standards for Hazardous Air Pollutants for Brick and Structural Clay Products Manufacturing;
113. 40 CFR Part 63 Subpart KKKKK: National Emission Standards for Hazardous Air Pollutants for Clay Ceramics Manufacturing;
114. 40 CFR Part 63 Subpart LLLLL: National Emission Standards for Hazardous Air Pollutants: Asphalt Processing and Asphalt Roofing Manufacturing;
115. 40 CFR Part 63 Subpart MMMMM: National Emission Standards for Hazardous Air Pollutants: Flexible Polyurethane Foam Fabrication Operations;
116. 40 CFR Part 63 Subpart NNNNN: National Emission Standards for Hazardous Air Pollutants: Hydrochloric Acid Production;
117. Reserved;
118. 40 CFR Part 63 Subpart PTTTT: National Emission Standards for Hazardous Air Pollutants for Engine Test Cells/Standards;
119. 40 CFR Part 63 Subpart QQQQQ: National Emission Standards for Hazardous Air Pollutants for Friction Materials Manufacturing Facilities;
120. 40 CFR Part 63 Subpart RRRRR: National Emission Standards for Hazardous Air Pollutants: Taconite Iron Ore Processing;
121. 40 CFR Part 63 Subpart SSSSS: National Emission Standards for Hazardous Air Pollutants for Refractory Products Manufacturing;
122. 40 CFR Part 63 Subpart TTTTT: National Emissions Standards for Hazardous Air Pollutants for Primary Magnesium Refining;
123. 40 CFR Part 63 Subpart UUUUU: National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units;
124. Reserved;

(Rule 0400-30-38-.01, continued)

125. 40 CFR Part 63 Subpart WWWW: National Emission Standards for Hospital Ethylene Oxide Sterilizers;
126. Reserved;
127. 40 CFR Part 63 Subpart YYYYY: National Emission Standards for Hazardous Air Pollutants for Area Sources: Electric Arc Furnace Steelmaking Facilities;
128. 40 CFR Part 63 Subpart ZZZZ: National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries Area Sources;
129. Reserved;
130. 40 CFR Part 63 Subpart BBBB: National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities;
131. Reserved;
132. 40 CFR Part 63 Subpart DDDDD: National Emission Standards for Hazardous Air Pollutants for Polyvinyl Chloride and Copolymers Production Area Sources;
133. 40 CFR Part 63 Subpart EEEEE: National Emission Standards for Hazardous Air Pollutants for Primary Copper Smelting Area Sources;
134. 40 CFR Part 63 Subpart FFFFF: National Emission Standards for Hazardous Air Pollutants for Secondary Copper Smelting Area Sources;
135. 40 CFR Part 63 Subpart GGGGG: National Emission Standards for Hazardous Air Pollutants for Primary Nonferrous Metals Area Sources—Zinc, Cadmium, and Beryllium;
136. 40 CFR Part 63 Subpart HHHHH: National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources;
137. Reserved;
138. 40 CFR Part 63 Subpart JJJJJ: National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources;
139. Reserved;
140. 40 CFR Part 63 Subpart LLLLL: National Emission Standards for Hazardous Air Pollutants for Acrylic and Modacrylic Fibers Production Area Sources;
141. 40 CFR Part 63 Subpart MMMMM: National Emission Standards for Hazardous Air Pollutants for Carbon Black Production Area Sources;
142. 40 CFR Part 63 Subpart NNNNN: National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources: Chromium Compounds;
143. 40 CFR Part 63 Subpart OOOOO: National Emission Standards for Hazardous Air Pollutants for Flexible Polyurethane Foam Production and Fabrication Area Sources;

(Rule 0400-30-38-.01, continued)

144. 40 CFR Part 63 Subpart PPPPPP: National Emission Standards for Hazardous Air Pollutants for Lead Acid Battery Manufacturing Area Sources;
145. 40 CFR Part 63 Subpart QQQQQQ: National Emission Standards for Hazardous Air Pollutants for Wood Preserving Area Sources;
146. 40 CFR Part 63 Subpart RRRRRR: National Emission Standards for Hazardous Air Pollutants for Clay Ceramics Manufacturing Area Sources;
147. 40 CFR Part 63 Subpart SSSSSS: National Emission Standards for Hazardous Air Pollutants for Glass Manufacturing Area Sources;
148. 40 CFR Part 63 Subpart TTTTTT: National Emission Standards for Hazardous Air Pollutants for Secondary Nonferrous Metals Processing Area Sources;
149. Reserved;
150. 40 CFR Part 63 Subpart VVVVVV: National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources;
151. 40 CFR Part 63 Subpart WWWWWW: National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Plating and Polishing Operations;
152. 40 CFR Part 63 Subpart XXXXXX: National Emission Standards for Hazardous Air Pollutants Area Source Standards for Nine Metal Fabrication and Finishing Source Categories;
153. 40 CFR Part 63 Subpart YYYYYY: National Emission Standards for Hazardous Air Pollutants for Area Sources: Ferroalloys Production Facilities;
154. 40 CFR Part 63 Subpart ZZZZZZ: National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Aluminum, Copper, and Other Nonferrous Foundries;
155. 40 CFR Part 63 Subpart AAAAAA: National Emission Standards for Hazardous Air Pollutants for Area Sources: Asphalt Processing and Asphalt Roofing Manufacturing;
156. 40 CFR Part 63 Subpart BBBBBB: National Emission Standards for Hazardous Air Pollutants for Area Sources: Chemical Preparations Industry;
157. 40 CFR Part 63 Subpart CCCCCC: National Emission Standards for Hazardous Air Pollutants for Area Sources: Paints and Allied Products Manufacturing;
158. 40 CFR Part 63 Subpart DDDDDD: National Emission Standards for Hazardous Air Pollutants for Area Sources: Prepared Feeds Manufacturing;
159. 40 CFR Part 63 Subpart EEEEEEE: National Emission Standards for Hazardous Air Pollutants: Gold Mine Ore Processing and Production Area Source Category;
160. Reserved;
161. Reserved;

(Rule 0400-30-38-.01, continued)

162. 40 CFR Part 63 Subpart HHHHHHH: National Emission Standards for Hazardous Air Pollutant Emissions for Polyvinyl Chloride and Copolymers Production;
  163. Appendix A to Part 63: Test Methods;
  164. Appendix B to Part 63: Sources Defined for Early Reduction Provisions;
  165. Appendix C to Part 63: Determination of the Fraction Biodegraded (Fbio) in a Biological Treatment Unit;
  166. Appendix D to Part 63: Alternative Validation Procedure for EPA Waste and Wastewater Methods; and
  167. Appendix E to Part 63: Monitoring Procedure for Nonthoroughly Mixed Open Biological Treatment Systems at Kraft Pulp Mills Under Unsafe Sampling Conditions.
- (2) The provisions of the subparts and appendices of 40 CFR Part 61 listed in subparagraph (b) of this paragraph are hereby incorporated by reference as published in the July 1, 2020 edition of the Code of Federal Regulations (CFR), except as provided in subparagraph (a) of this paragraph. In certain cases, a different version of the federal regulation is incorporated by reference which will be specified in subparagraph (b) of this paragraph.
- (a) Any reference contained in 40 CFR Part 61 (as published July 1, 2020) to the:
1. Administrator shall instead be a reference to the Technical Secretary; and
  2. EPA regional office shall instead be a reference to the EPA Region IV office.
- (b) List of Federal Regulations under 40 CFR Part 61:
1. 40 CFR Part 61 Subpart A: General Provisions;
  2. 40 CFR Part 61 Subpart B: National Emission Standards for Radon Emissions From Underground Uranium Mines;
  3. 40 CFR Part 61 Subpart C: National Emission Standard for Beryllium;
  4. 40 CFR Part 61 Subpart D: National Emission Standard for Beryllium Rocket Motor Firing;
  5. 40 CFR Part 61 Subpart E: National Emission Standard for Mercury;
  6. 40 CFR Part 61 Subpart F: National Emission Standard for Vinyl Chloride;
  7. Reserved;
  8. 40 CFR Part 61 Subpart H: National Emission Standards for Emissions of Radionuclides Other Than Radon From Department of Energy Facilities;
  9. 40 CFR Part 61 Subpart I: National Emission Standards for Radionuclide Emissions From Federal Facilities Other Than Nuclear Regulatory Commission Licensees and Not Covered by Subpart H;

(Rule 0400-30-38-.01, continued)

10. 40 CFR Part 61 Subpart J: National Emission Standard for Equipment Leaks (Fugitive Emission Sources) of Benzene;
11. 40 CFR Part 61 Subpart K: National Emission Standards for Radionuclide Emissions From Elemental Phosphorus Plants;
12. 40 CFR Part 61 Subpart L: National Emission Standard for Benzene Emissions from Coke By-Product Recovery Plants;
13. 40 CFR Part 61 Subpart M: National Emission Standard for Asbestos;
14. 40 CFR Part 61 Subpart N: National Emission Standard for Inorganic Arsenic Emissions From Glass Manufacturing Plants;
15. 40 CFR Part 61 Subpart O: National Emission Standard for Inorganic Arsenic Emissions From Primary Copper Smelters;
16. 40 CFR Part 61 Subpart P: National Emission Standard for Inorganic Arsenic Emissions From Arsenic Trioxide and Metallic Arsenic Production Facilities;
17. 40 CFR Part 61 Subpart Q: National Emission Standards for Radon Emissions From Department of Energy Facilities;
18. 40 CFR Part 61 Subpart R: National Emission Standards for Radon Emissions From Phosphogypsum Stacks;
19. Reserved;
20. 40 CFR Part 61 Subpart T: National Emission Standards for Radon Emissions From the Disposal of Uranium Mill Tailings;
21. Reserved;
22. 40 CFR Part 61 Subpart V: National Emission Standard for Equipment Leaks (Fugitive Emission Sources);
23. 40 CFR Part 61 Subpart W: National Emission Standards for Radon Emissions From Operating Mill Tailings;
24. Reserved;
25. 40 CFR Part 61 Subpart Y: National Emission Standard for Benzene Emissions From Benzene Storage Vessels;
26. Reserved;
27. Reserved;
28. 40 CFR Part 61 Subpart BB: National Emission Standard for Benzene Emissions From Benzene Transfer Operations;
29. Reserved;
30. Reserved;
31. Reserved;

(Rule 0400-30-38-.01, continued)

32. 40 CFR Part 61 Subpart FF: National Emission Standard for Benzene Waste Operations;
33. Appendix A to Part 61: National Emission Standards for Hazardous Air Pollutants, Compliance Status Information;
34. Appendix B to Part 61: Test Methods;
35. Appendix C to Part 61: Quality Assurance Procedures;
36. Appendix D to Part 61: Methods for Estimating Radionuclide Emissions; and
37. Appendix E to Part 61: Compliance Procedures Methods for Determining Compliance With Subpart I.

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-201-101, et seq. **Administrative History:** Original rule filed January 8, 2018; effective April 8, 2018. Amendments filed September 29, 2022; effective December 28, 2022.

**0400-30-38-.02 RESERVED.**

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-201-101, et seq. **Administrative History:** Original rule filed January 8, 2018; effective April 8, 2018. Amendments filed September 29, 2022; effective December 28, 2022.



**RULES  
OF  
THE TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
AIR POLLUTION CONTROL**

**CHAPTER 0400-30-39  
STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES**

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**0400-30-39-.01 STATIONARY COMPRESSION IGNITION INTERNAL COMBUSTION ENGINES.**

- (1) Emergency stationary compression ignition internal combustion engines subject to the provisions of this rule may qualify for a permit-by-rule as specified in Rule 1200-03-09-.07.
- (2) The provisions of 40 CFR 60 Subpart IIII (Standards of Performance for Stationary Compression Ignition Internal Combustion Engines) are hereby adopted by reference as published in the July 1, 2017, edition of the Code of Federal Regulations (CFR), except as provided in subparagraph (a) of this paragraph.
  - (a) Any reference contained in 40 CFR 60 Subpart IIII to the:
    1. Administrator shall instead be a reference to the Technical Secretary; and
    2. Applicable EPA regional office for the State of Tennessee shall instead be a reference to the EPA Region IV office.

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-201-101, et seq. **Administrative History:** Original rule filed January 8, 2018; effective April 8, 2018.

**0400-30-39-.02 STATIONARY SPARK IGNITION INTERNAL COMBUSTION ENGINES.**

- (1) Emergency stationary spark ignition internal combustion engines subject to the provisions of this rule may qualify for a permit-by-rule as specified in Rule 1200-03-09-.07.
- (2) The provisions of 40 CFR 60 Subpart JJJJ (Standards of Performance for Stationary Spark Ignition Internal Combustion Engines) are hereby adopted by reference as published in the July 1, 2017, edition of the Code of Federal Regulations (CFR), except as provided in subparagraph (a) of this paragraph.
  - (a) Any reference contained in 40 CFR 60 Subpart JJJJ to the:
    1. Administrator shall instead be a reference to the Technical Secretary; and
    2. Applicable EPA regional office for the State of Tennessee shall instead be a reference to the EPA Region IV office.

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-201-101, et seq. **Administrative History:** Original rule filed January 8, 2018; effective April 8, 2018.

**0400-30-39-.03 EMISSION GUIDELINES AND COMPLIANCE TIMES FOR MUNICIPAL SOLID WASTE LANDFILLS.**

- (1) Each municipal solid waste landfill for which construction, reconstruction, or modification was commenced on or before July 17, 2014, that has accepted waste at any time since November 8, 1987, or has additional design capacity available for future waste deposition, shall satisfy the following standards and requirements:
  - (a) For the purpose of this paragraph, the definitions listed in 40 C.F.R. Part 62 Subpart OOO, § 60.16730 (2022) apply, except as follows:
    1. “Administrator” means the Technical Secretary of the Tennessee Air Pollution Control Board, except that with respect to 40 C.F.R. §§ 62.16710(b) (and the specific authorities enumerated therein), 62.16711(b), 62.16712(a)(5), 62.16718(a)(5), and 62.16724 “Administrator” means the Administrator of the United States Environmental Protection Agency or the Administrator’s authorized representative.
    2. “State” means the State of Tennessee.
  - (b) All facilities subject to this paragraph shall comply with the provisions of 40 C.F.R. Part 62 Subpart OOO, §§ 62.16710 through 62.16730 (2022).
  - (c) The provisions of 40 C.F.R. Part 62 Subpart OOO (Federal Plan Requirements for Municipal Solid Waste Landfills That Commenced Construction On or Before July 17, 2014 and Have Not Been Modified or Reconstructed Since July 17, 2014), as published in the July 1, 2022, edition of the Code of Federal Regulations, are hereby adopted by reference. If the definitions in 40 C.F.R. Part 62 Subpart OOO, as incorporated, conflict with the definitions in subparagraph (a) of this paragraph, the definitions in subparagraph (a) of this paragraph shall apply.

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-201-101, et seq. **Administrative History:** New rule filed July 10, 2023; effective October 8, 2023.

**RULES  
OF  
TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
BUREAU OF ENVIRONMENT  
DIVISION OF AIR POLLUTION CONTROL**

**CHAPTER 1200-3-1  
GENERAL PROVISIONS**

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1200-3-1-.01 General Rules

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**1200-3-1-.01 GENERAL RULES.**

- (1) These regulations are intended to implement provisions of the “Tennessee Air Quality Act” (Tennessee Code Annotated, Section 53-3408, et seq.) and shall be known and cited as the Tennessee Air Pollution Control Regulations.
- (2) These regulations are based upon the premise that the basic and foremost function of the air is to sustain life and that air in its purest state is best suited for this need. It is intended that these regulations assist in maintaining an equitable balance between benefits of clean air and the economic cost of achieving clean air. More specifically, it is intended that these regulations define ambient air quality standards to be achieved and maintained and to provide for an orderly and equitable regulation of air quality by limiting emissions of air contaminants.
- (3) The ambient air is the air surrounding us. Ambient air quality standards determine the level of air quality in which we will live, and should be used as tools in achieving cleaner air, not as a permit to unnecessarily degrade air quality. Polluted air can be a menace to all forms of life and, therefore, the disposal of wastes into the atmosphere must be controlled.
- (4) Ambient air quality standards are further intended to promote the maximum use of property. When the problems involved are aesthetic in nature, an equitable economic balance must be achieved. When a health hazard is involved, there can be no compromise.
- (5) The requirements for limiting airborne contaminants must relate effects on men, animals, vegetation, and property to pollutant concentration at the point of contact. This, in turn, must be correlated with the source or sources. When multiple sources of a pollutant exist in an area, a limitation of the emission from each source must be exercised, and the individual contribution to the total pollutant load in the area must be reduced to insure compliance with the ambient air quality standards. This is accomplished by the application of emission standards.
- (6) An emission standard is a limit on the amount of air contaminant emitted from a source, and is intended to bring the ambient air within acceptable air quality limits.
- (7) These standards will be modified from time to time, as additional information on air contaminants and sources of air pollution are developed and evaluated.

*Authority:* T.C.A. Section 53-3412. *Administrative History.* Original Rule certified June 7, 1974. Rule Amended: Filed January 10, 1977; Effective February 9, 1977.

**1200-3-1-.02 SEVERABILITY.**

The provisions of this Division 1200-3, the Tennessee Air Pollution Control Regulations, are severable and if any chapter, rule, paragraph, subparagraph, part, subpart, item, subitem, section, subsection, sentence, or phrase therein shall be adjudged to be invalid or unconstitutional by any court of

(Rule 1200-3-1-.02, continued)

competent jurisdiction, the judgment shall not effect, impair or invalidate the remainder of this Division 1200-3, but shall be confined to the Chapter, rule, paragraph, subparagraph, part, subpart, item, subitem, section, subsection, sentence or phrase of this Division that shall be directly involved in the controversy in which such judgment shall have been rendered.

**Authority:** *T.C.A. Section 53-3412. Administrative History. Original Rule filed August 28, 1979, effective October 12, 1979.*

**RULES  
OF  
THE TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
DIVISION OF AIR POLLUTION CONTROL**

**CHAPTER 1200-03-02  
DEFINITIONS**

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1200-03-02-.01 General Definitions

1200-03-02-.02 Abbreviations

**1200-03-02-.01 GENERAL DEFINITIONS.**

- (1) When used in Rule Division 1200-03, unless the context clearly indicates otherwise:
- (a) Air Contaminant is particulate matter, dust, fumes, gas, mist, smoke, or vapor, or any combinations thereof.
  - (b) Air Contaminant Source is any and all sources of emission of air contaminants, whether privately or publicly owned or operated. Without limiting the generality of the foregoing, this term includes all types of business, commercial and industrial plants, works, shops, and stores, and heating and power plants and stations, building and other structures of all types, including multiple family residences, apartment houses, office buildings, hotels, restaurants, schools, hospitals, churches and other institutional buildings, automobiles, trucks, tractors, buses and other motor vehicles, garages and vending and service locations and stations, railroad locomotives, ships, boats and other water-borne craft, portable fuel-burning equipment, incinerators of all types, indoor and outdoor, refuse dumps and piles, and all stack and other chimney outlets from any of the foregoing; provided, however, that neither automobiles, trucks, tractors, buses, or other motor vehicles powered by any fuel other than diesel oil and which were manufactured prior to September 1, 1967, automobiles, trucks, tractors, buses, or other motor vehicles which are equipped to comply and do comply with the Federal "Motor Vehicle Air Pollution Control Act" shall be considered or determined to be an "air contaminant source."
  - (c) "Air Curtain Destructor or Air Curtain Incinerator" is a portable or stationary combustion device that directs a plane of high velocity forced draft air through a manifold head into a burn chamber with vertical walls in such a manner as to maintain a curtain of air over the surface of the burn chamber and a recirculating motion of air under the curtain.
  - (d) Air Pollution means presence in the outdoor atmosphere of one or more air contaminants in sufficient quantities and of such characteristics and duration as to be injurious to human, plant or animal life, or to property, or which unreasonably interfere with the enjoyment of life and property.
  - (e) Alternative Method means any method of sampling and analyzing for an air pollutant which is not a reference method or an equivalent method, but which has been demonstrated to the Technical Secretary's satisfaction to produce, in specific cases, results adequate for its determination of compliance, or any method so designated by these regulations.
  - (f) Ambient Air is that portion of the atmosphere, external to buildings.
  - (g) "Best Available Control Technology (BACT)" means an emission limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to regulation under these rules which would be emitted from any proposed new or modified air contaminant source which the Technical Secretary, on a

(Rule 1200-03-02-.01, continued)

case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant. In no event shall application of best available control technology result in emissions of any pollutant which would exceed the emissions allowed by any applicable standard under Chapters 0400-30-38 and 1200-03-16 of these rules. If the Technical Secretary determines that technological or economic limitations on the application of measurement methodology to a particular class of sources would make the imposition of an emission standard infeasible, a design, equipment, work practice, or operational standard, or combination thereof, may be prescribed instead to require the application of best available control technology. Such standard shall, to the degree possible, set forth the emission reduction achievable by implementation of such design, equipment, work practice, or operation, and shall provide for compliance by means which achieve equivalent results.

- (h) Board means the Air Pollution Control Board of the State of Tennessee.
- (i) Commenced means that an owner or operator has undertaken a continuous program of construction or modification or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time a continuous program of construction or modification.
- (j) Construction means fabrication, erection, or installation of a stationary source or modification.
- (k) Continuous Monitoring is sampling and analysis of air contaminants in a continuous or timed sequence, using techniques which will adequately reflect actual emission levels or ambient concentrations on a continuous basis.
- (l) Cupola is a stack-type furnace in which fuel, metal, and fluxing agents are intermixed and is used for producing molten metal. It consists primarily of, but is not limited to, furnace proper, tuyeres, fans or blowers, tapping ports, other auxiliary equipment. Cupolas are further categorized for the purpose of these regulations as follows:
  - 1. Ferrous - a cupola in which the major component of the metal produced is iron.
  - 2. Jobbing - a cupola used in an intermittent type operation where the process weight is not in excess of 20,000 pounds per hour and the operating (firing) time is not in excess of 4 hours per day.
  - 3. Existing - a cupola placed in operation at its present location prior to April 3, 1972.
- (m) Department is the Department of Environment and Conservation of the State of Tennessee.
- (n) Effective Date of these regulations is April 3, 1972.
- (o) Emission is the release of material to the ambient air.
- (p) Equivalent Method is any method of monitoring, sampling, and analyzing for an air contaminant which can be demonstrated to the Technical Secretary's satisfaction to have a consistent and quantitatively known relationship to the reference method, under specific conditions, or any method so designated by these regulations.
- (q) Existing Source is, with respect to any rule, any air contaminant source which is not a new source.

(Rule 1200-03-02-.01, continued)

- (r) Fuel Burning Equipment is any equipment, device, or contrivance and all appurtenances thereto, in which fuel is burned for the primary purpose of producing thermal or mechanical energy and in which the material being heated is not contacted by, and adds no substance to, the products of combustion.
- (s) Fuel Burning Installation consists of one or more units of fuel-burning equipment where the products of combustion are discharged through a single stack or where the products of combustion are discharged through more than one stack the plumes from which tend to merge into a single plume.
- (t) Fugitive Dust is any visible emission, other than water droplets, issuing from any source other than through a stack.
- (u) Garbage is putrescible animal or vegetable waste.
- (v) Hazardous Air Contaminant is any air contaminant which may cause, or contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness and has been so designated by the Board.
- (w) Incinerator is any equipment, device, or contrivance used for disposal of waste or refuse by burning, including wigwam burners, air curtain destructors, and air curtain incinerators.
- (x) Isokinetic Sampling means sampling in which the linear velocity of the gas entering the sampling nozzle is equal to that of the undisturbed gas stream at the sampling point.
- (y) Kraft Mill is any pulping process which uses for a cooking liquor an alkaline sulfide solution containing sodium hydroxide and sodium sulfide.
- (z) Malfunction means any sudden and unavoidable failure of air pollution control equipment or process equipment, or for a process to operate in an abnormal and unusual manner. Failures that are caused by poor maintenance, careless operation, or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions.
- (aa) Modification is any physical change in or change in the method of operation of an air contaminant source, which increases the amount of any air contaminant (to which an emission standard applies) emitted by such source or which results in the emission of any air contaminant (to which an emission standard applies) not previously emitted except that:
  - 1. Routine maintenance, repair, and replacement shall not be considered physical changes, and
  - 2. The following shall not be considered a change in the method of operation:
    - (i) An increase in the production rate, if such increase does not exceed the operating design capacity nor the stated production rate on the permit of the affected source.
    - (ii) An increase in hours of operation if such increase does not exceed the operating hours stipulated as a permit condition of the source.
    - (iii) The use of an alternative fuel if the source is designed to accommodate such alternative fuel.

(Rule 1200-03-02-.01, continued)

- (iv) Required alterations to equipment for the use of an alternative fuel or raw material by reason of an order under Section 2(a) and (b) of the Energy Supply and Environmental Coordination Act of 1974 (or any superseding legislation) or by reason of a natural gas curtailment plan in effect pursuant to the Federal Power Act.
3. Any physical change in or change in the method of operation of an air contaminant source subject to a major source operating permit issued under paragraph 1200-03-09-.02(11), which does not meet the definition of "Title I Modification" under part 1200-03-09-.02(11)(b)28. but which qualifies as an operational flexibility change under part 1200-03-09-.02(11)(a)4., as a minor permit modification under subpart 1200-03-09-.02(11)(f)5.(ii), or for group processing of minor permit modifications under subpart 1200-03-09-.02(11)(f)5.(iii), shall not require a construction permit under subparagraph 1200-03-09-.01(1)(a).
  4. Any physical change in or change in the method of operation of an air contaminant source not subject to requirements of paragraphs 1200-03-09-.02(11), 1200-03-09-.01(4), and 1200-03-09-.01(5) and which does not result in emissions exceeding the emissions allowable under the existing operating permit and which does not result in the emission of any air contaminant (to which an emission standard applies) not previously emitted, shall not require a construction permit under subparagraph 1200-03-09-.01(1)(a). The air contaminant source, to make changes pursuant to this part, shall provide the Technical Secretary with written notification of at least 7 days in advance of the proposed change. The written notification shall contain a brief description of the change, the date on which the change will occur, pollutants emitted, declaration of any change in emissions, and any applicable requirements that would apply as a result of the change. The written notice shall also contain a statement that the change does not result in emissions exceeding the emissions allowable under the existing operating permit. The Technical Secretary and the air contaminant source shall attach each such notice to their copy of the relevant permit.
  5. The burden of proof establishing that a change is excepted under parts 1., 2., 3., and 4., is on the owner or operator. Further expansions or restrictions of the definition may be listed in specific chapters or rules.
  6. "Major modification" is defined in paragraph 1200-03-09-.01(4) and shall be overriding for the purposes of that paragraph.
- (bb) New Nitric Acid Plant is any air contaminant source producing weak nitric acid (acid which is 30 to 70 percent in strength) by either the pressure or atmospheric pressure process.
  - (cc) New Source is, with respect to any rule, any air contaminant source the construction or modification of which is commenced on or after the date specified in that rule. (If no date is specified in a rule, then the effective date of the rule, or the specific applicable provision of the rule, is the cut off date). However, if an effective earlier date rule is contained in the same provision, then that earlier date is the cut off date whether such commencement was for an entirely or substantially new source or the modification of an existing source. The word substantially here means replacing virtually all of an existing source, excluding the foundation and utility and/or control lines to the site. The construction of a new source at an air contaminant source subject to a major source operating permit issued under paragraph 1200-03-09-.02(11), which is not subject to paragraphs 1200-03-09-.01(4) and 1200-03-09-.01(5) but which qualifies as a minor



(Rule 1200-03-02-.01, continued)

permit modification under subpart 1200-03-09-.02(11)(f)5.(ii), shall not require a construction permit under subparagraph 1200-03-09-.01(1)(a).

- (dd) New Source Performance Standard is a standard for the emission of an air contaminant promulgated by the Administrator of the Environmental Protection Agency and published in the *Federal Register*.
- (ee) New Sulfuric Acid Plant is any air contaminant source producing sulfuric acid by the contact process by burning elemental sulfur, alkylated acid, hydrogen sulfide, organic sulfides and mercaptans, or acid sludge, but does not include air contaminant sources where conversion to sulfuric acid is utilized primarily as a means of reducing emissions to the atmosphere of sulfur dioxide or other sulfur compounds.
- (ff) Opacity is the degree to which emissions reduce the transmission of light and obscure the view of an object in the background.
- (gg) "National Emission Standards for Hazardous Air Pollutants" are standards for the emissions of hazardous air pollutants promulgated by the Administrator of the Environmental Protection Agency and published in the *Federal Register*.
- (hh) Owner or Operator is any person who owns, leases, operates, controls, or supervises an air contaminant source.
- (ii) Particulate Matter is any material, except uncombined water, that exists in a finely divided form as a liquid or a solid.
- (jj) Part Per Billion (ppb) is a term describing parts of an air contaminant per billion parts of gas by volume (1 ppb equals 0.0000001 percent by volume).
- (kk) Parts Per Million (ppm) is a term describing parts of an air contaminant per million parts of gas by volume (1 ppm equals 0.0001 percent by volume).
- (ll) Person is any individual, partnership, copartnership, firm, company, corporation, association, joint stock company, trust, estate, political subdivision, an agency, authority, Commission, or Department of the United States Government, or of the State of Tennessee Government; or any other legal entity, or their legal representative, agent, or assigns.
- (mm) Point Source shall have the same meaning as defined in Part 51 of Title 40 of the Code of Federal Regulations.
- (nn) Political Subdivision is any municipality, city, incorporated town, county, district or authority, or any portion or combination of two or more thereof.
- (oo) Portland Cement Plant is any air contaminant source manufacturing portland cement by either the wet or dry process.
- (pp) Process Emission is any emission of an air contaminant to the ambient air other than that from fuel burning equipment, incinerator, wigwam burners, or open burning.
- (qq) Process Emission Source is one or more units of processing equipment which may be operated independently of other parts of the operations at any given manufacturing or processing facility; also, where it is common practice to group more than one unit of like or similar processing equipment together and to apply a single or combined unit of air pollution control equipment to the emissions of the entire group, such group of units shall be construed as a process emission source.

(Rule 1200-03-02-.01, continued)

- (rr) Process Weight means the total weight of all materials introduced into any specific process that may cause any emission of particulate matter. Solid fuels charged are considered as part of the process weight, but liquid and gaseous fuels and combustion-air are not.
- (ss) Process Weight Rate is a rate established as follows:
1. For continuous or long-run, steady-state, operations, it is the total process weight for the entire period of continuous operation or for a typical portion thereof, divided by the number of hours of such period or portion thereof.
  2. For cyclical or batch source operations, it is the total process weight for a period which covers a complete or an integral number of cycles, divided by the hours of actual process operation during such period.
  3. Where the nature of any process or operation or the design of any equipment is such as to permit more than one interpretation of this definition, that interpretation which results in the minimum value for allowable emissions shall apply.
- (tt) Proportional Sampling means sampling at a rate that produces a constant ratio of sampling rate to stack gas flow rate.
- (uu) Referenced Method is a method of monitoring, sampling, and analyzing for an air contaminant as described in these regulations.
- (vv) Reserved.
- (ww) Salvage Operation is any business, trade, or industry engaged in whole or in part, in reclaiming one or more items of value.
- (xx) Shutdown means the cessation of operation of an air contaminant source for any purpose.
- (yy) Smoke is small gas-borne particles resulting from incomplete combustion, consisting predominantly, but not exclusively, of carbon and other combustible material. It does not include water vapor or water droplets.
- (zz) Reserved.
- (aaa) Stack is any chimney, flue, conduit, exhaust, vent, or opening of any kind whatsoever, capable of, or used for, the emission of air contaminants.
- (bbb) Standard means a standard of performance promulgated under these regulations.
- (ccc) Startup is the setting in operation of an air contaminant source for the production of product for sale or use as raw materials or steam or heat production.
- (ddd) Stationary Source means any building, structure, facility, or installation which emits or may emit any air contaminant.
- (eee) Suspended Particulates is particulate matter which will remain suspended in air for an appreciable period of time.

(Rule 1200-03-02-.01, continued)

- (fff) Technical Secretary is the Technical Secretary of the Air Pollution Control Board of the State of Tennessee.
- (ggg) Wigwam Burner is a type of burner commonly known as tepee, truncated cone conical burner, or silo burner.
- (hhh) Excess Emissions means an emission rate which exceeds any applicable emission limitation prescribed by subsequent chapters of these regulations. The averaging time and test procedures for determining such excess emissions shall be as specified as part of the applicable emission limitation.
- (iii) Liquid Sulfur Dioxide Plants are any plants designed to produce compressed liquid sulfur dioxide as a final product.
- (jjj) Pellet Plants are plants designed to produce iron oxide pellets for manufacture of iron or prereduction utilizing iron calcones produced from a natural bearing iron ore source.
- (kkk) Mine Shaft Heaters are fuel burning equipment used during cold weather to prevent ice from forming in a mine shaft with the primary purpose of safety assurance for miners and protection of shaft equipment.
- (III) "Exempt compounds" means any of the following compounds:
1. Carbon monoxide; carbon dioxide; carbonic acid; metallic carbides and carbonates; ammonium carbonate; propylene carbonate; dimethyl carbonate; methane; ethane; methylene chloride (dichloromethane); 1,1,1-trichloroethane (methyl chloroform); 1,1,2-trichloro-1,2,2-trifluoroethane (CFC-113); trichlorofluoromethane (CFC-11); dichlorodifluoromethane (CFC-12); chlorodifluoromethane (HCFC-22); trifluoromethane (HFC-23); 1,2-dichloro 1,1,2,2-tetrafluoroethane (CFC-114); chloropentafluoroethane (CFC-115); 1,1,1-trifluoro 2,2-dichloroethane (HCFC-123); 1,1,1,2-tetrafluoroethane (HFC-134a); 1,1-dichloro 1-fluoroethane (HCFC-141b); 1-chloro 1,1-difluoroethane (HCFC-142b); 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124); pentafluoroethane (HFC-125); 1,1,2,2-tetrafluoroethane (HFC-134); trans-1,3,3,3-tetrafluoropropene (HFO-1234ze); 1,1,1-trifluoroethane (HFC-143a); 1,1-difluoroethane (HFC-152a); parachlorobenzotrifluoride (PCBTF); cyclic, branched, or linear completely methylated siloxanes; acetone; perchloroethylene (tetrachloroethylene); 3,3-dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca); 1,3-dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb); 1,1,1,2,3,4,4,5,5,5-decafluoropentane (HFC-43-10mee); difluoromethane (HFC-32); ethylfluoride (HFC-161); 1,1,1,3,3,3-hexafluoropropane (HFC-236fa); 1,1,2,2,3-pentafluoropropane (HFC-245ca); 1,1,2,3,3-pentafluoropropane (HFC-245ea); 1,1,1,2,3-pentafluoropropane (HFC-245eb); 1,1,1,3,3-pentafluoropropane (HFC-245fa); 1,1,1,2,3,3-hexafluoropropane (HFC-236ea); 1,1,1,3,3-pentafluorobutane (HFC-365mfc); chlorofluoromethane (HCFC-31); 1-chloro-1-fluoroethane (HCFC-151a); 1,2-dichloro-1,1,2-trifluoroethane (HCFC-123a); 1,1,1,2,2,3,3,4,4-nonafluoro-4-methoxy-butane (C<sub>4</sub>F<sub>9</sub>OCH<sub>3</sub> or HFE-7100); 2-(difluoromethoxymethyl)-1,1,1,2,3,3,3-heptafluoropropane ((CF<sub>3</sub>)<sub>2</sub>CF<sub>2</sub>OCH<sub>3</sub>); 1-ethoxy-1,1,2,2,3,3,4,4,4-nonafluorobutane (C<sub>4</sub>F<sub>9</sub>OC<sub>2</sub>H<sub>5</sub> or HFE-7200); 2-(ethoxydifluoromethyl)-1,1,1,2,3,3,3-heptafluoropropane ((CF<sub>3</sub>)<sub>2</sub>CF<sub>2</sub>OC<sub>2</sub>H<sub>5</sub>); methyl acetate; 1,1,1,2,2,3,3-heptafluoro-3-methoxy-propane (n-C<sub>3</sub>F<sub>7</sub>OCH<sub>3</sub>, HFE-7000); 3-ethoxy-1,1,1,2,3,4,4,5,5,6,6,6-dodecafluoro-2-(trifluoromethyl) hexane (HFE-7500); 1,1,1,2,3,3,3-heptafluoropropane (HFC 227ea); methyl formate (HCOOCH<sub>3</sub>); 1,1,1,2,2,3,4,5,5,5-decafluoro-3-methoxy-4-trifluoromethyl-pentane (HFE-7300); *trans*-1,3,3,3-tetrafluoropropene; HCF<sub>2</sub>OCF<sub>2</sub>H (HFE-134); HCF<sub>2</sub>OCF<sub>2</sub>OCF<sub>2</sub>H (HFE-236cal2); HCF<sub>2</sub>OCF<sub>2</sub>CF<sub>2</sub>OCF<sub>2</sub>H (HFE-338pcc13);

(Rule 1200-03-02-.01, continued)

HCF<sub>2</sub>OCF<sub>2</sub>OCF<sub>2</sub>CF<sub>2</sub>OCF<sub>2</sub>H (H-Galden 1040x or H-Galden ZT 130 (or 150 or 180)); *trans* 1-chloro-3,3,3-trifluoroprop-1-ene; 2,3,3,3-tetrafluoropropene; 2-amino-2-methyl-1-propanol (AMP); t-butyl acetate; 1,1,2,2-Tetrafluoro-1-(2,2,2-trifluoroethoxy) ethane (HFE-347pcf2) and perfluorocarbon compounds which fall into these classes:

- (i) Cyclic, branched, or linear, completely fluorinated alkanes;
- (ii) Cyclic, branched, or linear, completely fluorinated ethers with no unsaturations;
- (iii) Cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations; and
- (iv) Sulfur containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

2. Reserved.

(mmm)“Volatile Organic Compounds (VOC)” means any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions.

1. This includes any such organic compound other than the following, which have been determined to have negligible photochemical reactivity: methane; ethane; methylene chloride (dichloromethane); 1,1,1-trichloroethane (methyl chloroform); 1,1,2-trichloro-1,2,2-trifluoroethane (CFC-113); trichlorofluoromethane (CFC-11); dichlorodifluoromethane (CFC-12); chlorodifluoromethane (HCFC-22); trifluoromethane (HFC-23); 1,2-dichloro 1,1,2,2-tetrafluoroethane (CFC-114); chloropentafluoroethane (CFC-115); 1,1,1-trifluoro 2,2-dichloroethane (HCFC-123); 1,1,1,2-tetrafluoroethane (HFC-134a); 1,1-dichloro 1-fluoroethane (HCFC-141b); 1-chloro 1,1-difluoroethane (HCFC-142b); 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124); pentafluoroethane (HFC-125); 1,1,2,2-tetrafluoroethane (HFC-134); *trans*-1,3,3,3-tetrafluoropropene (HFO-1234ze); 1,1,1-trifluoroethane (HFC-143a); 1,1-difluoroethane (HFC-152a); parachlorobenzotrifluoride (PCBTF); cyclic, branched, or linear completely methylated siloxanes; acetone; perchloroethylene (tetrachloroethylene); 3,3-dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca); 1,3-dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb); 1,1,1,2,3,4,4,5,5,5-decafluoropentane (HFC-43-10mee); difluoromethane (HFC-32); ethylfluoride (HFC-161); 1,1,1,3,3,3-hexafluoropropane (HFC-236fa); 1,1,2,2,3-pentafluoropropane (HFC-245ca); 1,1,2,3,3-pentafluoropropane (HFC-245ea); 1,1,1,2,3-pentafluoropropane (HFC-245eb); 1,1,1,3,3-pentafluoropropane (HFC-245fa); 1,1,1,2,3,3-hexafluoropropane (HFC-236ea); 1,1,1,3,3-pentafluorobutane (HFC-365mfc); chlorofluoromethane (HCFC-31); 1-chloro-1-fluoroethane (HCFC-151a); 1,2-dichloro-1,1,2-trifluoroethane (HCFC-123a); 1,1,1,2,2,3,3,4,4-nonafluoro-4-methoxy-butane (C<sub>4</sub>F<sub>9</sub>OCH<sub>3</sub> or HFE-7100); 2-(difluoromethoxymethyl)-1,1,1,2,3,3,3-heptafluoropropane ((CF<sub>3</sub>)<sub>2</sub>CF<sub>2</sub>OCH<sub>3</sub>); 1-ethoxy-1,1,2,2,3,3,4,4,4-nonafluorobutane (C<sub>4</sub>F<sub>9</sub>OC<sub>2</sub>H<sub>5</sub> or HFE-7200); 2-(ethoxydifluoromethyl)-1,1,1,2,3,3,3-heptafluoropropane ((CF<sub>3</sub>)<sub>2</sub>CF<sub>2</sub>OC<sub>2</sub>H<sub>5</sub>); methyl acetate; 1,1,1,2,2,3,3-heptafluoro-3-methoxy-propane (n-C<sub>3</sub>F<sub>7</sub>OCH<sub>3</sub>, HFE-7000); 3-ethoxy-1,1,1,2,3,4,4,5,5,6,6,6-dodecafluoro-2-(trifluoromethyl) hexane (HFE-7500); 1,1,1,2,3,3,3-heptafluoropropane (HFC 227ea); methyl formate (HCOOCH<sub>3</sub>); 1,1,1,2,2,3,4,5,5,5-decafluoro-3-methoxy-4-trifluoromethyl-pentane (HFE-7300); propylene carbonate; dimethyl carbonate; *trans*-1,3,3,3-tetrafluoropropene; HCF<sub>2</sub>OCF<sub>2</sub>H (HFE-134); HCF<sub>2</sub>OCF<sub>2</sub>OCF<sub>2</sub>H (HFE-236cal2);

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HCF<sub>2</sub>OCF<sub>2</sub>CF<sub>2</sub>OCF<sub>2</sub>H (HFE-338pcc13); HCF<sub>2</sub>OCF<sub>2</sub>OCF<sub>2</sub>CF<sub>2</sub>OCF<sub>2</sub>H (H-Galden 1040x or H-Galden ZT 130 (or 150 or 180)); *trans* 1-chloro-3,3,3-trifluoroprop-1-ene; 2,3,3,3-tetrafluoropropene; 2-amino-2-methyl-1-propanol (AMP); t-butyl acetate; 1,1,2,2-Tetrafluoro-1-(2,2,2-trifluoroethoxy) ethane (HFE-347pcf2) and perfluorocarbon compounds which fall into these classes:

- (i) Cyclic, branched, or linear, completely fluorinated alkanes;
  - (ii) Cyclic, branched, or linear, completely fluorinated ethers with no unsaturations;
  - (iii) Cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations; and
  - (iv) Sulfur containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.
2. For purposes of determining compliance with emissions limits, VOC will be measured by the test methods in the approved State Implementation Plan (SIP) or 40 CFR part 60, Appendix A, as applicable. Where such a method also measures compounds with negligible photochemical reactivity, these negligibly-reactive compounds may be excluded as VOC if the amount of such compounds is accurately quantified, and such exclusion is approved by the Technical Secretary.
  3. As a precondition to excluding these compounds as VOC or at any time thereafter, the Technical Secretary may require an owner or operator to provide monitoring or testing methods and results demonstrating, to the satisfaction of the Technical Secretary, the amount of negligibly-reactive compounds in the source's emissions.
  4. For purposes of enforcement for a specific source, the test methods specified in these regulations, in the approved SIP, or in a permit issued pursuant to these regulations shall be used.
  5. Reserved.
- (nnn) Reasonably Available Control Technology (RACT) is the lowest emission limit that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility.
- (ooo) Recover Furnace Stack means the stack from which the products of combustion are emitted to the ambient air from the recovery furnace.
- (ppp) Total Reduced Sulfur (TRS) means the sum of the listed compounds: hydrogen sulfide, mercaptans, dimethyl sulfide, and dimethyl disulfide.
- (qqq) Lime Kiln means a unit used to calcine lime mud, which consists primarily of calcium carbonate, into quicklime, which is calcium oxide.
- (rrr) Smelt Dissolving Tank means a vessel used for dissolving the smelt collected from the recovery furnace.
- (sss) Digester System means each continuous digester or each batch digester used for the cooking of wood in white liquor, and associated flash tank(s), blow tank(s), chip streamer(s), and condenser(s).

(Rule 1200-03-02-.01, continued)

- (ttt) Black Liquor Solids means the dry weight of the solids which enter the recovery furnace in the black liquor.
- (uuu) Multiple-effect Evaporator System as it applies to the paper industry in paragraph 1200-03-07-.07(4) means the multiple-effect evaporators, associated condenser(s), and hotwell(s) used to concentrate the spent cooking liquid that is separated from pulp (black liquor).
- (vvv) Primary Aluminum Reduction Plant means any source manufacturing aluminum by eletrolytic reduction.
- (www) Potroom means a building unit which houses a group of electrolytic cells in which aluminum is produced.
- (xxx) Potroom Group means an uncontrolled potroom, a potroom which is controlled individually or a group of potrooms or potroom segments ducted to a common control system.
- (yyy) Roof Monitor means that portion of the roof of a potroom where gases not captured at the cell exit from the potroom.
- (zzz) Total Fluorides means the particulate and gaseous fluorides generated and emitted from a potroom at a primary aluminum reduction plant.
- (aaaa)Center Worked Prebake means a cell in a potroom that can be worked from the end or internally without removing the side covers.
- (bbbb)Side Worked Prebake means a cell in a potroom that must be worked manually along both sides with the side covers removed.
- (cccc)Soda Recovery Boiler is a boiler used in the soda pulping process for the purpose of converting concentrated black liquor, by incineration, into sodium carbonate ( $\text{Na}_2\text{CO}_3$ ) where the remaining organic matter from the sodium salts is burned to produce heat for steam generation.
- (dddd)Calendar Quarter means a period of time beginning at the first minute of the first date and ending at midnight of the date of each of the following intervals: January 1 to March 31, April 1 to June 30, July 1 to September 30, or October 1 to December 31.
- (eeee)A Continuous Emission Monitor is an instrument capable of measuring and recording emissions of various pollutants and meeting the performance specifications stated by Rule 1200-03-10-.02.
- (ffff) Nonattainment Area shall mean either as follows:
1. A geographical area designated by the U.S. Environmental Protection Agency or the Board as nonattainment for an air contaminant (pollutant) for which there is a national ambient air quality standard; or
  2. For any other air contaminant for which there is an ambient air quality standard in Chapter 1200-03-03, a geographical area designated by the Board as not attaining that standard.
- (gggg)"PM<sub>10</sub>" means particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by a reference method based on Appendix J, as referenced in the *Federal Register*, July 1, 1987, Vol. 52, No. 126, pp 24665-24666 and

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designated in accordance with 40 CFR 53 as amended on July 1, 1987, *Federal Register*, Vol. 52, No. 126, pp 24727-24735, or by equivalent method designated in accordance with 40 CFR 53.

(hhhh)“PM<sub>10</sub> Emissions” means finely divided solid or liquid material, with an aerodynamic diameter less than or equal to a nominal 10 micrometers emitted to the ambient air as measured by an applicable reference method, or an equivalent or alternative method, specified in the regulations, or by a test method specified in the State Implementation Plan.

(iii) “Total Suspended Particulate (TSP)” means particulate matter as measured by the method described in Appendix B, 40 CFR 50.

(jjjj) “Particulate Matter Emissions” means all finely divided solid or liquid material, other than uncombined water, emitted to the ambient air as measured by applicable reference methods, or an equivalent or alternative method specified in the regulations, or by a test method specified in the State Implementation Plan.

(kkkk)Reserved.

(llll) Reserved.

(mmmm)“Hazardous Air Pollutant” or “HAP” means the air contaminants listed in this subparagraph:

| CAS No. | Chemical name                             |
|---------|---|
| 75070   | Acetaldehyde                              |
| 60355   | Acetamide                                 |
| 75058   | Acetonitrile                              |
| 98862   | Acetophenone                              |
| 53963   | 2-Acetylaminofluorene                     |
| 107028  | Acrolein                                  |
| 79061   | Acrylamide                                |
| 79107   | Acrylic acid                              |
| 107131  | Acrylonitrile                             |
| 107051  | Allyl chloride                            |
| 92671   | 4-Aminobiphenyl                           |
| 62533   | Aniline                                   |
| 90040   | o-Anisidine                               |
| 1332214 | Asbestos                                  |
| 71432   | Benzene (including benzene from gasoline) |
| 92875   | Benzidine                                 |
| 98077   | Benzotrichloride                          |
| 100447  | Benzyl chloride                           |
| 92524   | Biphenyl                                  |
| 117817  | Bis(2-ethylhexyl)phthalate (DEHP)         |
| 542881  | Bis(chloromethyl) ether                   |
| 75252   | Bromoform                                 |
| 106945  | 1-Bromopropane                            |
| 106990  | 1,3-Butadiene                             |
| 156627  | Calcium cyanamide                         |
| 133062  | Captan                                    |
| 63252   | Carbaryl                                  |
| 75150   | Carbon disulfide                          |
| 56235   | Carbon tetrachloride                      |
| 463581  | Carbonyl sulfide                          |

(Rule 1200-03-02-.01, continued)

|         |   |
|---------|---|
| 120809  | Catechol                                      |
| 133904  | Chloramben                                    |
| 57749   | Chlordane                                     |
| 7782505 | Chlorine                                      |
| 79118   | Chloroacetic acid                             |
| 532274  | 2-Chloroacetophenone                          |
| 108907  | Chlorobenzene                                 |
| 510156  | Chlorobenzilate                               |
| 67663   | Chloroform                                    |
| 107302  | Chloromethyl methyl ether                     |
| 126998  | Chloroprene                                   |
| 1319773 | Cresols/Cresylic acid (isomers and mixture)   |
| 95487   | o-Cresol                                      |
| 108394  | m-Cresol                                      |
| 106445  | p-Cresol                                      |
| 98828   | Cumene  |
| 94757   | 2,4-D, salts and esters                       |
| 3547044 | DDE   |
| 334883  | Diazomethane                                  |
| 132649  | Dibenzofurans                                 |
| 96128   | 1,2-Dibromo-3-chloropropane                   |
| 84742   | Dibutylphthalate                              |
| 106467  | 1,4-Dichlorobenzene(p)                        |
| 91941   | 3,3-Dichlorobenzidine                         |
| 111444  | Dichloroethyl ether (Bis(2-chloroethyl)ether) |
| 542756  | 1,3-Dichloropropene                           |
| 62737   | Dichlorvos                                    |
| 111422  | Diethanolamine                                |
| 121697  | N,N-Diethyl aniline (N,N-Dimethylaniline)     |
| 64675   | Diethyl sulfate                               |
| 119904  | 3,3-Dimethoxybenzidine                        |
| 60117   | Dimethyl aminoazobenzene                      |
| 119937  | 3,3'-Dimethylbenzidine                        |
| 79447   | Dimethyl carbamoyl chloride                   |
| 68122   | Dimethyl formamide                            |
| 57147   | 1,1-Dimethyl hydrazine                        |
| 131113  | Dimethyl phthalate                            |
| 77781   | Dimethyl sulfate                              |
| 534521  | 4,6-Dinitro-o-cresol, and salts               |
| 51285   | 2,4-Dinitrophenol                             |
| 121142  | 2,4-Dinitrotoluene                            |
| 123911  | 1,4-Dioxane (1,4-Diethyleneoxide)             |
| 122667  | 1,2-Diphenylhydrazine                         |
| 106898  | Epichlorohydrin (1-Chloro-2,3-epoxypropane)   |
| 106887  | 1,2-Epoxybutane                               |
| 140885  | Ethyl acrylate                                |
| 100414  | Ethyl benzene                                 |
| 51796   | Ethyl carbamate (Urethane)                    |
| 75003   | Ethyl chloride (Chloroethane)                 |
| 106934  | Ethylene dibromide (Dibromoethane)            |
| 107062  | Ethylene dichloride (1,2-Dichlorethane)       |
| 107211  | Ethylene glycol                               |
| 151564  | Ethylene imine (Aziridine)                    |
| 75218   | Ethylene oxide                                |
| 96457   | Ethylene thiourea                             |
| 75343   | Ethylidene dichloride (1,1-Dichloroethane)    |



(Rule 1200-03-02-.01, continued)

|         |  |
|---------|--|
| 50000   | Formaldehyde                               |
| 76448   | Hepotachlor                                |
| 118741  | Hexachlorobenzene                          |
| 87683   | Hexachlorobutadiene                        |
| 77474   | Hexachlorocyclopentadiene                  |
| 67721   | Hexachloroethane                           |
| 822060  | Hexamethylene-1,6-diisocyanate             |
| 680319  | Hexamethylphosphoramide                    |
| 110543  | Hexane                                     |
| 302012  | Hydrazine                                  |
| 7647010 | Hydrochloric acid                          |
| 7664393 | Hydrogen fluoride (Hydrofluoric acid)      |
| 123319  | Hydroquinone                               |
| 78591   | Isophorone                                 |
| 58899   | Lindane (all isomers)                      |
| 108316  | Maleic anhydride                           |
| 67561   | Methanol                                   |
| 72435   | Methoxychlor                               |
| 74839   | Methyl bromide (Bromomethane)              |
| 74873   | Methyl chloride (Chloromethane)            |
| 71556   | Methyl chloroform (1,1,1-Trichloroethane)  |
| 60344   | Methyl hydrazine                           |
| 74884   | Methyl iodide (Iodomethane)                |
| 108101  | Methyl isobutyl ketone (Hexone)            |
| 624839  | Methyl isocyanate                          |
| 80626   | Methyl methacrylate                        |
| 1634044 | Methyl tert butyl ether                    |
| 101144  | 4,4-Methylene bis(2-chloroniline)          |
| 75092   | Methylene chloride (Dichloromethane)       |
| 101688  | Methylene diphenyl diisocyanate (MDI)      |
| 101779  | 4,4-Methylenedianiline                     |
| 91203   | Naphthalene                                |
| 98953   | Nitrobenzene                               |
| 92933   | 4-Nitrobiphenyl                            |
| 100027  | 4-Nitrophenol                              |
| 79469   | 2-Nitropropane                             |
| 684935  | N-Nitroso-N-methylurea                     |
| 62759   | N-Nitrosodimethylamine                     |
| 59892   | N-Nitrosomorpholine                        |
| 56382   | Parathion                                  |
| 82688   | Pentachloronitrobenzene (Quintobenzene)    |
| 87865   | Pentachlorophenol                          |
| 108952  | Phenol                                     |
| 106503  | p-Phenylenediamine                         |
| 75445   | Phosgene                                   |
| 7803512 | Phosphine                                  |
| 7723140 | Phosphorus                                 |
| 85449   | Phthalic anhydride                         |
| 1336363 | Polychlorinated biphenyls (Arochlors)      |
| 1120714 | 1,3-Propane sultone                        |
| 57578   | beta-Propiolactone                         |
| 123386  | Propionaldehyde                            |
| 114261  | Propoxur (Baygon)                          |
| 78875   | Propylene dichloride (1,2-Dichloropropane) |
| 75569   | Propylene oxide                            |
| 75558   | 1,2-Propylenimine (2-Methyl aziridine)     |

(Rule 1200-03-02-.01, continued)

|         |  |
|---------|--|
| 91225   | Quinoline                                      |
| 106514  | Quinone  |
| 100425  | Styrene  |
| 96093   | Styrene oxide                                  |
| 1746016 | 2,3,7,8-Tetrachlorodibenzo-p-dioxin            |
| 79345   | 1,1,2,2-Tetrachloroethane                      |
| 127184  | Tetrachloroethylene (Perchloroethylene)        |
| 7550450 | Titanium tetrachloride                         |
| 108883  | Toluene  |
| 95807   | 2,4-Toluene diamine                            |
| 584849  | 2,4-Toluene diisocyanate                       |
| 95534   | o-Toluidine                                    |
| 8001352 | Toxaphene (chlorinated camphene)               |
| 120821  | 1,2,4-Trichlorobenzene                         |
| 79005   | 1,1,2-Trichloroethane                          |
| 79016   | Trichloroethylene                              |
| 95954   | 2,4,5-Trichlorophenol                          |
| 88062   | 2,4,6-Trichlorophenol                          |
| 121448  | Triethylamine                                  |
| 1582098 | Trifluralin                                    |
| 540841  | 2,2,4-Trimethylpentane                         |
| 108054  | Vinyl acetate                                  |
| 593602  | Vinyl bromide                                  |
| 75014   | Vinyl chloride                                 |
| 75354   | Vinylidene chloride (1,1-Dichloroethylene)     |
| 1330207 | Xylenes (isomers and mixture)                  |
| 95476   | o-Xylenes                                      |
| 108383  | m-Xylenes                                      |
| 106423  | p-Xylenes                                      |
| 0       | Antimony Compounds                             |
| 0       | Arsenic Compounds (inorganic including arsine) |
| 0       | Beryllium Compounds                            |
| 0       | Cadmium Compounds                              |
| 0       | Chromium Compounds                             |
| 0       | Cobalt Compounds                               |
| 0       | Coke Oven Emissions                            |
| 0       | Cyanide Compounds <sup>1</sup>                 |
| 0       | Glycol Ethers <sup>2, 6</sup>                  |
| 0       | Lead Compounds                                 |
| 0       | Manganese Compounds                            |
| 0       | Mercury Compounds                              |
| 0       | Fine Mineral Fibers <sup>3</sup>               |
| 0       | Nickel Compounds                               |
| 0       | Polycyclic Organic Matter <sup>4</sup>         |
| 0       | Radionuclides (including radon) <sup>5</sup>   |
| 0       | Selenium Compounds                             |

<sup>1</sup> X'CN where X = H' or any other group where a formal dissociation may occur. For example KCN or Ca(CN)<sub>2</sub>.

<sup>2</sup> Include mono- and di-ethers of ethylene glycol, diethylene glycol, and triethylene glycol R-(OCH<sub>2</sub>CH<sub>2</sub>)<sub>n</sub>- OR'.

Where:

n = 1, 2, or 3:

R = alkyl C7 or less; or

R = phenyl or alkyl substituted

phenyl; R' = H or alkyl C7 or less;

or

OR' consisting of carboxylic acid ester, sulfate, phosphate, nitrate, or sulfonate.

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This action deletes each individual compound in a group called the surfactant alcohol ethoxylates and their derivatives (SAED) from the glycol ethers category in the list of hazardous air pollutants established by section 112(b)(1) of the Clean Air Act (CAA).

<sup>3</sup> Includes mineral fiber emissions from facilities manufacturing or processing glass, rock, or slag fibers (or other mineral derived fibers) of an average diameter of one micrometer or less.

<sup>4</sup> Includes organic compounds with more than one benzene ring, and which have a boiling point greater than or equal to 100°C.

<sup>5</sup> A type of atom that spontaneously undergoes radioactive decay.

<sup>6</sup> The substance ethylene glycol monobutyl ether (EGBE, 2-Butoxyethanol) (Chemical Abstract Service (CAS) Number 111-76-2) is deleted from the list of hazardous air pollutants established by 42 U.S.C. § 7412(b)(1).

**Authority:** T.C.A. §§ 4-5-201, et seq.; 68-201-101, et seq.; 68-201-105; and 68-201-201, et seq.

**Administrative History:** Original rule certified June 7, 1974. Amendment filed January 10, 1977; effective February 9, 1977. Amendment filed February 28, 1978; effective March 30, 1978. Amendment filed May 17, 1978; effective June 16, 1978. Amendment filed February 5, 1979; effective March 21, 1979. Amendment filed May 7, 1979; effective June 21, 1979. Amendment filed September 10, 1979; effective October 25, 1979. Amendment filed December 31, 1979; effective February 14, 1980. Amendment filed May 13, 1980; effective June 27, 1980. Amendment filed December 8, 1981; effective January 22, 1982. Amendment filed December 18, 1981; effective February 1, 1982. Amendment filed July 3, 1984; effective August 1, 1984. Amendment filed September 22, 1988; effective November 6, 1988. Amendment filed April 18, 1990; effective June 2, 1990. Amendment filed May 17, 1990; effective July 1, 1990. Amendment filed May 12, 1993; effective June 26, 1993. Amendment filed June 14, 1993; effective July 29, 1993. Amendment filed December 30, 1999; effective March 14, 2000. Amendment filed June 4, 2001; effective August 18, 2001. Amendment filed January 17, 2003; effective April 1, 2003. Amendments filed September 9, 2005; effective November 23, 2005. Amendments filed April 1, 2015; effective June 30, 2015. Amendments filed April 27, 2015; effective July 26, 2015. Amendments filed June 6, 2018; effective September 4, 2018. Amendments filed September 29, 2022; effective December 28, 2022. Amendments filed December 4, 2023; effective March 3, 2024.

#### 1200-03-02-.02 ABBREVIATIONS.

(1) The following abbreviations shall, unless the context clearly indicated otherwise, have the following meaning:

|     |                                |   |  |
|-----|--------------------------------|---|--|
| (a) | ASTM                           | = | American Society for Testing and Materials |
| (b) | Btu                            | = | British thermal unit                       |
| (c) | C                              | = | degrees Centigrade                         |
| (d) | cal                            | = | calorie                                    |
| (e) | CO                             | = | carbon monoxide                            |
| (f) | CO <sub>2</sub>                | = | carbon dioxide                             |
| (g) | dscf                           | = | dry cubic foot at standard conditions      |
| (h) | dscm                           | = | dry cubic meter at standard conditions     |
| (i) | F                              | = | degrees Fahrenheit                         |
| (j) | g                              | = | gram                                       |
| (k) | gr                             | = | grain                                      |
| (l) | H <sub>2</sub> S               | = | hydrogen sulfide                           |
| (m) | H <sub>2</sub> SO <sub>4</sub> | = | sulfuric acid                              |
| (n) | Hg                             | = | Mercury                                    |
| (o) | hr                             | = | hour                                       |
| (p) | kg                             | = | kilogram                                   |
| (q) | lb                             | = | pound                                      |
| (r) | mg                             | = | milligram                                  |
| (s) | mm                             | = | millimeter                                 |

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|      |                 |   |                                 |
|------|-----------------|---|---------------------------------|
| (t)  | MW              | = | megawatt                        |
| (u)  | NO              | = | nitric oxide                    |
| (v)  | NO <sub>2</sub> | = | nitrogen dioxide                |
| (w)  | NO <sub>x</sub> | = | nitrogen oxides                 |
| (x)  | ppb             | = | parts per billion               |
| (y)  | ppm             | = | parts per million               |
| (z)  | psia            | = | pounds per square inch absolute |
| (aa) | sec             | = | second                          |
| (bb) | SO <sub>2</sub> | = | sulfur dioxide                  |
| (cc) | ug              | = | microgram                       |

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-201-105. **Administrative History:** Original rule filed January 10, 1977; effective date February 9, 1977.

**RULES  
OF  
TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
BUREAU OF ENVIRONMENT  
DIVISION OF AIR POLLUTION CONTROL**

**CHAPTER 1200-3-3  
AMBIENT AIR QUALITY STANDARDS**

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**1200-3-3-.01 PRIMARY AIR QUALITY STANDARDS.**

Primary ambient air quality standards define levels of air quality believed adequate, with an appropriate margin of safety, to protect public health.

*Authority:* T.C.A. §§ 68-201-105 and 4-5-202. *Administrative History:* Original rule filed January 10, 1977; effective February 9, 1977.

**1200-3-3-.02 SECONDARY AIR QUALITY STANDARDS.**

Secondary ambient air quality standards define levels of air quality believed adequate, with an appropriate margin of safety, to protect the public welfare from any known anticipated adverse effects of the pollutant.

*Authority:* T.C.A. §§68-201-105 and 4-5-202. *Administrative History:* Original rule filed January 10, 1977; effective February 9, 1977.

**1200-3-3-.03 TENNESSEE'S AMBIENT AIR QUALITY STANDARDS.**

- (1) Ambient air quality standards as given in this rule are applicable throughout Tennessee.
  - (a) TENNESSEE AMBIENT AIR QUALITY STANDARDS for Total Suspended Particulates (TSP), PM<sub>10</sub>, Sulfur Dioxide, Carbon Monoxide, Ozone, Nitrogen Dioxide, and Lead.

Rule 1200-3-3-.03, continued

Table I

ug/m<sup>3</sup> - Micrograms per cubic meter  
 AAM - Annual arithmetic mean

| Contaminants                                      | Primary Standard  |              | Averaging Interval | Secondary Standard Concentration |             | Averaging Interval |
|---|-------------------|--------------|--------------------|----------------------------------|-------------|--------------------|
|   | ug/m <sup>3</sup> | ppm by vol.  |                    | ug/m <sup>3</sup>                | ppm by vol. |                    |
| 1. Total Suspended Particulates (TSP)<br>(Note 1) |                   | -            |                    | 150                              | -           | 24 hr.             |
| 2. PM <sub>10</sub><br>(Note 2)                   | 50<br>150         |              | AAM<br>24 hr.      | 50<br>150                        |             | AAM<br>24 hr.      |
| 3. Sulfur Dioxide                                 | 80<br>365         | 0.03<br>0.14 | AAM<br>24 hr.      | 1,300                            | 0.5         | 3 hr.              |
| 4. Carbon Monoxide                                | 10,000<br>40,000  | 9.0<br>35.0  | 8 hr.<br>1 hr.     | 10,000<br>40,000                 | 9.0<br>35.0 | 8 hr.<br>1 hr.     |
| 5. Ozone<br>(Note 3)                              | 235               | 0.12         | 1 hr.              | 235                              | 0.12        | 1 hr.              |
| 6. Nitrogen Dioxide                               | 100               | 0.05         | AAM                | 100                              | 0.05        | AAM                |
| 7. Lead   | 1.5               |              | Calendar quarter   | 1.5                              |             | Calendar quarter   |

All values other than annual values are maximum concentrations, not to be exceeded more than once per year (except for lead). For lead, the first exceedance is considered a violation of the standard. Parts per million (PPM) values are approximate only. All concentrations relate to air at standard conditions of 25 degrees centigrade temperature and 760 millimeters mercury pressure.

Note:

1. The value of 150 ug/m<sup>3</sup> for a 24-hour averaging interval is maintained as a guide to be used in assessing particulate problem areas. In those areas where it is exceeded, PM-10 monitoring will be required, unless it is determined that the data is biased by an activity or event such as short term construction. Such monitor(s) shall be operated for a least a period of one calendar year (i.e., January 1 through December 31) following the federally designated six day sampling schedule. In any area where a single air contaminant source is the predominant particulate emitter the Technical Secretary shall order the source to install and operate said PM-10 monitoring network. In other areas the Technical Secretary shall be responsible for insuring that said monitoring is accomplished.
2. The 24-hour guideline is attained when the expected number of days per calendar year with maximum hourly concentration above 0.12 ppm(235 ug/m<sup>3</sup>) is equal to or less than 1 as determined by the Federal Register, Volume 44, No. 28, February 8, 1979, Part V, Appendix H.
3. The standard is attained when the expected number of days per calendar year with maximum hourly concentration above 150 ug/m<sup>3</sup>, as determined by Appendix K in Federal Register, Volume 52, No. 126, July 1, 1987, is equal to or less than one.

Rule 1200-3-3-.03, continued

- (b) Tennessee Ambient Air Quality Standards for Gaseous Fluorides Expressed as HF. Sources that emit gaseous fluorides, including hydrogen fluoride, and that are within a source category (including sources that would otherwise be included in the source category but fall below emissions or size thresholds for the source category) for which the United States Environmental Protection Agency has promulgated standards under section 112 of the Clean Air Act are deemed to be in compliance with any requirements under this section if they meet any and all applicable requirements of the federal standards. This subparagraph is not applicable to sources subject to 40 CFR 63, Subpart LL.

Table II

Secondary Standards

| Concentration<br>ppb |         | Averaging |
|----------------------|---------|-----------|
| ug/m <sup>3</sup>    | by vol. | Interval  |
| 1.2                  | 1.5     | 30 days   |
| 1.6                  | 2.0     | 7 days    |
| 2.9                  | 3.5     | 24 hrs.   |
| 3.7                  | 4.5     | 12 hrs.   |

NOTE: All values are maximum not to be exceeded more than once per year. Concentrations in micrograms per cubic meter (ug/m<sup>3</sup>) are approximate only. All conditions relate to air at standard conditions of 25° C temperature and 760 millimeters of mercury pressure. All averaging intervals are consecutive time periods.

- (c) A hydrogen chloride (expressed as HCL) value of 70.0 ug/m<sup>3</sup> HCL, 24-hour average, shall be used as a guidance level in assessing air quality impact, excluding the burning of fossil fuels.
- (d) Tennessee Ambient Air Quality Standards for Gaseous Fluorides expressed as HF in the vicinity of Primary Aluminum Reduction Plants in operation on or before December 31, 1973.

Table III

Secondary Standard

| Concentration<br>ppb |         | Averaging<br>Interval |
|----------------------|---------|-----------------------|
| ug/m <sup>3</sup>    | by vol. |                       |
| 0.5                  | 0.6     | 30 days               |

NOTE 1: All values are maximum not to be exceeded more than once per year. Concentrations in micrograms per cubic meter (ug/m<sup>3</sup>) are approximate only. All conditions relate to air at standard conditions of 25° Centigrade and 760 mm mercury.

NOTE 2: This standard shall be attained at a distance of 13.8 km downwind from plants in operation on or before December 31, 1973.

NOTE 3: The 30 day standard contained in Table II shall be met in the vicinity of the plant at locations designated in Note 4.

NOTE 4: Air quality sensors to monitor attainment and maintenance of these air quality standards shall be placed in the primary downwind direction from the plant at locations approved by the Technical Secretary. An air quality sensor to monitor attainment with the standard contained in Table II

Rule 1200-3-3-.03, continued

shall be at a location not less than 2.9 km or greater than 5.5 from the plant. An air quality sensor to monitor attainment with the standard contained in Table III shall be at a distance greater than 13.8 km from the plant.

**NOTE 5:** Any controls installed before the effective date of this standard, in addition to those required at Primary Aluminum Reduction Plants in operation on or before December 31, 1973, shall continue to be operated and maintained.

**Authority:** T.C.A. §§68-201-105 and 4-5-202 et. seq. **Administrative History:** Original rule certified June 7, 1974. Amendment filed January 10, 1977; effective February 9, 1977. Amendment filed October 2, 1979; effective November 16, 1979. Amendment filed November 5, 1984; effective December 5, 1984. Amendment filed April 18, 1990; effective June 2, 1990. Amendment filed September 7, 1993; effective November 21, 1993. Amendment filed November 30, 1993; effective February 13, 1994. Amendment filed August 10, 1995; effective October 24, 1995. Amendment filed February 20, 1997; effective May 6, 1997. Amendment to rule filed August 15, 2006; effective October 29, 2006.

**1200-3-3-.04 NONDEGRADATION.**

These ambient air quality standards shall not be construed, applied, or interpreted to allow a significant deterioration of the existing air quality in any portion of the State.

**Authority:** T.C.A. §§68-201-105 and 4-5-202. **Administrative History:** Original rule filed January 10, 1977; effective February 9, 1977.

**1200-3-3-.05 ACHIEVEMENT.**

- (1) The nitrogen dioxide standard in this chapter is to be achieved statewide by July 1, 1975, and maintained thereafter. The total suspended particulate and sulfur dioxide standards, with the exception of those areas identified in chapter 1200-3-19, are to be achieved by July 1, 1975, and maintained thereafter. For those total suspended particulate and sulfur dioxide areas identified in chapter 1200-3-19 the primary standards are to be achieved by December 31, 1982, and maintained thereafter. The standard for lead is to be achieved by October 31, 1981, and maintained thereafter. The standards for ozone and carbon monoxide are to be achieved by December 31, 1982, and maintained thereafter except for areas where a five-year extension has been granted. The standards in the area where the extension has been granted are to be achieved by December 31, 1987, and maintained thereafter. For the New Johnsonville nonattainment area for sulfur dioxide, the secondary standard is to be achieved by December 31, 1987, and maintained thereafter.

**Authority:** T.C.A. §§68-201-105 and 4-5-202. **Administrative History:** Original rule filed January 10, 1977; effective February 9, 1977. Amendment filed May 7, 1979; effective June 21, 1979. Amendment filed October 2, 1979; effective November 16, 1979. Amendment filed November 12, 1982; effective December 13, 1982. Amendment filed September 7, 1993; effective November 21, 1993.



**RULES  
OF  
THE TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
DIVISION OF AIR POLLUTION CONTROL**

**CHAPTER 1200-03-04  
OPEN BURNING**

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**1200-03-04-.01 PURPOSE.**

It is the purpose of this chapter to establish controls on open burning so as to prevent undesirable levels of air contaminants in the atmosphere.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule certified June 7, 1974. Amendment filed January 10, 1977; effective February 9, 1977. Amendment filed September 21, 1988; effective November 6, 1988.

**1200-03-04-.02 DEFINITIONS.**

- (1) As used in this Rule Chapter, all terms not defined herein shall have the meaning given them in Rule Chapter 1200-03-02.
  - (a) Repealed.
  - (b) “Air Pollution Emergency Episode” is defined as air pollution alerts, warnings, or emergencies declared by the Tennessee Division of Air Pollution Control during adverse air dispersion conditions that may result in harm to public health or welfare.
  - (c) “Natural Disaster” is defined as any event commonly referred to as an “Act of God” and includes but is not limited to the following weather-related or naturally-occurring categories of events: tornadoes, hail and wind storms, snow or ice storms, flooding, and earthquakes.
  - (d) “Open Burning” is the burning of any matter under such conditions that products of combustion are emitted directly into the open atmosphere without passing directly through a stack. Open burning includes, but is not limited to, fires located or burning in a pile on the ground, a barrel, a fire pit, or other semi-enclosure. The use of an air curtain destructor or air curtain incinerator is considered incineration subject to the permitting requirements of Rule Chapter 1200-03-09, and is explicitly not considered open burning.
  - (e) “Person” is any individual, partnership, co-partnership, firm, company, corporation, association, joint stock company, trust, estate, political subdivision, an agency, authority, commission, or department of the United States government, or of the State of Tennessee government; or any other legal entity, or their legal representative, agent, or assigns.
  - (f) Repealed.

(Rule 1200-03-04-.02, continued)

- (g) "Wood Waste" is defined as any product which has not lost its basic character as wood, such as bark, sawdust, chips and chemically untreated lumber whose "disposition" by open burning is to solely get rid of or destroy. Plant life of a herbaceous nature, such as leaves, whether attached, fallen, and/or collected, evergreen needles, and grasses, are not considered "wood waste". Additionally, manufactured lumber products, such as plywood, fiberboard, particleboard, and paneling, are not considered "wood waste." Painted or artificially stained wood is not considered "wood waste."

**Authority:** T.C.A. §§ 4-5-202; 68-25-105; and 68-201-101, et seq. **Administrative History:** Original rule certified June 7, 1974. Amendment filed January 10, 1977; effective February 9, 1977. Amendment filed February 5, 1979; effective March 21, 1979. Amendment filed September 21, 1988; effective November 6, 1988. Amendment filed May 17, 1990; effective July 1, 1990. Amendment filed June 26, 2001; effective September 7, 2001. Amendment filed January 17, 2003; effective April 1, 2003. Amendment filed September 9, 2005; effective November 23, 2005. Amendment filed June 28, 2007; effective September 11, 2007.

### 1200-03-04-.03 OPEN BURNING PROHIBITED.

- (1) No person shall cause, suffer, allow, or permit open burning except as specifically exempted by Rule 1200-03-04-.04 Exceptions to Prohibition.
- (2) Repealed.
- (3) Repealed.
- (4) The open burning of tires and other rubber products, vinyl shingles and siding, other plastics, asphalt shingles and other asphalt roofing materials, and/or asbestos containing materials is expressly prohibited, and such materials shall not be included in any open burning conducted under the provisions of Rule 1200-03-04-.04 Exceptions to Prohibition.
- (5) Repealed.
- (6) Repealed.

**Authority:** T.C.A. §§ 4-5-202; 68-25-104; and 68-201-101, et seq. **Administrative History:** Original rule certified June 7, 1974. Amendment filed January 10, 1977; effective February 9, 1977. Amendment filed September 21, 1988; effective November 6, 1988. Amendment filed March 5, 1993; effective April 19, 1993. Amendment filed November 22, 1993; effective February 5, 1994. Amendment filed April 7, 1995; effective June 21, 1995. Amendment filed June 26, 2001; effective September 7, 2001. Amendment filed July 9, 2001; effective September 22, 2001. Amendment filed January 17, 2003; effective April 1, 2003. Amendment filed September 9, 2005; effective November 23, 2005.

### 1200-03-04-.04 EXCEPTIONS TO PROHIBITION.

- (1) Open burning, as listed below, may be conducted subject to specified limitations. This grant of exception shall in no way relieve the person responsible for such burning from the consequences, damages, injuries, or claims resulting from such burning.
  - (a) Repealed.
  - (b) Fires used for cooking of food or for ceremonial, recreational or comfort-heating purposes, including barbecues, campfires, and outdoor fireplaces.
  - (c) Fires set by or at the direction of responsible fire control persons solely for training purposes, such as, for fire source training at fire academies or for local fire department training. However, routine demolition of structures via supervised open burning by

(Rule 1200-03-04-.04, continued)

responsible fire control persons is not considered fire training. Additionally, the person responsible for such burning, unless conducted at a recognized fire training academy, must certify compliance with the following requirements by written statement. The certification must be delivered to the Division of Air Pollution Control at the appropriate regional Environmental Field Office at least ten (10) working days prior to commencing the burn:

1. The open burning is being conducted solely for fire training purposes;
  2. All vinyl siding, carpet, vinyl flooring, asphalt roofing materials, and any other materials expressly prohibited in Rule 1200-03-04-.03, have been removed. However, the provisions of Rule 1200-03-04-.03(4) as it pertains solely to "other rubber products" and "other plastics" are waived for incidental plastic or rubber materials which are an integral part of a structure used for fire training, such as plastic plumbing, fixtures, and conduit; electrical wiring insulation, connections, switches, and fixtures; interior trim; glues and resins in manufactured wood products; and vinyl window and door frames. Sheathing, decking, roofing, exterior siding and trim, and structural load-bearing members whose composition is primarily rubber or plastics are not considered incidental;
  3. All regulated asbestos containing materials have been removed in accordance with part (2)(b)13. of Rule 0400-30-38-.01; and
  4. A traffic hazard will not be caused by the air contaminants generated by the fire training.
- (d) Fires consisting solely of vegetation grown on the property of the burn site. Priming materials used to facilitate such burning shall be limited to #1 or #2 grade fuel oils, wood waste, or other ignition devices approved by the Technical Secretary.
- (e) Fires disposing of "wood waste" solely for the disposition of such wood waste as provided in T.C.A. § 68-201-115(c). Priming materials used to facilitate such burning shall be limited to #1 or #2 grade fuel oils.
- (f) Fires solely for the burning of bodies of dead animals, including poultry, where no other safe and/or practical disposal method exists. Priming materials used to facilitate such burning shall be limited to #1 or #2 grade fuel oils, vegetation grown on the property of the burn site, and wood waste.
- (g) Smokeless flares or safety flares for the combustion of waste gases, provided other remaining applicable conditions of these regulations are met.
- (h) Such other open burning as may be approved by the Tennessee Air Pollution Control Board where there is no other practical, safe, and/or lawful method of disposal. Documentation demonstrating why the general open burning regulations cannot be met must be submitted.
- (i) Fires set at the direction of law enforcement agencies or courts solely for the purpose of destruction of controlled substances and legend drugs seized as contraband. Priming materials used to facilitate such burning shall be limited to #1 or #2 grade fuel oils, and wood waste. The provisions of Rule 1200-03-04-.03(4) as it pertains solely to "other rubber products" and "other plastics" are waived for incidental plastic or rubber containers of said contraband.

(Rule 1200-03-04-.04, continued)

- (j) Fires consisting solely of vegetation, manufactured lumber products not chemically treated to prevent insect or rot damage, such as plywood, fiberboard, and paneling, uncoated paper and uncoated cardboard subject to the following conditions:
  - 1. The site of such burning is not nearer than one-half mile to an airport, hospital, nursing home, school, Federal or State highway, national reservation, national or state park, wildlife area, national or state forest, and/or occupied structures except such structures as may be located on the same property as the burning site.
  - 2. Priming materials used to facilitate such burning shall be limited to #1 or #2 grade fuel oils, and wood waste.
  - 3. The person responsible for such burning must certify compliance with the distance requirements by written statement. The certification must include the types and amounts of materials projected to be burned, and must be delivered to the Division of Air Pollution Control at the appropriate regional Environmental Field Office at least ten (10) working days prior to commencing the burn.
- (k) Fires consisting solely of non-radioactive, explosive, shock sensitive, chemically unstable, or highly reactive wastes, packaging, or contaminated or potentially contaminated combustible materials. Priming materials used to facilitate such burning shall be limited to #1 or #2 grade fuel oils, and wood waste. The provisions of Rule 1200-03-04-.03(4) as it pertains solely to "other rubber products" and "other plastics" are waived for this exception. Open burning conducted under this exception is only allowed where no other safe means of disposal exists.
- (l) Fires consisting solely of materials resulting from a natural disaster, and when conducted in conformity with the following conditions:
  - 1. Fires disposing of structural and household materials and vegetation are allowed only when those structures or materials are destroyed or severely damaged by natural disaster. Input from Emergency Management personnel may be requested in determining qualification with this criterion. The provisions of Rule 1200-03-04-.03(4) pertaining to structural and household materials may be waived if the persons seeking to open burn under this provision make a reasonable effort to remove all expressly prohibited material from the structural remains before ignition. The Technical Secretary reserves the right to inspect the proposed materials to be burned before ignition. The alternative use of chippers and grinders, landfilling, or on-site burial of waste in lieu of burning, if lawful, is encouraged;
  - 2. If a governmental collective burn site for disposing of structural and household materials and vegetation damaged by a natural disaster is planned, the person responsible for such burning must notify the Division of Air Pollution Control of the proposed location. The notification must be delivered to the Division of Air Pollution Control at the appropriate regional Environmental Field Office at least three (3) days prior to commencing the burn. The Division may request that alternate sites be identified to minimize impact to air quality. The alternative use of chippers and grinders in lieu of burning is encouraged;
  - 3. A traffic hazard will not be caused by the air contaminants generated by the fire;
  - 4. No fire shall be ignited while any air pollution emergency episode is in effect in the area of the burn; and

(Rule 1200-03-04-.04, continued)

5. Open burning conducted under this exception is only allowed where no other safe and/or practical means of disposal is available.
- (2) The Technical Secretary reserves the right to require a person to cease or limit open burning if emissions from the fires are deemed by the Technical Secretary or his designee to jeopardize public health or welfare, create a public nuisance or safety hazard, create a potential safety hazard, or interfere with the attainment or maintenance of the air quality standards.
- (3) Any exception to the open burning prohibition granted by this Rule Chapter does not relieve any person of the responsibility to obtain a permit required by any other agency, or of complying with other applicable requirements, ordinances, or restrictions.
- (4) Failure to adhere to any applicable provision or condition of an exception to the open burning prohibition shall be construed as a violation of this Rule Chapter and is subject to applicable provisions of the rules and statutes of the Tennessee Department of Environment and Conservation, Division of Air Pollution Control and such corrective/punitive measures that may be deemed appropriate by the Technical Secretary of the Tennessee Air Pollution Control Board.

**Authority:** T.C.A. §§ 4-5-201, et seq.; 4-5-202; 68-25-105; and 68-201-101, et seq. **Administrative History:** Original rule certified June 7, 1974. Amendment filed January 10, 1977; effective February 9, 1977. Amendment filed February 5, 1979; effective March 21, 1979. Amendment filed May 7, 1979; effective June 21, 1979. Amendment filed September 21, 1988; effective November 6, 1988. Amendment filed May 17, 1990; effective July 1, 1990. Amendment filed March 5, 1993; effective April 19, 1993. Amendment filed April 7, 1995; effective June 21, 1995. Amendment filed June 26, 2001; effective September 7, 2001. Amendment filed March 25, 2003; effective June 8, 2003. Amendment filed September 9, 2005; effective November 23, 2005. Amendment filed June 28, 2007; effective September 11, 2007. Amendments filed September 29, 2022; effective December 28, 2022.

#### **1200-03-04-.05 REPEALED.**

**Authority:** T.C.A. §§ 4-5-202; 68-25-105; and 68-201-101, et seq. **Administrative History:** Original rule filed September 21, 1988; effective November 6, 1988. Amendment filed April 18, 1994; effective July 2, 1994. Amendment filed April 7, 1995; effective June 21, 1995. Amendment filed June 26, 2001; effective September 7, 2001.

**RULES  
OF  
THE TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
DIVISION OF AIR POLLUTION CONTROL**

**CHAPTER 1200-03-05  
VISIBLE EMISSION REGULATIONS**

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**1200-03-05-.01 GENERAL STANDARDS.**

- (1) No person shall cause, suffer, allow or permit discharge of a visible emission from any air contaminant source with an opacity in excess of twenty (20) percent for an aggregate of more than five (5) minutes in any one (1) hour or more than twenty (20) minutes in any twenty-four (24) hour period; provided, however, that, for fuel burning installations with fuel burning equipment of input capacity greater than 600 x 10<sup>6</sup> Btu per hour, no person shall cause, suffer, allow, or permit discharge of a visible emission from any fuel burning installation with an opacity in excess of twenty (20) percent (6-minute average) except for one six-minute period per one (1) hour of not more than forty (40) percent opacity.
- (2) Regardless of the visible emission standard contained in this chapter, all sources identified in Chapter 1200-03-19 of these regulations shall comply with the visible emission standards contained therein.
- (3) Upon mutual agreement of any air contaminant source and the Technical Secretary, an emission limit more restrictive than that otherwise specified in this chapter may be established. This emission limit shall be stated as a special condition for any permit or order issued concerning the source. Violation of this agreed to, more stringent emission standard shall result in revocation of the issued permit.
- (4) Regardless of the visible emissions standard contained in this chapter, all sources identified in Rule 1200-03-09-.01(4) of these regulations shall comply with the visible emission standards set pursuant to Rule 1200-03-09.
- (5) The visible emission limits set forth in Rule 1200-03-05-.01, shall apply unless a specific visible emission standard is set in a subsequent paragraph of this rule or subsequent rule of this Division 1200-03.

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-25-105. **Administrative History:** Original rule filed January 10, 1977; effective February 9, 1977. Amendment filed February 5, 1979; effective March 21, 1979. Amendment filed May 7, 1979; effective June 21, 1979. Amendment filed October 29, 1981; effective December 14, 1981. Amendment filed June 29, 1984; effective July 29, 1984. Amendment filed September 21, 1988; effective November 6, 1988.

**1200-03-05-.02 EXCEPTIONS.**

- (1) Consistent with the requirements of Chapter 1200-03-20, due allowance may be made for visible emissions in excess of that permitted in this chapter which are necessary or

(Rule 1200-03-05-.02, continued)

unavoidable due to routine startup and shutdown conditions. However, no visible emission in excess of that permitted in this chapter shall be allowed which can be proved to cause or contribute to any violations of the Ambient Air Quality Standards contained in Chapter 1200-03-03 and the National Ambient Air Quality Standards. The owner or operator shall maintain a continuous, current log of all excess visible emissions showing the time at which such conditions began and ended. Such record shall be available to the Technical Secretary or the Technical Secretary's representative upon request.

- (2) In the event of a dispute between the owner or operator of an air contaminant source and the Tennessee Air Pollution Control Division as to what constitutes due allowance, the Technical Secretary may conduct an Administrative Hearing for the determination of this matter.

**Authority:** T.C.A. §§ 4-5-201, et seq.; 68-25-105; and 68-201-101, et seq. **Administrative History:** Original rule filed January 10, 1977; effective February 9, 1977. Amendment filed February 5, 1979; effective March 21, 1979. Amendment filed July 21, 1980; effective September 4, 1980. Amendment filed December 20, 1984; effective January 19, 1985. Amendment filed September 21, 1988; effective November 6, 1988. Amendment filed August 18, 2016; effective November 16, 2016.

### 1200-03-05-.03 METHOD OF EVALUATION AND RECORDING.

- (1) A determination of visible emissions shall be made by a certified evaluator and compliance with the standards contained in rules of this chapter shall be evaluated in terms of opacity.
- (2) Evaluators shall be certified by the criteria approved by the Board.
- (3) Visible emission readings by certified evaluators shall be performed by methods approved by the Board.
- (4) Obscuration of vision due to uncombined water droplets shall not be considered a violation of the standards in this chapter.
- (5) Where the Technical Secretary has agreed in writing, an opacity monitor meeting the criteria contained in Rule 1200-03-10-.02 shall determine compliance with the visible emission standards contained in the rules of this chapter. The opacity monitor shall meet the operational availability and quality assurance requirements specified as a permit condition to preclude enforcement action against the source based upon visible conducted by certified evaluators. In each case where this is done, the operating permit of the affected source shall be modified to include this provision and said operating permit shall then be incorporated as a part of the State Implementation Plan.
- (6) On or after July 7, 1992, all new and/or modified sources subject to the provisions of this Chapter 1200-03-05 shall utilize six-minute averaging. Roads and parking lots shall utilize two-minute averaging.

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-25-105. **Administrative History:** Original rules filed January 10, 1977; effective February 9, 1977. Amendment filed September 21, 1988; effective November 6, 1988. Amendment filed April 23, 1992; effective June 7, 1992.

### 1200-03-05-.04 EXEMPTION.

- (1) Visible emissions from fuel-burning equipment used exclusively to provide space heating in a building containing not more than two (2) dwelling units shall not be subject to the provisions of this chapter.

(Rule 1200-03-05-.04, continued)

- (2) Unless the visible emission standard was set under the authority of 1200-03-05-.01(2), (3), or (4), the visible emission standards of this chapter shall not apply where a source has an applicable visible emissions standard under Chapter 1200-03-16.
- (3) If the installation of an in-stack opacity monitor is required by a standard contained in Chapter 1200-03-16, then for an identical existing source to obtain the less restrictive opacity standard contained in Chapter 1200-03-16 the installation of an in-stack opacity monitor meeting the specifications contained in Rule 1200-03-10-.02(1)(d)1. shall be required. For situations where the installation of an in-stack opacity monitor would be required to obtain an opacity standard for an existing source equivalent to that set forth for an identical new source subject to Chapter 1200-03-16, it is the responsibility of the source owner or operator to notify the Technical Secretary in writing that this revision to the source's existing opacity standard is requested and that the required in-stack opacity monitor will be installed in accordance with Rule 1200-03-10-.02.
- (4) The standards in this chapter shall not apply to fog obscurant screens generated for training purposes by the United States military on military bases. Provided that:
  - (a) No hazardous air pollutants, as defined in Paragraph 1200-03-31-.02(6) of these Regulations, shall be used for the generation of the fog obscurant screens.
  - (b) The fog obscurant screens shall comply with the provisions of Chapter 1200-03-08 and Paragraph 1200-03-09-.03(3) of these Regulations.

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-25-105. **Administrative History:** Original rule filed January 10, 1977; effective February 9, 1977. Amendment filed September 21, 1988; effective November 6, 1988. Amendment filed November 29, 2001; effective February 12, 2002.

#### **1200-03-05-.05 STANDARD FOR CERTAIN EXISTING SOURCES.**

- (1) Air contaminant sources meeting the conditions in paragraphs (2) and (3) of this rule and for which a certificate of validation has been issued by the Technical Secretary indicating that to his satisfaction the conditions in paragraph (2) are met, must in lieu of meeting the requirements of rule .01 of this chapter, meet the following emission standards of no visible emissions in excess of forty (40) percent opacity for an aggregate of more than five (5) minutes in any one (1) hour or more than twenty (20) minutes in any one twenty-four (24) hour period.
- (2) The Technical Secretary must issue a certificate of validation if applied for and the owner or operator of the air contaminant source demonstrates to the satisfaction of the Technical Secretary the following conditions exist:
  - (a) The air contaminant source shall be subject to the rules contained in either Chapter 1200-03-06 or Chapter 1200-03-07 and shall be meeting the appropriate emission standard contained in those chapters.
  - (b) The air contaminant source is not regulated under the rules contained in Chapter 0400-30-38, Chapter 1200-03-16, Chapter 1200-03-25, or paragraph (4) of Rule 1200-03-09-.01.
  - (c) The air contaminant source does not include a gas or oil-fired boiler. However, if the particulate emissions of the fuel burning installation are less than that which Rule 1200-03-06-.02 would allow for a fuel burning installation of the size  $Q_s$  where  $Q_s$  is the heat input rate from solid fuels and/or liquid fuels other than oil, then the previous sentence will not prohibit, in and of itself, the issuance of a certificate of validation.



(Rule 1200-03-05-.05, continued)

- (d) Each emission point, suitable for the installation of a continuously recording opacity monitor of the air contaminant source, whether a process emission source, fuel burning installation, incinerator, or wigwam, having a flow rate of 100,000 ACFM or more shall be equipped with continuously recording opacity monitors of the reference method type as outlined in the *Federal Register*, Vol. 48, No. 62, March 30, 1983, beginning on page 13327, or an equivalent or alternate type approved by the Technical Secretary. However, a monitor will not have to be installed on those emission points of the air contaminant source for which the owner or operator does not wish to be allowed to emit more than twenty percent opacity. In this event these points must be clearly specified on any application for a certificate of validation. The Technical Secretary may still require these other points to install such a monitoring system. This provision shall not apply to gas streams containing moisture which interferes with proper instrument operation.
  - (e) The air contaminant source meets all emission standards in these regulations outside this chapter. Demonstration of this will require, as a minimum, an acceptable stack test report for particulate matter. This test must be conducted in the presence of personnel from the Division of Air Pollution Control.
  - (f) The PM<sub>10</sub> ambient air quality standards are being met in the vicinity of the air contaminant source. The Technical Secretary may require this to be demonstrated.
  - (g) A certificate of validation has never been revoked for this air contaminant source.
  - (h) A fee of five hundred dollars (\$500.00) has been paid to the Department to cover the costs of review of the request for the certificate of validation.
- (3) The owner or operator of the air contaminant source must:
- (a) Post on the operating premises the certificate of validation;
  - (b) Maintain for at least one year the readout from the opacity monitor(s) and keep this record available for inspection by the personnel of the Division of Air Pollution Control;
  - (c) Keep the air pollution control equipment and the opacity monitor in good operating condition and utilize said equipment at all times.
- (4) After Administrative Hearing the certificate of validation will be revoked by the Technical Secretary if he finds any of the requirements of paragraph (2) have been violated and/or if the requirements of paragraph (3) have been frequently and flagrantly violated after its issuance.
- (5) Upon the granting of a construction permit for the modification of an air contaminant source for which a certificate of validation has been issued, the certificate of validation shall become void.
- (6) Air contaminant sources required to conduct in-stack opacity monitoring as per subparagraph (2)(d) above may elect to have visible emissions determined by Method 9 outlined in the *Federal Register*, Vol. 39, No. 219, November 12, 1974, beginning on page 39874. For a source electing to have visible emissions determined by this method, the applicable visible emission standard under the certificate of validation shall be as follows: No visible emissions in excess of forty (40) percent opacity for more than one six (6) minute period in any one (1) hour or more than twenty-four (24) minutes in any one twenty-four (24) hour period. For an affected source the choice of methods of the determination of visible emissions must be made with the application for the certificate of validation, otherwise the standard set forth in paragraph (1) of Rule 1200-03-05-.05 shall apply.

(Rule 1200-03-05-.05, continued)

**Authority:** T.C.A. §§ 4-5-201, et seq.; 68-25-105; 68-201-101, et seq; 68-201-105; and 68-201-201, et seq. **Administrative History:** Original rule filed January 10, 1977; effective February 9, 1977. Amendment filed September 21, 1988; effective November 6, 1988. Amendment filed April 18, 1990; effective June 2, 1990. Amendment filed May 17, 1990; effective July 1, 1990. Amendments filed June 6, 2018; effective September 4, 2018. Amendments filed September 29, 2022; effective December 28, 2022.

**1200-03-05-.06 WOOD-FIRED FUEL BURNING EQUIPMENT.**

- (1) Wood-fired fuel burning equipment, which commenced operation before March 1, 1978, with a heat input of 100 million Btu/hr or greater must meet an emission limit of forty (40) percent opacity except for four six (6) minute periods per day not to exceed one six (6) minute period per hour.
- (2) Wood-fired fuel burning equipment, subject to Rule 1200-03-06-.05(1)(a), (c), (d), (e), or (2) must meet an emission limit of twenty (20) percent opacity except for one six (6) minute period per hour.
- (3) Wood-fired fuel burning equipment subject to Rule 1200-03-06-.05(8)(d) must meet an emission limit of forty (40) percent opacity except for one six (6) minute period per hour.
- (4) Opacity for purposes of this rule shall be determined by the reference method as specified in the Federal Register, Vol. 39, No. 219, November 12, 1974.
- (5) Other emission sources constructed on or after June 16, 1978, that exhaust through the same stack as wood-fired fuel burning equipment subject to Rule 1200-03-05-.06 shall meet an opacity standard where V is:

$$V = \frac{40.0 V_W + (X) V_R}{V_W + V_R}$$

Where,

- V = opacity standard in percent opacity, six (6) minute average.
- X = opacity standard in percent opacity that applies to other sources or sources discharging through same stack.
- V<sub>W</sub> = exhaust flow rate in dry standard cubic feet per minute from the wood-fired fuel burning equipment and other equipment present before June 16, 1978.
- V<sub>R</sub> = exhaust flow rate in dry standard cubic feet per minute from the equipment (not being wood-fired fuel burning equipment) constructed so as to exhaust through the stack and commenced on or after June 16, 1978.

- (6) This rule does not apply in Davidson, Hamilton, Knox, and Shelby Counties but facilities in these counties will be subject to Rule 1200-03-05-.01.

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-25-105. **Administrative History:** Original rule filed May 17, 1978; effective June 16, 1978. Amendment filed December 20, 1984; effective January 19, 1985. Amendment filed September 21, 1988; effective November 6, 1988.

**1200-03-05-.07 RESERVED.**

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-201-101, et seq. **Administrative History:** Original rule filed February 5, 1979; effective March 21, 1979. Repeal filed June 29, 1984; effective July 29, 1984. Amendment filed February 5, 2015; effective May 6, 2015.

**1200-03-05-.08 RESERVED.**

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-201-101, et seq. **Administrative History:** Original rule filed February 5, 1979; effective March 21, 1979. Amendment filed May 7, 1979; effective June 21, 1979. Amendment filed August 2, 1999; October 16, 1999. Repeal of rule and amended to reserved status filed February 5, 2015; effective May 6, 2015.

**1200-03-05-.09 RESERVED.**

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-201-101, et seq. **Administrative History:** Original rule filed December 18, 1981; effective February 1, 1982. Amendment filed September 21, 1988; effective November 6, 1988. Amendment filed January 21, 1998; effective April 6, 1998. Repeal of rule and amended to reserved status filed February 5, 2015; effective May 6, 2015.

**1200-03-05-.10 CHOICE OF VISIBLE EMISSION STANDARD FOR CERTAIN FUEL BURNING EQUIPMENT.**

- (1) A fuel burning installation having fuel burning equipment with a heat input of between 50 million Btu/hr and 600 million Btu/hr, in operation or having a construction authorization, on July 31, 1981 and subject to Rule 1200-03-05-.01 shall have the option of electing an alternate visible emission standard contained in Paragraph 1200-03-05-.10(2). The owner or operator of such fuel burning equipment electing to be regulated by the alternate standard shall make this election known in writing, by certified mail, to the Technical Secretary within 90 days of the effective date of this rule.
  - (a) The election of the alternate standard will apply to all fuel burning equipment at the fuel burning installation.
  - (b) If the alternate standard is not elected, all fuel burning equipment at the fuel burning installation will remain subject to Rule 1200-03-05-.01.
- (2) No person electing the alternate visible emission standard shall cause, suffer, allow, or permit the discharge of a visible emission from any fuel burning equipment in excess of twenty (20) percent opacity (6 minute average) except for one six-minute period per one (1) hour or more than twenty-four (24) minutes in any twenty-four (24) hour period.
- (3) Opacity for the purpose of Paragraph 1200-03-05-.10(2) shall be determined by the reference method as specified in the *Federal Register*, Vol. 39, No. 219, November 12, 1974.

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-25-105. **Administrative History:** Original rule filed June 16, 1981; effective July 31, 1981.

**1200-03-05-.11 RESERVED.**

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-201-101, et seq. **Administrative History:** Original rule filed November 12, 1982; effective December 13, 1982. Amendment filed January 21, 1998; effective April 6, 1998. Amendment filed February 5, 2015; effective May 6, 2015.

**1200-03-05-.12 RESERVED.**

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-25-105. **Administrative History:** Original rule filed September 21, 1988; effective November 6, 1988. Repeal of rule and amended to reserved status filed February 5, 2015; effective May 6, 2015.

**RULES  
OF  
TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
BUREAU OF ENVIRONMENT  
DIVISION OF AIR POLLUTION CONTROL**

**CHAPTER 1200-03-06  
NON-PROCESS EMISSION STANDARDS**

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**1200-03-06-.01 GENERAL NON-PROCESS EMISSIONS.**

- (1) No person shall cause, suffer, allow, or permit emissions in excess of the standards in this Chapter.
- (2) In any area where one or more sources are emitting particulates at rates in conformity with applicable maximum allowable emission rates and the ambient air quality standard for particulate matter is being exceeded, the Board shall be responsible for setting an appropriate emission standard for each source contributing to the particulate matter in the ambient air of the area, at such value as the Board may consider necessary to achieve the desired air quality. Certain areas in the state have been identified as needing additional control beyond that required by this Chapter. These areas and the additional control requirements are stated in Chapter 1200-03-19.
- (3) The owner or operator of an existing fuel burning installation proposing to make a modification of this source or to rebuild or replace it shall only take such action if it will result in the source meeting the maximum allowable emission standards for a new fuel burning installation.
- (4) As used in this Chapter, existing installations or equipment shall mean such as were under construction or in operation prior to April 3, 1972 and non-portable equipment which was not relocated more than 1.0 km from the previous position after November 6, 1988.
- (5) For the purpose of determining the applicable emission standards in this chapter, a change in fuel from natural gas, propane, butane, and/or fuel oil to any of these herein named fuels and any required alterations to existing fuel burning equipment to accommodate these fuels shall not be considered a modification. This shall not apply to sources identified in rule 1200-03-09-.01(4). However, the allowable emissions for the source will not change unless Best Available Control Technology is required.
- (6) Regardless of the specific emission standards contained in this Chapter a new or modified non-process source locating in or significantly impacting upon a nonattainment area shall comply with the provisions of 1200-03-09-.01(5) prior to receiving a construction permit.
- (7) Upon mutual agreement of the owner or operator of any air contaminant source and the Technical Secretary, an emission limit more restrictive than that otherwise specified in this Chapter may be established. The emission limit shall be stated as a special condition for any permit or order issued concerning the source. Violation of this agreed to, more stringent emission standard is grounds for revocation of the issued permit and/or other enforcement measures provided for in the Tennessee Air Quality Act.

(Rule 1200-03-06-.01, continued)

- (8) Regardless of the specific emission standards contained in this chapter, all non-process sources identified in 1200-03-09-.01(4) of these regulations shall comply with the standards set pursuant to chapter 1200-03-09.

**Authority:** T.C.A. §§ 68-25-105 and 4-5-202. **Administrative History:** Original rule certified June 7, 1974. Amendment filed January 10, 1977; effective date February 9, 1977. Amendment filed May 17, 1978; June 16, 1978. Amendment filed February 5, 1979; effective March 21, 1979. Amendment filed May 7, 1979, June 21, 1979. Amendment filed September 22, 1988; effective November 6, 1988.

### 1200-03-06-.02 NON-PROCESS PARTICULATE EMISSION STANDARDS.

- (1) Existing Fuel Burning Equipment

The maximum hour allowable particulate emissions for a fuel burning installation commenced before April 3, 1972, shall be determined from the following equations:

$$E = 0.600 \quad \text{for } Q \text{ less than or equal to } 10.0 \times 10^6 \frac{\text{Btu}}{\text{hr.}}$$

$$E = 0.600 (10/Q)^{0.2594} \quad \text{for } 10.0 \times 10^6 \frac{\text{Btu}}{\text{hr.}} \text{ less than } Q \text{ less than } 10.0 \times 10^9 \frac{\text{Btu}}{\text{hr.}}$$

$$E = 0.100 \quad \text{for } Q \geq 10.0 \times 10^9 \frac{\text{Btu}}{\text{hr.}}$$

Where:

E = allowable particulate emissions in lb per million Btu.

Q = total installation heat input in million Btu per hour.

- (2) New Fuel Burning Equipment

- (a) The maximum allowable particulate emissions for a fuel burning installation commenced on or after April 3, 1972, shall be determined from the following equations:

$$E = 0.600 \quad \text{for } Q \text{ less than or equal to } 10.0 \times 10^6 \frac{\text{Btu}}{\text{hr.}}$$

$$E = 0.600 (10/Q)^{0.5566} \quad \text{for } 10.0 \times 10^6 \frac{\text{Btu}}{\text{hr.}} \text{ less than } Q \text{ less than } 250 \times 10^6 \frac{\text{Btu}}{\text{hr.}}$$

$$E = 0.100 \quad \text{for } Q \text{ greater than or equal to } 250 \times 10^6 \frac{\text{Btu}}{\text{hr.}}$$

where, E and Q are as defined in paragraph (1) above.

- (b) Where only part of the fuel burning equipment in a fuel burning installation is constructed or modified on or after April 3, 1972, the maximum allowable particulate emissions is determined by the following equation:

$$E_t = (Q_x)(E_x) + (Q_y)(E_y)$$

Where,

$E_t$  = allowable particulate emission in lb/hr,

(Rule 1200-03-06-.02, continued)

Qx = total heat input for existing equipment in million Btu/hr,

Ex = allowable emissions for installation of size Qx as determined by paragraph (1) above in lb per million Btu,

Qy = total heat input for new equipment in million Btu/hr.

Ey = allowable emissions for installation of size Qy as determined by subparagraph (a) above in lb per million Btu.

- (c) In lieu of (a) above, the maximum allowable particulate emissions from any wood refuse boiler built after April 3, 1972, in which 3% or more of the total heat input is obtained from ammonium sulfite spent liquor, shall not exceed .24 pounds per million BTU heat input. This rule applies to that fuel burning equipment designed to burn wood and when the burning of wood provides at least 30% of the heat input of the unit. This rule does not apply to units burning coal.
- (3) Incinerators
- (a) The maximum allowable particulate emissions from incinerators is 0.200 percent of the charging rate for incinerators with a 2000 pound per hour charging rate or less and 0.100 percent of the charging rate for incinerators with a charging rate greater than 2000 pounds per hour.
- (b) Reserved.
- (c) The particulate emission standards of this paragraph are not applicable to wigwam burners, air curtain destructors, and air curtain incinerators.
- (4) Repealed.
- (5) Relocated non-portable fuel burning equipment. The maximum allowable particulate emissions for non-portable fuel burning equipment which is relocated more than 1.0 km from the previous position after November 6, 1988 shall be the greater of the actual emissions at its previous site or the allowable emissions for new fuel burning equipment.

**Authority:** T.C.A. §§ 68-25-105, 4-5-202, and 68-201-105. **Administrative History:** Original rule certified June 7, 1974. Amendment filed January 10, 1977; effective February 9, 1977. Amendment filed February 5, 1979; effective March 21, 1979. Amendment filed May 7, 1979; effective June 21, 1979. Amendment filed July 21, 1980; effective September 8, 1980. Amendment filed September 22, 1988; effective November 6, 1988. Amendment filed January 15, 2009; effective March 31, 2009.

#### 1200-03-06-.03 GENERAL NON-PROCESS GASEOUS EMISSIONS.

- (1) No person shall cause, suffer, allow, or permit gaseous emissions in excess of the standards in this Chapter.
- (2) Any person constructing or otherwise establishing a non-portable air contaminant source emitting gaseous air contaminants after April 3, 1972, or relocating an air contaminant source more than 1.0 km from the previous position after November 6, 1988, shall install and utilize the best equipment and technology currently available for controlling such gaseous emissions.

**Authority:** T.C.A. §§ 68-25-105 and 4-5-202. **Administrative History:** Original rule certified June 7, 1974. Amendment filed May 7, 1979; effective June 21, 1979. Amendment filed September 22, 1988; effective November 6, 1988.

#### **1200-03-06-.04 REPEALED.**

**Authority:** T.C.A. §§ 68-25-105 and 4-5-202. **Administrative History:** Original rule certified June 7, 1974. Repeal filed May 15, 1979, effective June 29, 1979

#### **1200-03-06-.05 WOOD-FIRED FUEL BURNING EQUIPMENT.**

- (1) Any wood fired-fuel burning equipment commenced before March 1, 1978, must comply with the following emission standards shown below:
  - (a) 0.330 grains of particulate matter per standard dry cubic foot of exhaust gasses, corrected to 12% carbon dioxide, for fuel burning equipment up to and including 50 million Btu per hour heat input.
  - (b) 0.300 grains of particulate matter per standard dry cubic foot of exhaust gasses, corrected to 12% carbon dioxide, for fuel burning equipment of 100 million Btu per hour heat input or in excess thereof.
  - (c) The allowable emissions for wood-fired fuel burning equipment between 50 million and 100 million Btu per hour heat input is that determined by linear interpolation between the values in subparagraphs (a) and (b).
  - (d) 0.56 grains of particulate matter per dry standard cubic foot of exhaust gases, corrected to 12% carbon dioxide, for fuel burning equipment up to and including 50 million Btu per hour heat input for counties identified in paragraph (8)(d) of this rule.
  - (e) The allowable for wood-fired fuel burning equipment between 50 million and 100 million Btu per hour heat input is that determined by linear interpolation between the values in subparagraph (d) and (b) for counties identified in paragraph (8)(d) of this rule.
- (2) Any wood-fired fuel burning equipment commenced on or after March 1, 1978, must comply with the emission standards shown below:
  - (a) 0.330 grains of particulate matter per standard dry cubic foot of exhaust gasses, corrected to 12% carbon dioxide, for fuel burning equipment up to, and including, 25 million Btu per hour heat input.
  - (b) 0.200 grains of particulate matter per standard dry cubic foot of exhaust gasses, corrected to 12% carbon dioxide, for fuel burning equipment of 100 million Btu per hour heat input or in excess thereof.
  - (c) The allowable emissions for wood-fired fuel burning equipment between 25 million and 100 million Btu per hour heat input is that determined by linear interpolation between the values in subparagraphs (a) and (b).
- (3) Wood as used in this rule means:
  - (a) Bark.
  - (b) Sawdust or other woody plant tissues (lignified xylem) mechanically reduced in size, but not chemically changed.

(Rule 1200-03-06-.05, continued)

- (c) Any combination of the materials in (a) and (b).
- (4) Any fuel burning installation with wood-fired burning equipment such that said wood-fired fuel burning equipment has 100 million Btu heat input per hour or in excess thereof, shall install, calibrate, maintain, and operate a photoelectric or any other type opacity monitor and recorder that has been approved by the Technical Secretary and is of the type referred to in Rule 1200-3-5-.05. This paragraph does not apply where the moisture content of the exhaust is so high that condensation occurs in the stack.
- (5) This rule only applies to that fuel burning designed to burn wood and when the burning of wood provides at least 30% of the heat input of the unit. At other times the unit will revert to being regulated by Rule 1200-03-06-.02. This rule 1200-03-06-.05 does not apply to units burning coal or liquid fuels other than fuel oils.
- (6) Where fuel burning equipment units are the same fuel burning installation are subject to this rule and are regulated by two different grain loading limits, an average weighted directly on the flow rates will determine the allowable emission limit.
- (7) When a wood-fired fuel burning equipment is on a common stack with other air contaminant sources, then the wood-fired units shall be considered independent of the other air contaminant sources.
- (8) The applicability of this rule shall be as follows:
  - (a) Paragraph (2) of this rule shall apply to all wood-fired fuel burning equipment commenced on or after March 1, 1978, except for those units in Davidson, Hamilton, Knox, and Shelby counties.
  - (b) Subparagraphs (1)(a) and (1)(c) of this rule shall apply to all wood-fired fuel burning equipment commenced before March 1, 1978 in Madison, Bedford, Hamblen, and Coffee counties.
  - (c) Subparagraph (1)(b) of this rule shall apply to wood fired-fuel burning equipment commenced before March 1, 1978 except for units in Davidson, Hamilton, Knox, and Shelby counties.
  - (d) Subparagraphs (1)(d) and (1)(e) of this rule shall apply to all wood fired fuel burning equipment commenced before March 1, 1978 in Bradley, Claiborne, Cocke, Cumberland, Dickson, Fentress, Franklin, Gibson, Giles, Grainger, Greene, Henry, Jefferson, Lawrence, Loudon, Macon, Marion, Marshall, McMinn, Montgomery, Polk, Putnam, Rhea, Rutherford, Scott, Sevier, Sumner, Warren, Wayne, Weakley, White, Williamson, and Wilson counties whose emissions have been strategy tested and included in the State Implementation Plan. Any wood fired fuel burning equipment which except for not having had its emissions strategy tested and included in the State Implementation Plan would be wood fired fuel burning equipment designated by the preceding sentence of this subparagraph shall be regulated by subparagraph (1)(a), (b), or (c) of this rule.
- (9) Except as mentioned in paragraph (8) of this rule, all existing wood-fired fuel burning equipment of 50 million Btu per hour heat input or less shall be regulated by Rule 1200-03-06-.02.

**Authority:** T.C.A. §§ 68-25-105 and 4-5-202. **Administrative History:** Original rule filed May 17, 1978; effective June 16, 1978. Amendment filed February 5, 1979; effective March 21, 1979. Amendment filed May 15, 1979; effective June 29, 1979. Amendment filed October 22, 1979; effective December 6, 1979.



(Rule 1200-03-06-.05, continued)

*Amendment filed April 22, 1987; effective June 29, 1979. Amendment filed September 22, 1988; effective November 6, 1988.*

**1200-03-06-.06 COMMERCIAL AND INDUSTRIAL SOLID WASTE INCINERATION UNITS THAT COMMENCED CONSTRUCTION ON OR BEFORE NOVEMBER 30, 1999.**

- (1) The owner or operator of each commercial and industrial solid waste incineration (CISWI) unit, as specified in 40 CFR 60.2550 for addressing in a state plan, must satisfy for that unit the standards and requirements specified for such units in 40 CFR 60 subpart DDDD. This includes, but is not necessarily limited to, compliance with the following:
  - (a) The increments of progress as specified in sections 60.2575 through 60.2615, with dates in Table 1 as follow:
    1. Increment 1-Submit final control plan (One year after rule-effective date)
    2. Increment 2-Final compliance December 1, 2005.
  - (b) The requirements for preparation and submittal to the technical secretary of a waste management plan as specified in sections 60.2620 through 60.2630.
  - (c) The requirements for insuring operator training and qualification as specified in sections 60.2635 through 60.2665.
  - (d) The emission limitations and operating limits specified in sections 60.2670 through 60.2685.
  - (e) The performance testing specified in sections 60.2690 and 60.2695.
  - (f) The initial and continuous compliance demonstration requirements specified in sections 60.2700 through 60.2725.
  - (g) The monitoring requirements specified in sections 60.2730 and 2735.
  - (h) The requirements for recordkeeping and reporting specified in sections 60.2740 through 60.2800.
  - (i) The requirement specified in section 60.2805 to apply for a major stationary source operating permit (according to the requirements of Paragraph 1200-03-09-.02(11)).
- (2) Notwithstanding any provisions in subpart DDDD specifying applicability, the provisions of this Rule 1200-03-06-.06 shall not apply to the burning of wood or wood waste, as defined in Paragraph 1200-03-06-.05(3) and Rule 1200-03-04-.02, respectively, solely for the disposition of such wood waste.
- (3) For the purpose of this rule, the term "Administrator" means the technical secretary. Other terms shall have the meanings specified in section 60.2875 except with respect to the applicability statement in Paragraph (2) above. Remaining terms shall have the meanings specified in this Division 1200-3.
- (4) Subpart DDDD-Emission Guidelines and Compliance Times for Commercial and Industrial Solid Waste Incinerations Units that Commenced Construction on or Before November 30, 1999, published in the Federal Register/Vol. 65, No. 232/ Friday, December 1, 2000, as an addition to 40 CFR 60, is incorporated verbatim into Tennessee regulations as follows:

(Rule 1200-03-06-.06, continued)

Subpart DDDD--Emissions Guidelines and Compliance Times for Commercial and Industrial Solid Waste Incineration Units that Commenced Construction On or Before November 30, 1999

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Introduction

Sec. 60.2500 What is the purpose of this subpart?

This subpart establishes emission guidelines and compliance schedules for the control of emissions from commercial and industrial solid waste incineration (CISWI) units. The pollutants addressed by these emission guidelines are listed in Table 2 of this subpart. These emission guidelines are developed in accordance with sections 111(d) and 129 of the Clean Air Act and subpart B of this part.

Sec. 60.2505 Am I affected by this subpart?

(a) If you are the Administrator of an air quality program in a State or United States protectorate with one or more existing CISWI units that commenced construction on or before November 30, 1999, you must submit a State plan to U.S. Environmental Protection Agency (EPA) that implements the emission guidelines contained in this subpart.

(b) You must submit the State plan to EPA by December 3, 2001.

Sec. 60.2510 Is a State plan required for all States?

No. You are not required to submit a State plan if there are no existing CISWI units in your State, and you submit a negative declaration letter in place of the State plan.

(Rule 1200-03-06-.06, continued)

Sec. 60.2515 What must I include in my State plan?

(a) You must include the nine items described in paragraphs (a)(1) through (9) of this section in your State plan.

(1) Inventory of affected CISWI units, including those that have ceased operation but have not been dismantled.

(2) Inventory of emissions from affected CISWI units in your State.

(3) Compliance schedules for each affected CISWI unit.

(4) Emission limitations, operator training and qualification requirements, a waste management plan, and operating limits for affected CISWI units that are at least as protective as the emission guidelines contained in this subpart.

(5) Performance testing, recordkeeping, and reporting requirements.

(6) Certification that the hearing on the State plan was held, a list of witnesses and their organizational affiliations, if any, appearing at the hearing, and a brief written summary of each presentation or written submission.

(7) Provision for State progress reports to EPA.

(8) Identification of enforceable State mechanisms that you selected for implementing the emission guidelines of this subpart.

(9) Demonstration of your State's legal authority to carry out the sections 111(d) and 129 State plan.

(b) Your State plan may deviate from the format and content of the emission guidelines contained in this subpart. However, if your State plan does deviate in content, you must demonstrate that your State plan is at least as protective as the emission guidelines contained in this subpart. Your State plan must address regulatory applicability, increments of progress for retrofit, operator training and qualification, a waste management plan, emission limitations, performance testing, operating limits, monitoring, recordkeeping and reporting, and air curtain incinerator requirements.

(c) You must follow the requirements of subpart B of this part (Adoption and Submittal of State Plans for Designated Facilities) in your State plan.

Sec. 60.2520 Is there an approval process for my State plan?

Yes. The EPA will review your State plan according to Sec. 60.27.

Sec. 60.2525 What if my State plan is not approvable?

If you do not submit an approvable State plan (or a negative declaration letter) by December 2, 2002, EPA will develop a Federal plan according to Sec. 60.27 to implement the emission guidelines contained in this subpart. Owners and operators of CISWI units not covered by an approved State plan must comply with the Federal plan. The Federal plan is an interim action and will be automatically withdrawn when your State plan is approved.

(Rule 1200-03-06-.06, continued)

Sec. 60.2530 Is there an approval process for a negative declaration letter?

No. The EPA has no formal review process for negative declaration letters. Once your negative declaration letter has been received, EPA will place a copy in the public docket and publish a notice in the Federal Register. If, at a later date, an existing CISWI unit is found in your State, the Federal plan implementing the emission guidelines contained in this subpart would automatically apply to that CISWI unit until your State plan is approved.

Sec. 60.2535 What compliance schedule must I include in my State plan?

(a) Your State plan must include compliance schedules that require CISWI units to achieve final compliance as expeditiously as practicable after approval of the State plan but not later than the earlier of the two dates specified in paragraphs (a)(1) and (2) of this section.

(1) December 1, 2005.

(2) Three years after the effective date of State plan approval.

(b) For compliance schedules more than 1 year following the effective date of State plan approval, State plans must include dates for enforceable increments of progress as specified in Sec. 60.2580.

Sec. 60.2540 Are there any State plan requirements for this subpart that apply instead of the requirements specified in subpart B?

Yes. Subpart B establishes general requirements for developing and processing section 111(d) plans. This subpart applies instead of the requirements in subpart B of this part for paragraphs (a) and (b) of this section:

(a) State plans developed to implement this subpart must be as protective as the emission guidelines contained in this subpart. State plans must require all CISWI units to comply by December 1, 2005 or 3 years after the effective date of State plan approval, whichever is sooner. This applies instead of the option for case-by-case less stringent emission standards and longer compliance schedules in Sec. 60.24(f).

(b) State plans developed to implement this subpart are required to include two increments of progress for the affected CISWI units. These two minimum increments are the final control plan submittal date and final compliance date in Sec. 60.21(h)(1) and (5). This applies instead of the requirement of Sec. 60.24(e)(1) that would require a State plan to include all five increments of progress for all CISWI units.

Sec. 60.2545 Does this subpart directly affect CISWI unit owners and operators in my State?

(a) No. This subpart does not directly affect CISWI unit owners and operators in your State. However, CISWI unit owners and operators must comply with the State plan you develop to implement the emission guidelines contained in this subpart. States may choose to incorporate the model rule text directly in their State plan.

(b) If you do not submit an approvable plan to implement and enforce the guidelines contained in this subpart by December 2, 2002, the EPA will implement and enforce a Federal plan, as provided in Sec. 60.2525, to ensure that each unit within your State reaches compliance with all the provisions of this subpart by December 1, 2005.

Applicability of State Plans

(Rule 1200-03-06-.06, continued)

Sec. 60.2550 What CISWI units must I address in my State plan?

(a) Your State plan must address incineration units that meet all three criteria described in paragraphs (a)(1) through (3) of this section.

(1) Incineration units in your State that commenced construction on or before November 30, 1999.

(2) Incineration units that meet the definition of a CISWI unit as defined in Sec. 60.2875.

(3) Incineration units not exempt under Sec. 60.2555.

(b) If the owner or operator of a CISWI unit makes changes that meet the definition of modification or reconstruction on or after June 1, 2001, the CISWI unit becomes subject to subpart CCCC of this part and the State plan no longer applies to that unit.

(c) If the owner or operator of a CISWI unit makes physical or operational changes to an existing CISWI unit primarily to comply with your State plan, subpart CCCC of this part does not apply to that unit. Such changes do not qualify as modifications or reconstructions under subpart CCCC of this part.

Sec. 60.2555 What combustion units are exempt from my State plan?

This subpart exempts fifteen types of units described in paragraphs (a) through (o) of this section.

(a) Pathological waste incineration units. Incineration units burning 90 percent or more by weight (on a calendar quarter basis and excluding the weight of auxiliary fuel and combustion air) of pathological waste, low-level radioactive waste, and/or chemotherapeutic waste as defined in Sec. 60.2875 are not subject to this subpart if you meet the two requirements specified in paragraphs (a)(1) and (2) of this section.

(1) Notify the Administrator that the unit meets these criteria.

(2) Keep records on a calendar quarter basis of the weight of pathological waste, low-level radioactive waste, and/or chemotherapeutic waste burned, and the weight of all other fuels and wastes burned in the unit.

(b) Agricultural waste incineration units. Incineration units burning 90 percent or more by weight (on a calendar quarter basis and excluding the weight of auxiliary fuel and combustion air) of agricultural wastes as defined in Sec. 60.2875 are not subject to this subpart if you meet the two requirements specified in paragraphs (b)(1) and (2) of this section.

(1) Notify the Administrator that the unit meets these criteria.

(2) Keep records on a calendar quarter basis of the weight of agricultural waste burned, and the weight of all other fuels and wastes burned in the unit.

(c) Municipal waste combustion units. Incineration units that meet either of the two criteria specified in paragraphs (c)(1) or (2) of this section.

(1) Are regulated under subpart Ea of this part (Standards of Performance for Municipal Waste Combustors); subpart Eb of this part (Standards of Performance for Municipal Waste Combustors for Which Construction is Commenced After September 20, 1994); subpart Cb of this part (Emission Guidelines and Compliance Time for Large Municipal Combustors that are Constructed on or Before

(Rule 1200-03-06-.06, continued)

September 20, 1994); subpart AAAA of this part (Standards of Performance for New Stationary Sources: Small Municipal Waste Combustion Units); or subpart BBBB of this part (Emission Guidelines for Existing Stationary Sources: Small Municipal Waste Combustion Units).

(2) Burn greater than 30 percent municipal solid waste or refuse-derived fuel, as defined in subpart Ea, subpart Eb, subpart AAAA, and subpart BBBB, and that have the capacity to burn less than 35 tons (32 megagrams) per day of municipal solid waste or refuse-derived fuel, if you meet the two requirements in paragraphs (c)(2)(i) and (ii) of this section.

(i) Notify the Administrator that the unit meets these criteria.

(ii) Keep records on a calendar quarter basis of the weight of municipal solid waste burned, and the weight of all other fuels and wastes burned in the unit.

(d) Medical waste incineration units. Incineration units regulated under subpart Ec of this part (Standards of Performance for Hospital/ Medical/Infectious Waste Incinerators for Which Construction is Commenced After June 20, 1996) or subpart Ca of this part (Emission Guidelines and Compliance Times for Hospital/Medical/Infectious Waste Incinerators).

(e) Small power production facilities. Units that meet the three requirements specified in paragraphs (e)(1) through (3) of this section.

(1) The unit qualifies as a small power-production facility under section 3(17)(C) of the Federal Power Act (16 U.S.C. 796(17)(C)).

(2) The unit burns homogeneous waste (not including refuse-derived fuel) to produce electricity.

(3) You notify the Administrator that the unit meets all of these criteria.

(f) Cogeneration facilities. Units that meet the three requirements specified in paragraphs (f)(1) through (3) of this section.

(1) The unit qualifies as a cogeneration facility under section 3(18)(B) of the Federal Power Act (16 U.S.C. 796(18)(B)).

(2) The unit burns homogeneous waste (not including refuse-derived fuel) to produce electricity and steam or other forms of energy used for industrial, commercial, heating, or cooling purposes.

(3) You notify the Administrator that the unit meets all of these criteria.

(g) Hazardous waste combustion units. Units that meet either of the two criteria specified in paragraph (g)(1) or (2) of this section.

(1) Units for which you are required to get a permit under section 3005 of the Solid Waste Disposal Act.

(2) Units regulated under subpart EEE of 40 CFR part 63 (National Emission Standards for Hazardous Air Pollutants from Hazardous Waste Combustors).

(h) Materials recovery units. Units that combust waste for the primary purpose of recovering metals, such as primary and secondary smelters.

(i) Air curtain incinerators. Air curtain incinerators that burn only the materials listed in paragraphs (i)(1) through (3) of this section are only required to meet the requirements under "Air Curtain Incinerators" (Secs. 60.2810 through 60.2870).



(Rule 1200-03-06-.06, continued)

(1) 100 percent wood waste.

(2) 100 percent clean lumber.

(3) 100 percent mixture of only wood waste, clean lumber, and/or yard waste.

(j) Cyclonic barrel burners. (See Sec. 60.2875)

(k) Rack, part, and drum reclamation units. (See Sec. 60.2875)

(l) Cement kilns. Kilns regulated under subpart LLL of part 63 of this chapter (National Emission Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry).

(m) Sewage sludge incinerators. Incineration units regulated under subpart O of this part (Standards of Performance for Sewage Treatment Plants).

(n) Chemical recovery units. Combustion units burning materials to recover chemical constituents or to produce chemical compounds where there is an existing commercial market for such recovered chemical constituents or compounds. The seven types of units described in paragraphs (n)(1) through (7) of this section are considered chemical recovery units.

(1) Units burning only pulping liquors (i.e., black liquor) that are reclaimed in a pulping liquor recovery process and reused in the pulping process.

(2) Units burning only spent sulfuric acid used to produce virgin sulfuric acid

(3) Units burning only wood or coal feedstock for the production of charcoal.

(4) Units burning only manufacturing byproduct streams/residues containing catalyst metals which are reclaimed and reused as catalysts or used to produce commercial grade catalysts.

(5) Units burning only coke to produce purified carbon monoxide that is used as an intermediate in the production of other chemical compounds.

(6) Units burning only hydrocarbon liquids or solids to produce hydrogen, carbon monoxide, synthesis gas, or other gases for use in other manufacturing processes.

(7) Units burning only photographic film to recover silver.

(o) Laboratory analysis units. Units that burn samples of materials for the purpose of chemical or physical analysis.

Sec. 60.2558 What if a chemical recovery unit is not listed in Sec. 60.2555(n)?

(a) If a chemical recovery unit is not listed in Sec. 60.2555(n), the owner or operator of the unit can petition the Administrator to add the unit to the list. The petition must contain the six items in paragraphs (a)(1) through (6) of this section.

(1) A description of the source of the materials being burned.

(2) A description of the composition of the materials being burned, highlighting the chemical constituents in these materials that are recovered.

(3) A description (including a process flow diagram) of the process in which the materials are burned, highlighting the type, design, and operation of the equipment used in this process.

(Rule 1200-03-06-.06, continued)

(4) A description (including a process flow diagram) of the chemical constituent recovery process, highlighting the type, design, and operation of the equipment used in this process.

(5) A description of the commercial markets for the recovered chemical constituents and their use.

(6) The composition of the recovered chemical constituents and the composition of these chemical constituents as they are bought and sold in commercial markets.

(b) Until the Administrator approves the petition, the incineration unit is covered by this subpart.

(c) If a petition is approved, the Administrator will amend Sec. 60.2555(n) to add the unit to the list of chemical recovery units.

#### Use of Model Rule

Sec. 60.2560 What is the "model rule" in this subpart?

(a) The model rule is the portion of these emission guidelines (Secs. 60.2575 through 60.2875) that addresses the regulatory requirements applicable to CISWI units. The model rule provides these requirements in regulation format. You must develop a State plan that is at least as protective as the model rule. You may use the model rule language as part of your State plan. Alternative language may be used in your State plan if you demonstrate that the alternative language is at least as protective as the model rule contained in this subpart.

(b) In the model rule of Secs. 60.2575 to 60.2875, "you" means the owner or operator of a CISWI unit.

Sec. 60.2565 How does the model rule relate to the required elements of my State plan?

Use the model rule to satisfy the State plan requirements specified in Sec. 60.2515(a)(4) and (5).

Sec. 60.2570 What are the principal components of the model rule?

The model rule contains the eleven major components listed in paragraphs (a) through (k) of this section.

(a) Increments of progress toward compliance.

(b) Waste management plan.

(c) Operator training and qualification.

(d) Emission limitations and operating limits.

(e) Performance testing.

(f) Initial compliance requirements.

(g) Continuous compliance requirements.

(h) Monitoring.

(Rule 1200-03-06-.06, continued)

- (i) Recordkeeping and reporting.
- (j) Definitions.
- (k) Tables.

#### Model Rule--Increments of Progress

Sec. 60.2575 What are my requirements for meeting increments of progress and achieving final compliance?

If you plan to achieve compliance more than 1 year following the effective date of State plan approval, you must meet the two increments of progress specified in paragraphs (a) and (b) of this section.

- (a) Submit a final control plan.
- (b) Achieve final compliance.

Sec. 60.2580 When must I complete each increment of progress?

Table 1 of this subpart specifies compliance dates for each of the increments of progress.

Sec. 60.2585 What must I include in the notifications of achievement of increments of progress?

Your notification of achievement of increments of progress must include the three items specified in paragraphs (a) through (c) of this section.

- (a) Notification that the increment of progress has been achieved.
- (b) Any items required to be submitted with each increment of progress.
- (c) Signature of the owner or operator of the CISWI unit.

Sec. 60.2590 When must I submit the notifications of achievement of increments of progress?

Notifications for achieving increments of progress must be postmarked no later than 10 business days after the compliance date for the increment.

Sec. 60.2595 What if I do not meet an increment of progress?

If you fail to meet an increment of progress, you must submit a notification to the Administrator postmarked within 10 business days after the date for that increment of progress in Table 1 of this subpart. You must inform the Administrator that you did not meet the increment, and you must continue to submit reports each subsequent calendar month until the increment of progress is met.

Sec. 60.2600 How do I comply with the increment of progress for submittal of a control plan?

For your control plan increment of progress, you must satisfy the two requirements specified in paragraphs (a) and (b) of this section.

(Rule 1200-03-06-.06, continued)

(a) Submit the final control plan that includes the five items described in paragraphs (a)(1) through (5) of this section.

(1) A description of the devices for air pollution control and process changes that you will use to comply with the emission limitations and other requirements of this subpart.

(2) The type(s) of waste to be burned.

(3) The maximum design waste burning capacity.

(4) The anticipated maximum charge rate.

(5) If applicable, the petition for site-specific operating limits under Sec. 60.2680.

(b) Maintain an onsite copy of the final control plan.

Sec. 60.2605 How do I comply with the increment of progress for achieving final compliance?

For the final compliance increment of progress, you must complete all process changes and retrofit construction of control devices, as specified in the final control plan, so that, if the affected CISWI unit is brought online, all necessary process changes and air pollution control devices would operate as designed.

Sec. 60.2610 What must I do if I close my CISWI unit and then restart it?

(a) If you close your CISWI unit but will restart it prior to the final compliance date in your State plan, you must meet the increments of progress specified in Sec. 60.2575.

(b) If you close your CISWI unit but will restart it after your final compliance date, you must complete emission control retrofits and meet the emission limitations and operating limits on the date your unit restarts operation.

Sec. 60.2615 What must I do if I plan to permanently close my CISWI unit and not restart it?

If you plan to close your CISWI unit rather than comply with the State plan, submit a closure notification, including the date of closure, to the Administrator by the date your final control plan is due.

Model Rule--Waste Management Plan

Sec. 60.2620 What is a waste management plan?

A waste management plan is a written plan that identifies both the feasibility and the methods used to reduce or separate certain components of solid waste from the waste stream in order to reduce or eliminate toxic emissions from incinerated waste.

Sec. 60.2625 When must I submit my waste management plan?

You must submit a waste management plan no later than the date specified in Table 1 of this subpart for submittal of the final control plan.

(Rule 1200-03-06-.06, continued)

Sec. 60.2630 What should I include in my waste management plan?

A waste management plan must include consideration of the reduction or separation of waste-stream elements such as paper, cardboard, plastics, glass, batteries, or metals; or the use of recyclable materials. The plan must identify any additional waste management measures, and the source must implement those measures considered practical and feasible, based on the effectiveness of waste management measures already in place, the costs of additional measures, the emissions reductions expected to be achieved, and any other environmental or energy impacts they might have.

Model Rule--Operator Training and Qualification

Sec. 60.2635 What are the operator training and qualification requirements?

(a) No CISWI unit can be operated unless a fully trained and qualified CISWI unit operator is accessible, either at the facility or can be at the facility within 1 hour. The trained and qualified CISWI unit operator may operate the CISWI unit directly or be the direct supervisor of one or more other plant personnel who operate the unit. If all qualified CISWI unit operators are temporarily not accessible, you must follow the procedures in Sec. 60.2665.

(b) Operator training and qualification must be obtained through a State-approved program or by completing the requirements included in paragraph (c) of this section.

(c) Training must be obtained by completing an incinerator operator training course that includes, at a minimum, the three elements described in paragraphs (c)(1) through (3) of this section.

(1) Training on the eleven subjects listed in paragraphs (c)(1)(i) through (xi) of this section.

(i) Environmental concerns, including types of emissions.

(ii) Basic combustion principles, including products of combustion.

(iii) Operation of the specific type of incinerator to be used by the operator, including proper startup, waste charging, and shutdown procedures.

(iv) Combustion controls and monitoring.

(v) Operation of air pollution control equipment and factors affecting performance (if applicable).

(vi) Inspection and maintenance of the incinerator and air pollution control devices.

(vii) Actions to correct malfunctions or conditions that may lead to malfunction.

(viii) Bottom and fly ash characteristics and handling procedures.

(ix) Applicable Federal, State, and local regulations, including Occupational Safety and Health Administration workplace standards.

(x) Pollution prevention.

(xi) Waste management practices.

(2) An examination designed and administered by the instructor.

(Rule 1200-03-06-.06, continued)

(3) Written material covering the training course topics that can serve as reference material following completion of the course.

Sec. 60.2640 When must the operator training course be completed?

The operator training course must be completed by the later of the three dates specified in paragraphs (a) through (c) of this section.

(a) The final compliance date (Increment 2).

(b) Six months after CISWI unit startup.

(c) Six months after an employee assumes responsibility for operating the CISWI unit or assumes responsibility for supervising the operation of the CISWI unit.

Sec. 60.2645 How do I obtain my operator qualification?

(a) You must obtain operator qualification by completing a training course that satisfies the criteria under Sec. 60.2635(b).

(b) Qualification is valid from the date on which the training course is completed and the operator successfully passes the examination required under Sec. 60.2635(c)(2).

Sec. 60.2650 How do I maintain my operator qualification?

To maintain qualification, you must complete an annual review or refresher course covering, at a minimum, the five topics described in paragraphs (a) through (e) of this section.

(a) Update of regulations.

(b) Incinerator operation, including startup and shutdown procedures, waste charging and ash handling.

(c) Inspection and maintenance.

(d) Responses to malfunctions or conditions that may lead to malfunction.

(e) Discussion of operating problems encountered by attendees.

Sec. 60.2655 How do I renew my lapsed operator qualification?

You must renew a lapsed operator qualification by one of the two methods specified in paragraphs (a) and (b) of this section.

(a) For a lapse of less than 3 years, you must complete a standard annual refresher course described in Sec. 60.2650.

(b) For a lapse of 3 years or more, you must repeat the initial qualification requirements in Sec. 60.2645(a).

Sec. 60.2660 What site-specific documentation is required?

(Rule 1200-03-06-.06, continued)

(a) Documentation must be available at the facility and readily accessible for all CISWI unit operators that addresses the ten topics described in paragraphs (a)(1) through (10) of this section. You must maintain this information and the training records required by paragraph (c) of this section in a manner that they can be readily accessed and are suitable for inspection upon request.

(1) Summary of the applicable standards under this subpart.

(2) Procedures for receiving, handling, and charging waste.

(3) Incinerator startup, shutdown, and malfunction procedures.

(4) Procedures for maintaining proper combustion air supply levels.

(5) Procedures for operating the incinerator and associated air pollution control systems within the standards established under this subpart.

(6) Monitoring procedures for demonstrating compliance with the incinerator operating limits.

(7) Reporting and recordkeeping procedures.

(8) The waste management plan required under Secs. 60.2620 through 60.2630.

(9) Procedures for handling ash.

(10) A list of the wastes burned during the performance test.

(b) You must establish a program for reviewing the information listed in paragraph (a) of this section with each incinerator operator.

(1) The initial review of the information listed in paragraph (a) of this section must be conducted by the later of the three dates specified in paragraphs (b)(1)(i) through (iii) of this section.

(i) The final compliance date (Increment 2).

(ii) Six months after CISWI unit startup.

(iii) Six months after being assigned to operate the CISWI unit.

(2) Subsequent annual reviews of the information listed in paragraph (a) of this section must be conducted no later than 12 months following the previous review.

(c) You must also maintain the information specified in paragraphs (c)(1) through (3) of this section.

(1) Records showing the names of CISWI unit operators who have completed review of the information in Sec. 60.2660(a) as required by Sec. 60.2660(b), including the date of the initial review and all subsequent annual reviews.

(2) Records showing the names of the CISWI operators who have completed the operator training requirements under Sec. 60.2635, met the criteria for qualification under Sec. 60.2645, and maintained or renewed their qualification under Sec. 60.2650 or Sec. 60.2655. Records must include documentation of training, the dates of the initial refresher training, and the dates of their qualification and all subsequent renewals of such qualifications.

(3) For each qualified operator, the phone and/or pager number at which they can be reached during operating hours.

(Rule 1200-03-06-.06, continued)

Sec. 60.2665 What if all the qualified operators are temporarily not accessible?

If all qualified operators are temporarily not accessible (i.e., not at the facility and not able to be at the facility within 1 hour), you must meet one of the two criteria specified in paragraphs (a) and (b) of this section, depending on the length of time that a qualified operator is not accessible.

(a) When all qualified operators are not accessible for more than 8 hours, but less than 2 weeks, the CISWI unit may be operated by other plant personnel familiar with the operation of the CISWI unit who have completed a review of the information specified in Sec. 60.2660(a) within the past 12 months. However, you must record the period when all qualified operators were not accessible and include this deviation in the annual report as specified under Sec. 60.2770.

(b) When all qualified operators are not accessible for 2 weeks or more, you must take the two actions that are described in paragraphs (b)(1) and (2) of this section.

(1) Notify the Administrator of this deviation in writing within 10 days. In the notice, state what caused this deviation, what you are doing to ensure that a qualified operator is accessible, and when you anticipate that a qualified operator will be accessible.

(2) Submit a status report to the Administrator every 4 weeks outlining what you are doing to ensure that a qualified operator is accessible, stating when you anticipate that a qualified operator will be accessible and requesting approval from the Administrator to continue operation of the CISWI unit. You must submit the first status report 4 weeks after you notify the Administrator of the deviation under paragraph (b)(1) of this section. If the Administrator notifies you that your request to continue operation of the CISWI unit is disapproved, the CISWI unit may continue operation for 90 days, then must cease operation. Operation of the unit may resume if you meet the two requirements in paragraphs (b)(2)(i) and (ii) of this section.

(i) A qualified operator is accessible as required under Sec. 60.2635(a).

(ii) You notify the Administrator that a qualified operator is accessible and that you are resuming operation.

#### Model Rule--Emission Limitations and Operating Limits

Sec. 60.2670 What emission limitations must I meet and by when?

You must meet the emission limitations specified in Table 2 of this subpart on the date the initial performance test is required or completed (whichever is earlier).

Sec. 60.2675 What operating limits must I meet and by when?

(a) If you use a wet scrubber to comply with the emission limitations, you must establish operating limits for four operating parameters (as specified in Table 3 of this subpart) as described in paragraphs (a)(1) through (4) of this section during the initial performance test.

(1) Maximum charge rate, calculated using one of the two different procedures in paragraph (a)(1)(i) or (ii), as appropriate.

(i) For continuous and intermittent units, maximum charge rate is 110 percent of the average charge rate measured during the most recent performance test demonstrating compliance with all applicable emission limitations.



(Rule 1200-03-06-.06, continued)

(ii) For batch units, maximum charge rate is 110 percent of the daily charge rate measured during the most recent performance test demonstrating compliance with all applicable emission limitations.

(2) Minimum pressure drop across the wet scrubber, which is calculated as 90 percent of the average pressure drop across the wet scrubber measured during the most recent performance test demonstrating compliance with the particulate matter emission limitations; or minimum amperage to the wet scrubber, which is calculated as 90 percent of the average amperage to the wet scrubber measured during the most recent performance test demonstrating compliance with the particulate matter emission limitations.

(3) Minimum scrubber liquor flow rate, which is calculated as 90 percent of the average liquor flow rate at the inlet to the wet scrubber measured during the most recent performance test demonstrating compliance with all applicable emission limitations.

(4) Minimum scrubber liquor pH, which is calculated as 90 percent of the average liquor pH at the inlet to the wet scrubber measured during the most recent performance test demonstrating compliance with the HCl emission limitation.

(b) You must meet the operating limits established during the initial performance test on the date the initial performance test is required or completed (whichever is earlier).

(c) If you use a fabric filter to comply with the emission limitations, you must operate each fabric filter system such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during a 6-month period. In calculating this operating time percentage, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted. If corrective action is required, each alarm shall be counted as a minimum of 1 hour. If you take longer than 1 hour to initiate corrective action, the alarm time shall be counted as the actual amount of time taken by you to initiate corrective action.

#### Sec. 60.2680 What if I do not use a wet scrubber to comply with the emission limitations?

If you use an air pollution control device other than a wet scrubber, or limit emissions in some other manner, to comply with the emission limitations under Sec. 60.2670, you must petition the Administrator for specific operating limits to be established during the initial performance test and continuously monitored thereafter. You must not conduct the initial performance test until after the petition has been approved by the Administrator. Your petition must include the five items listed in paragraphs (a) through (e) of this section.

(a) Identification of the specific parameters you propose to use as additional operating limits.

(b) A discussion of the relationship between these parameters and regulated pollutants change with changes in these parameters, and how limits on these parameters will serve to limit emissions of regulated pollutants.

(c) A discussion of how you will establish the upper and/or lower values for these parameters which will establish the operating limits on these parameters.

(d) A discussion identifying the methods you will use to measure and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments.

(e) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

(Rule 1200-03-06-.06, continued)

Sec. 60.2685 What happens during periods of startup, shutdown, and malfunction?

(a) The emission limitations and operating limits apply at all times except during CISWI unit startups, shutdowns, or malfunctions.

(b) Each malfunction must last no longer than 3 hours.

Model Rule--Performance Testing

Sec. 60.2690 How do I conduct the initial and annual performance test?

(a) All performance tests must consist of a minimum of three test runs conducted under conditions representative of normal operations.

(b) You must document that the waste burned during the performance test is representative of the waste burned under normal operating conditions by maintaining a log of the quantity of waste burned (as required in Sec. 60.2740(b)(1)) and the types of waste burned during the performance test.

(c) All performance tests must be conducted using the minimum run duration specified in Table 2 of this subpart.

(d) Method 1 of appendix A of this part must be used to select the sampling location and number of traverse points.

(e) Method 3A or 3B of appendix A of this part must be used for gas composition analysis, including measurement of oxygen concentration. Method 3A or 3B of appendix A of this part must be used simultaneously with each method.

(f) All pollutant concentrations, except for opacity, must be adjusted to 7 percent oxygen using Equation 1 of this section:

$$C_{adj} = C_{meas} (20.9-7)/(20.9-\%O_2) \quad (\text{Eq. 1})$$

Where:

$C_{adj}$  = pollutant concentration adjusted to 7 percent oxygen;

$C_{meas}$  = pollutant concentration measured on a dry basis;

$(20.9-7)$  = 20.9 percent oxygen-7 percent oxygen (defined oxygen correction basis);

20.9 = oxygen concentration in air, percent; and

$\%O_2$  = oxygen concentration measured on a dry basis, percent.

(g) You must determine dioxins/furans toxic equivalency by following the procedures in paragraphs (g)(1) through (3) of this section.

(1) Measure the concentration of each dioxin/furan tetra- through octa-congener emitted using EPA Method 23.

(2) For each dioxin/furan congener measured in accordance with paragraph (g)(1) of this section, multiply the congener concentration by its corresponding toxic equivalency factor specified in Table 4 of this subpart.

(Rule 1200-03-06-.06, continued)

(3) Sum the products calculated in accordance with paragraph (g)(2) of this section to obtain the total concentration of dioxins/furans emitted in terms of toxic equivalency.

Sec. 60.2695 How are the performance test data used?

You use results of performance tests to demonstrate compliance with the emission limitations in Table 2 of this subpart.

Model Rule--Initial Compliance Requirements

Sec. 60.2700 How do I demonstrate initial compliance with the emission limitations and establish the operating limits?

You must conduct an initial performance test, as required under Sec. 60.8, to determine compliance with the emission limitations in Table 2 of this subpart and to establish operating limits using the procedure in Sec. 60.2675 or Sec. 60.2680. The initial performance test must be conducted using the test methods listed in Table 2 of this subpart and the procedures in Sec. 60.2690.

Sec. 60.2705 By what date must I conduct the initial performance test?

The initial performance test must be conducted no later than 180 days after your final compliance date. Your final compliance date is specified in Table 1 of this subpart.

Model Rule--Continuous Compliance Requirements

Sec. 60.2710 How do I demonstrate continuous compliance with the emission limitations and the operating limits?

(a) You must conduct an annual performance test for particulate matter, hydrogen chloride, and opacity for each CISWI unit as required under Sec. 60.8 to determine compliance with the emission limitations. The annual performance test must be conducted using the test methods listed in Table 2 of this subpart and the procedures in Sec. 60.2690.

(b) You must continuously monitor the operating parameters specified in Sec. 60.2675 or established under Sec. 60.2680. Operation above the established maximum or below the established minimum operating limits constitutes a deviation from the established operating limits. Three-hour rolling average values are used to determine compliance (except for baghouse leak detection system alarms) unless a different averaging period is established under Sec. 60.2680. Operating limits do not apply during performance tests.

(c) You must only burn the same types of waste used to establish operating limits during the performance test.

Sec. 60.2715 By what date must I conduct the annual performance test?

You must conduct annual performance tests for particulate matter, hydrogen chloride, and opacity within 12 months following the initial performance test. Conduct subsequent annual performance tests within 12 months following the previous one.

(Rule 1200-03-06-.06, continued)

Sec. 60.2720 May I conduct performance testing less often?

(a) You can test less often for a given pollutant if you have test data for at least 3 years, and all performance tests for the pollutant (particulate matter, hydrogen chloride, or opacity) over 3 consecutive years show that you comply with the emission limitation. In this case, you do not have to conduct a performance test for that pollutant for the next 2 years. You must conduct a performance test during the third year and no more than 36 months following the previous performance test.

(b) If your CISWI unit continues to meet the emission limitation for particulate matter, hydrogen chloride, or opacity, you may choose to conduct performance tests for these pollutants every third year, but each test must be within 36 months of the previous performance test.

(c) If a performance test shows a deviation from an emission limitation for particulate matter, hydrogen chloride, or opacity, you must conduct annual performance tests for that pollutant until all performance tests over a 3-year period show compliance.

Sec. 60.2725 May I conduct a repeat performance test to establish new operating limits?

(a) Yes. You may conduct a repeat performance test at any time to establish new values for the operating limits. The Administrator may request a repeat performance test at any time.

(b) You must repeat the performance test if your feed stream is different than the feed streams used during any performance test used to demonstrate compliance.

Model Rule--Monitoring

Sec. 60.2730 What monitoring equipment must I install and what parameters must I monitor?

(a) If you are using a wet scrubber to comply with the emission limitation under Sec. 60.2670, you must install, calibrate (to manufacturers' specifications), maintain, and operate devices (or establish methods) for monitoring the value of the operating parameters used to determine compliance with the operating limits listed in Table 3 of this subpart. These devices (or methods) must measure and record the values for these operating parameters at the frequencies indicated in Table 3 of this subpart at all times except as specified in Sec. 60.2735(a).

(b) If you use a fabric filter to comply with the requirements of this subpart, you must install, calibrate, maintain, and continuously operate a bag leak detection system as specified in paragraphs (b)(1) through (8) of this section.

(1) You must install and operate a bag leak detection system for each exhaust stack of the fabric filter.

(2) Each bag leak detection system must be installed, operated, calibrated, and maintained in a manner consistent with the manufacturer's written specifications and recommendations.

(3) The bag leak detection system must be certified by the manufacturer to be capable of detecting particulate matter emissions at concentrations of 10 milligrams per actual cubic meter or less.

(4) The bag leak detection system sensor must provide output of relative or absolute particulate matter loadings.

(5) The bag leak detection system must be equipped with a device to continuously record the output signal from the sensor.

(Rule 1200-03-06-.06, continued)

(6) The bag leak detection system must be equipped with an alarm system that will sound automatically when an increase in relative particulate matter emissions over a preset level is detected. The alarm must be located where it is easily heard by plant operating personnel.

(7) For positive pressure fabric filter systems, a bag leak detection system must be installed in each baghouse compartment or cell. For negative pressure or induced air fabric filters, the bag leak detector must be installed downstream of the fabric filter.

(8) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

(c) If you are using something other than a wet scrubber to comply with the emission limitations under Sec. 60.2670, you must install, calibrate (to the manufacturers' specifications), maintain, and operate the equipment necessary to monitor compliance with the site-specific operating limits established using the procedures in Sec. 60.2680.

Sec. 60.2735 Is there a minimum amount of monitoring data I must obtain?

(a) Except for monitoring malfunctions, associated repairs, and required quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments of the monitoring system), you must conduct monitoring at all times the CISWI unit is operating.

(b) Do not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or quality control activities for meeting the requirements of this subpart, including data averages and calculations. You must use all the data collected during all other periods in assessing compliance with the operating limits.

Model Rule--Recordkeeping and Reporting

Sec. 60.2740 What records must I keep?

You must maintain the 13 items (as applicable) as specified in paragraphs (a) through (m) of this section for a period of at least 5 years:

(a) Calendar date of each record.

(b) Records of the data described in paragraphs (b)(1) through (6) of this section:

(1) The CISWI unit charge dates, times, weights, and hourly charge rates.

(2) Liquor flow rate to the wet scrubber inlet every 15 minutes of operation, as applicable.

(3) Pressure drop across the wet scrubber system every 15 minutes of operation or amperage to the wet scrubber every 15 minutes of operation, as applicable.

(4) Liquor pH as introduced to the wet scrubber every 15 minutes of operation, as applicable.

(5) For affected CISWI units that establish operating limits for controls other than wet scrubbers under Sec. 60.2680, you must maintain data collected for all operating parameters used to determine compliance with the operating limits.

(6) If a fabric filter is used to comply with the emission limitations, you must record the date, time, and duration of each alarm and the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action taken. You must also record the percent of

(Rule 1200-03-06-.06, continued)

operating time during each 6-month period that the alarm sounds, calculated as specified in Sec. 60.2675(c).

(c) Identification of calendar dates and times for which monitoring systems used to monitor operating limits were inoperative, inactive, malfunctioning, or out of control (except for downtime associated with zero and span and other routine calibration checks). Identify the operating parameters not measured, the duration, reasons for not obtaining the data, and a description of corrective actions taken.

(d) Identification of calendar dates, times, and durations of malfunctions, and a description of the malfunction and the corrective action taken.

(e) Identification of calendar dates and times for which data show a deviation from the operating limits in Table 3 of this subpart or a deviation from other operating limits established under Sec. 60.2680 with a description of the deviations, reasons for such deviations, and a description of corrective actions taken.

(f) The results of the initial, annual, and any subsequent performance tests conducted to determine compliance with the emission limits and/or to establish operating limits, as applicable. Retain a copy of the complete test report including calculations.

(g) Records showing the names of CISWI unit operators who have completed review of the information in Sec. 60.2660(a) as required by Sec. 60.2660(b), including the date of the initial review and all subsequent annual reviews.

(h) Records showing the names of the CISWI operators who have completed the operator training requirements under Sec. 60.2635, met the criteria for qualification under Sec. 60.2645, and maintained or renewed their qualification under Sec. 60.2650 or Sec. 60.2655. Records must include documentation of training, the dates of the initial and refresher training, and the dates of their qualification and all subsequent renewals of such qualifications.

(i) For each qualified operator, the phone and/or pager number at which they can be reached during operating hours.

(j) Records of calibration of any monitoring devices as required under Sec. 60.2730.

(k) Equipment vendor specifications and related operation and maintenance requirements for the incinerator, emission controls, and monitoring equipment.

(l) The information listed in Sec. 60.2660(a).

(m) On a daily basis, keep a log of the quantity of waste burned and the types of waste burned (always required).

Sec. 60.2745 Where and in what format must I keep my records?

All records must be available onsite in either paper copy or computer-readable format that can be printed upon request, unless an alternative format is approved by the Administrator.

Sec. 60.2750 What reports must I submit?

See Table 5 of this subpart for a summary of the reporting requirements.

Sec. 60.2755 When must I submit my waste management plan?

(Rule 1200-03-06-.06, continued)

You must submit the waste management plan no later than the date specified in Table 1 of this subpart for submittal of the final control plan.

Sec. 60.2760 What information must I submit following my initial performance test?

You must submit the information specified in paragraphs (a) through (c) of this section no later than 60 days following the initial performance test. All reports must be signed by the facilities manager.

(a) The complete test report for the initial performance test results obtained under Sec. 60.2700, as applicable.

(b) The values for the site-specific operating limits established in Sec. 60.2675 or Sec. 60.2680.

(c) If you are using a fabric filter to comply with the emission limitations, documentation that a bag leak detection system has been installed and is being operated, calibrated, and maintained as required by Sec. 60.2730(b).

Sec. 60.2765 When must I submit my annual report?

You must submit an annual report no later than 12 months following the submission of the information in Sec. 60.2760. You must submit subsequent reports no more than 12 months following the previous report. (If the unit is subject to permitting requirements under title V of the Clean Air Act, you may be required by the permit to submit these reports more frequently.)

Sec. 60.2770 What information must I include in my annual report?

The annual report required under Sec. 60.2765 must include the ten items listed in paragraphs (a) through (j) of this section. If you have a deviation from the operating limits or the emission limitations, you must also submit deviation reports as specified in Secs. 60.2775, 60.2780, and 60.2785.

(a) Company name and address.

(b) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.

(c) Date of report and beginning and ending dates of the reporting period.

(d) The values for the operating limits established pursuant to Sec. 60.2675 or Sec. 60.2680.

(e) If no deviation from any emission limitation or operating limit that applies to you has been reported, a statement that there was no deviation from the emission limitations or operating limits during the reporting period, and that no monitoring system used to determine compliance with the operating limits was inoperative, inactive, malfunctioning or out of control.

(f) The highest recorded 3-hour average and the lowest recorded 3-hour average, as applicable, for each operating parameter recorded for the calendar year being reported.

(g) Information recorded under Sec. 60.2740(b)(6) and (c) through (e) for the calendar year being reported.

(h) If a performance test was conducted during the reporting period, the results of that test.

(Rule 1200-03-06-.06, continued)

(i) If you met the requirements of Sec. 60.2720(a) or (b), and did not conduct a performance test during the reporting period, you must state that you met the requirements of Sec. 60.2720(a) or (b), and, therefore, you were not required to conduct a performance test during the reporting period.

(j) Documentation of periods when all qualified CISWI unit operators were unavailable for more than 8 hours, but less than 2 weeks.

Sec. 60.2775 What else must I report if I have a deviation from the operating limits or the emission limitations?

(a) You must submit a deviation report if any recorded 3-hour average parameter level is above the maximum operating limit or below the minimum operating limit established under this subpart, if the bag leak detection system alarm sounds for more than 5 percent of the operating time for the 6-month reporting period, or if a performance test was conducted that deviated from any emission limitation.

(b) The deviation report must be submitted by August 1 of that year for data collected during the first half of the calendar year (January 1 to June 30), and by February 1 of the following year for data you collected during the second half of the calendar year (July 1 to December 31).

Sec. 60.2780 What must I include in the deviation report?

In each report required under Sec. 60.2775, for any pollutant or parameter that deviated from the emission limitations or operating limits specified in this subpart, include the six items described in paragraphs (a) through (f) of this section.

(a) The calendar dates and times your unit deviated from the emission limitations or operating limit requirements.

(b) The averaged and recorded data for those dates.

(c) Duration and causes of each deviation from the emission limitations or operating limits and your corrective actions.

(d) A copy of the operating limit monitoring data during each deviation and any test report that documents the emission levels.

(e) The dates, times, number, duration, and causes for monitoring downtime incidents (other than downtime associated with zero, span, and other routine calibration checks).

(f) Whether each deviation occurred during a period of startup, shutdown, or malfunction, or during another period.

Sec. 60.2785 What else must I report if I have a deviation from the requirement to have a qualified operator accessible?

(a) If all qualified operators are not accessible for 2 weeks or more, you must take the two actions in paragraphs (a)(1) and (2) of this section.

(1) Submit a notification of the deviation within 10 days that includes the three items in paragraphs (a)(1)(i) through (iii) of this section.

(i) A statement of what caused the deviation.



(Rule 1200-03-06-.06, continued)

(ii) A description of what you are doing to ensure that a qualified operator is accessible.

iii) The date when you anticipate that a qualified operator will be available.

(2) Submit a status report to the Administrator every 4 weeks that includes the three items in paragraphs (a)(2)(i) through (iii) of this section.

(i) A description of what you are doing to ensure that a qualified operator is accessible.

(ii) The date when you anticipate that a qualified operator will be accessible.

(iii) Request approval from the Administrator to continue operation of the CISWI unit.

(b) If your unit was shut down by the Administrator, under the provisions of Sec. 60.2665(b)(2), due to a failure to provide an accessible qualified operator, you must notify the Administrator that you are resuming operation once a qualified operator is accessible.

Sec. 60.2790 Are there any other notifications or reports that I must submit?

Yes. You must submit notifications as provided by Sec. 60.7.

Sec. 60.2795 In what form can I submit my reports?

Submit initial, annual, and deviation reports electronically or in paper format, postmarked on or before the submittal due dates.

Sec. 60.2800 Can reporting dates be changed?

If the Administrator agrees, you may change the semiannual or annual reporting dates. See Sec. 60.19(c) for procedures to seek approval to change your reporting date.

Model Rule--Title V Operating Permits

Sec. 60.2805 Am I required to apply for and obtain a title V operating permit for my unit?

Yes. Each CISWI unit must operate pursuant to a permit issued under section 129(e) and title V of the Clean Air Act by the later of the two dates in paragraphs (a) and (b) of this section.

(a) Thirty-six months after December 1, 2000.

(b) The effective date of the title V permit program to which your unit is subject. If your unit is subject to title V as a result of some triggering requirement(s) other than this subpart (for example, being a major source), then your unit may be required to apply for and obtain a title V permit prior to the deadlines noted above. If more than one requirement triggers the requirement to apply for a title V permit, the 12-month timeframe for filing a title V application is triggered by the requirement which first causes the source to be subject to title V.

Model Rule--Air Curtain Incinerators

Sec. 60.2810 What is an air curtain incinerator?

(Rule 1200-03-06-.06, continued)

(a) An air curtain incinerator operates by forcefully projecting a curtain of air across an open chamber or open pit in which combustion occurs. Incinerators of this type can be constructed above or below ground and with or without refractory walls and floor. (Air curtain incinerators are not to be confused with conventional combustion devices with enclosed fireboxes and controlled air technology such as mass burn, modular, and fluidized bed combustors.)

(b) Air curtain incinerators that burn only the materials listed in paragraphs (b)(1) through (3) of this section are only required to meet the requirements under "Air Curtain Incinerators" (Secs. 60.2810 through 60.2870).

(1) 100 percent wood waste.

(2) 100 percent clean lumber.

(3) 100 percent mixture of only wood waste, clean lumber, and/or yard waste.

Sec. 60.2815 What are my requirements for meeting increments of progress and achieving final compliance?

If you plan to achieve compliance more than 1 year following the effective date of State plan approval, you must meet the two increments of progress specified in paragraphs (a) and (b) of this section.

(a) Submit a final control plan.

(b) Achieve final compliance.

Sec. 60.2820 When must I complete each increment of progress?

Table 1 of this subpart specifies compliance dates for each of the increments of progress.

Sec. 60.2825 What must I include in the notifications of achievement of increments of progress?

Your notification of achievement of increments of progress must include the three items described in paragraphs (a) through (c) of this section.

(a) Notification that the increment of progress has been achieved.

(b) Any items required to be submitted with each increment of progress (see Sec. 60.2840).

(c) Signature of the owner or operator of the incinerator.

Sec. 60.2830 When must I submit the notifications of achievement of increments of progress?

Notifications for achieving increments of progress must be postmarked no later than 10 business days after the compliance date for the increment.

Sec. 60.2835 What if I do not meet an increment of progress?

If you fail to meet an increment of progress, you must submit a notification to the Administrator postmarked within 10 business days after the date for that increment of progress in Table 1 of this

(Rule 1200-03-06-.06, continued)

subpart. You must inform the Administrator that you did not meet the increment, and you must continue to submit reports each subsequent calendar month until the increment of progress is met.

Sec. 60.2840 How do I comply with the increment of progress for submittal of a control plan?

For your control plan increment of progress, you must satisfy the two requirements specified in paragraphs (a) and (b) of this section.

(a) Submit the final control plan, including a description of any devices for air pollution control and any process changes that you will use to comply with the emission limitations and other requirements of this subpart.

(b) Maintain an onsite copy of the final control plan.

Sec. 60.2845 How do I comply with the increment of progress for achieving final compliance?

For the final compliance increment of progress, you must complete all process changes and retrofit construction of control devices, as specified in the final control plan, so that, if the affected incinerator is brought online, all necessary process changes and air pollution control devices would operate as designed.

Sec. 60.2850 What must I do if I close my air curtain incinerator and then restart it?

(a) If you close your incinerator but will reopen it prior to the final compliance date in your State plan, you must meet the increments of progress specified in Sec. 60.2815.

(b) If you close your incinerator but will restart it after your final compliance date, you must complete emission control retrofits and meet the emission limitations on the date your incinerator restarts operation.

Sec. 60.2855 What must I do if I plan to permanently close my air curtain incinerator and not restart it?

If you plan to close your incinerator rather than comply with the State plan, submit a closure notification, including the date of closure, to the Administrator by the date your final control plan is due.

Sec. 60.2860 What are the emission limitations for air curtain incinerators?

(a) After the date the initial stack test is required or completed (whichever is earlier), you must meet the limitations in paragraphs (a)(1) and (2) of this section.

(1) The opacity limitation is 10 percent (6-minute average), except as described in paragraph (a)(2) of this section.

(2) The opacity limitation is 35 percent (6-minute average) during the startup period that is within the first 30 minutes of operation.

(b) Except during malfunctions, the requirements of this subpart apply at all times, and each malfunction must not exceed 3 hours.

Sec. 60.2865 How must I monitor opacity for air curtain incinerators?

(Rule 1200-03-06-.06, continued)

- (a) Use Method 9 of appendix A of this part to determine compliance with the opacity limitation.
- (b) Conduct an initial test for opacity as specified in Sec. 60.8 no later than 180 days after your final compliance date.
- (c) After the initial test for opacity, conduct annual tests no more than 12 calendar months following the date of your previous test.

Sec. 60.2870 What are the recordkeeping and reporting requirements for air curtain incinerators?

- (a) Keep records of results of all initial and annual opacity tests onsite in either paper copy or electronic format, unless the Administrator approves another format, for at least 5 years.
- (b) Make all records available for submittal to the Administrator or for an inspector's onsite review.
- (c) Submit an initial report no later than 60 days following the initial opacity test that includes the information specified in paragraphs (c) (1) and (2) of this section.
  - (1) The types of materials you plan to combust in your air curtain incinerator.
  - (2) The results (each 6-minute average) of the initial opacity tests.
- (d) Submit annual opacity test results within 12 months following the previous report.
- (e) Submit initial and annual opacity test reports as electronic or paper copy on or before the applicable submittal date and keep a copy onsite for a period of 5 years.

#### Model Rule--Definitions

Sec. 60.2875 What definitions must I know?

Terms used but not defined in this subpart are defined in the Clean Air Act and subparts A and B of this part.

Administrator means the Administrator of the U.S. Environmental Protection Agency or his/her authorized representative or Administrator of a State Air Pollution Control Agency.

Agricultural waste means vegetative agricultural materials such as nut and grain hulls and chaff (e.g., almond, walnut, peanut, rice, and wheat), bagasse, orchard prunings, corn stalks, coffee bean hulls and grounds, and other vegetative waste materials generated as a result of agricultural operations.

Air curtain incinerator means an incinerator that operates by forcefully projecting a curtain of air across an open chamber or pit in which combustion occurs. Incinerators of this type can be constructed above or below ground and with or without refractory walls and floor. (Air curtain incinerators are not to be confused with conventional combustion devices with enclosed fireboxes and controlled air technology such as mass burn, modular, and fluidized bed combustors.)

Auxiliary fuel means natural gas, liquified petroleum gas, fuel oil, or diesel fuel.

Bag leak detection system means an instrument that is capable of monitoring particulate matter loadings in the exhaust of a fabric filter (i.e., baghouse) in order to detect bag failures. A bag leak detection system includes, but is not limited to, an instrument that operates on triboelectric, light scattering, light transmittance, or other principle to monitor relative particulate matter loadings.

(Rule 1200-03-06-.06, continued)

Calendar quarter means three consecutive months (nonoverlapping) beginning on: January 1, April 1, July 1, or October 1.

Calendar year means 365 consecutive days starting on January 1 and ending on December 31.

Chemotherapeutic waste means waste material resulting from the production or use of antineoplastic agents used for the purpose of stopping or reversing the growth of malignant cells.

Clean lumber means wood or wood products that have been cut or shaped and include wet, air-dried, and kiln-dried wood products. Clean lumber does not include wood products that have been painted, pigment-stained, or pressure-treated by compounds such as chromate copper arsenate, pentachlorophenol, and creosote.

Commercial and industrial solid waste incineration (CISWI) unit means any combustion device that combusts commercial and industrial waste, as defined in this subpart. The boundaries of a CISWI unit are defined as, but not limited to, the commercial or industrial solid waste fuel feed system, grate system, flue gas system, and bottom ash. The CISWI unit does not include air pollution control equipment or the stack. The CISWI unit boundary starts at the commercial and industrial solid waste hopper (if applicable) and extends through two areas:

(1) The combustion unit flue gas system, which ends immediately after the last combustion chamber.

(2) The combustion unit bottom ash system, which ends at the truck loading station or similar equipment that transfers the ash to final disposal. It includes all ash handling systems connected to the bottom ash handling system.

Commercial and industrial waste means solid waste combusted in an enclosed device using controlled flame combustion without energy recovery that is a distinct operating unit of any commercial or industrial facility (including field-erected, modular, and custom built incineration units operating with starved or excess air), or solid waste combusted in an air curtain incinerator without energy recovery that is a distinct operating unit of any commercial or industrial facility.

Contained gaseous material means gases that are in a container when that container is combusted.

Cyclonic barrel burner means a combustion device for waste materials that is attached to a 55 gallon, open-head drum. The device consists of a lid, which fits onto and encloses the drum, and a blower that forces combustion air into the drum in a cyclonic manner to enhance the mixing of waste material and air.

Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart, including but not limited to any emission limitation, operating limit, or operator qualification and accessibility requirements;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any emission limitation, operating limit, or operator qualification and accessibility requirement in this subpart during startup, shutdown, or malfunction, regardless of whether or not such failure is permitted by this subpart.

Dioxins/furans means tetra-through octachlorinated dibenzo-p-dioxins and dibenzofurans.

(Rule 1200-03-06-.06, continued)

Discard means, for purposes of this subpart and 40 CFR part 60, subpart DDDD, only, burned in an incineration unit without energy recovery.

Drum reclamation unit means a unit that burns residues out of drums (e.g., 55 gallon drums) so that the drums can be reused.

Energy recovery means the process of recovering thermal energy from combustion for useful purposes such as steam generation or process heating.

Fabric filter means an add-on air pollution control device used to capture particulate matter by filtering gas streams through filter media, also known as a baghouse.

Low-level radioactive waste means waste material which contains radioactive nuclides emitting primarily beta or gamma radiation, or both, in concentrations or quantities that exceed applicable Federal or State standards for unrestricted release. Low-level radioactive waste is not high-level radioactive waste, spent nuclear fuel, or by-product material as defined by the Atomic Energy Act of 1954 (42 U.S.C. 2014(e)(2)).

Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused, in part, by poor maintenance or careless operation are not malfunctions.

Modification or modified CISWI unit means a CISWI unit you have changed later than June 1, 2001 and that meets one of two criteria:

(1) The cumulative cost of the changes over the life of the unit exceeds 50 percent of the original cost of building and installing the CISWI unit (not including the cost of land) updated to current costs (current dollars). To determine what systems are within the boundary of the CISWI unit used to calculate these costs, see the definition of CISWI unit.

(2) Any physical change in the CISWI unit or change in the method of operating it that increases the amount of any air pollutant emitted for which section 129 or section 111 of the Clean Air Act has established standards.

Part reclamation unit means a unit that burns coatings off parts (e.g., tools, equipment) so that the parts can be reconditioned and reused.

Particulate matter means total particulate matter emitted from CISWI units as measured by Method 5 or Method 29 of appendix A of this part.

Pathological waste means waste material consisting of only human or animal remains, anatomical parts, and/or tissue, the bags/containers used to collect and transport the waste material, and animal bedding (if applicable).

Rack reclamation unit means a unit that burns the coatings off racks used to hold small items for application of a coating. The unit burns the coating overspray off the rack so the rack can be reused.

Reconstruction means rebuilding a CISWI unit and meeting two criteria:

(1) The reconstruction begins on or after June 1, 2001.

(2) The cumulative cost of the construction over the life of the incineration unit exceeds 50 percent of the original cost of building and installing the CISWI unit (not including land) updated to current costs (current dollars). To determine what systems are within the boundary of the CISWI unit used to calculate these costs, see the definition of CISWI unit.

(Rule 1200-03-06-.06, continued)

Refuse-derived fuel means a type of municipal solid waste produced by processing municipal solid waste through shredding and size classification. This includes all classes of refuse-derived fuel including two fuels:

- (1) Low-density fluff refuse-derived fuel through densified refuse-derived fuel.
- (2) Pelletized refuse-derived fuel.

Shutdown means the period of time after all waste has been combusted in the primary chamber.

Solid waste means any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, agricultural operations, and from community activities, but does not include solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to permits under section 402 of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1342), or source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954, as amended (42 U.S.C. 2014). For purposes of this subpart and subpart CCCC, only, solid waste does not include the waste burned in the fifteen types of units described in Sec. 60.2555.

Standard conditions, when referring to units of measure, means a temperature of 68 deg.F (20 deg.C) and a pressure of 1 atmosphere (101.3 kilopascals).

Startup period means the period of time between the activation of the system and the first charge to the unit.

Wet scrubber means an add-on air pollution control device that utilizes an aqueous or alkaline scrubbing liquor to collect particulate matter (including nonvaporous metals and condensed organics) and/or to absorb and neutralize acid gases.

Wood waste means untreated wood and untreated wood products, including tree stumps (whole or chipped), trees, tree limbs (whole or chipped), bark, sawdust, chips, scraps, slabs, millings, and shavings. Wood waste does not include:

- (1) Grass, grass clippings, bushes, shrubs, and clippings from bushes and shrubs from residential, commercial/retail, institutional, or industrial sources as part of maintaining yards or other private or public lands.
- (2) Construction, renovation, or demolition wastes.
- (3) Clean lumber.

Table 1 to Subpart DDDD--Model Rule--Increments of Progress and Compliance Schedules

| Comply with these increments of progress | By these dates \a\                        |
|--|---|
| Increment 1--Submit final control plan   | (Dates to be specified in State plan)     |
| Increment 2--Final compliance            | (Dates to be specified in State plan) \b\ |

\a\ Site-specific schedules can be used at the discretion of the State.

\b\ The date can be no later than 3 years after the effective date of State plan approval or December 1, 2005.

(Rule 1200-03-06-.06, continued)

Table 2 to Subpart DDDD--Model Rule--Emission Limitations

| For the air pollutant                    | You must meet this emission limitation<br>a)  | Using this averaging time                          | And determining compliance using this method                               |
|--|---|--|--|
| Cadmium                                  | 0.004 milligrams per dry standard cubic meter | 3-run average (1 hour minimum sample time per run) | Performance test (Method 29 of appendix A of this part)                    |
| Carbon monoxide                          | 157 parts per million by dry volume           | 3-run average (1 hour minimum sample time per run) | Performance test (Method 10, 10A, or 10B, of appendix A of this part)      |
| Dioxins/furans (toxic equivalency basis) | 0.41 nanograms per dry standard cubic meter   | 3-run average (1 hour minimum sample time per run) | Performance test (Method 23 of appendix A of this part)                    |
| Hydrogen chloride                        | 62 parts per million by dry volume            | 3-run average (1 hour minimum sample time per run) | Performance test (Method 26A of appendix A of this part)                   |
| Lead                                     | 0.04 milligrams per dry standard cubic meter  | 3-run average (1 hour minimum sample time per run) | Performance test (Method 29 of appendix A of this part)                    |
| Mercury                                  | 0.47 milligrams per dry standard cubic meter  | 3-run average (1 hour minimum sample time per run) | Performance test (Method 29 of appendix A of this part)                    |
| Opacity                                  | 10 percent                                    | 6-minute averages                                  | Performance test (Method 9 of appendix A of this part)                     |
| Oxides of nitrogen                       | 388 parts per million by dry volume           | 3-run average (1 hour minimum sample time per run) | Performance test (Methods 7, 7A, 7C, 7D, or 7E of appendix A of this part) |
| Particulate matter                       | 70 milligrams per dry standard cubic meter    | 3-run average (1 hour minimum sample time per run) | Performance test (Method 5 or 29 of appendix A of this part)               |
| Sulfur dioxide                           | 20 parts per million by dry volume            | 3-run average (1 hour minimum sample time per run) | Performance test (Method 6 or 6c of appendix A of this part)               |

a) All emission limitations (except for opacity) are measured at 7 percent oxygen, dry basis at standard conditions.



(Rule 1200-03-06-.06, continued)

Table 3 to Subpart DDDD--Model Rule--Operating Limits for Wet Scrubbers

| For these operating parameters                                    | You must establish these operating limits | And monitor using these minimum frequencies |                       |  |
|---|---|---|-----------------------|--|
|   |   | Data measurement                            | Data recording        | Averaging time   |
| Charge rate   | Maximum charge rate                       | Continuous                                  | Every hour            | Daily (batch units) 3-hour rolling (continuous and intermittent units) \a\ |
| Pressure drop across the wet scrubber or amperage to wet scrubber | Minimum pressure drop or amperage         | Continuous                                  | Every 15 minutes      | 3-hour rolling \a\   |
| Scrubber liquor flow rate   | Minimum flow rate                         | Continuous                                  | Every 15 minutes..... | 3-hour rolling \a\   |
| Scrubber liquor pH  | Minimum pH                                | Continuous                                  | Every 15 minutes..... | 3-hour rolling \a\   |

\a\ Calculated each hour as the average of the previous 3 operating hours.

Table 4 to Subpart DDDD--Model Rule--Toxic Equivalency Factors

| Dioxin/furan congener                           | Toxic equivalency factor |
|---|--------------------------|
| 2,3,7,8-tetrachlorinated dibenzo-p-dioxin       | 1                        |
| 1,2,3,7,8-pentachlorinated dibenzo-p-dioxin     | 0.5                      |
| 1,2,3,4,7,8-hexachlorinated dibenzo-p-dioxin    | 0.1                      |
| 1,2,3,7,8,9-hexachlorinated dibenzo-p-dioxin    | 0.1                      |
| 1,2,3,6,7,8-hexachlorinated dibenzo-p-dioxin    | 0.1                      |
| 1,2,3,4,6,7,8-heptachlorinated dibenzo-p-dioxin | 0.01                     |
| octachlorinated dibenzo-p-dioxin                | 0.001                    |
| 2,3,7,8-tetrachlorinated dibenzofuran           | 0.1                      |
| 2,3,4,7,8-pentachlorinated dibenzofuran         | 0.5                      |
| 1,2,3,7,8-pentachlorinated dibenzofuran         | 0.05                     |
| 1,2,3,4,7,8-hexachlorinated dibenzofuran        | 0.1                      |
| 1,2,3,6,7,8-hexachlorinated dibenzofuran        | 0.1                      |
| 1,2,3,7,8,9-hexachlorinated dibenzofuran        | 0.1                      |
| 2,3,4,6,7,8-hexachlorinated dibenzofuran        | 0.1                      |
| 1,2,3,4,6,7,8-heptachlorinated dibenzofuran     | 0.01                     |
| 1,2,3,4,7,8,9-heptachlorinated dibenzofuran     | 0.01                     |
| octachlorinated dibenzofuran                    | 0.001                    |

Table 5 to Subpart DDDD--Model Rule--Summary of Reporting Requirements a

| Report | Due date | Contents | Reference |
|--------|----------|----------|-----------|
|--------|----------|----------|-----------|

(Rule 1200-03-06-.06, continued)

|   |   |   |                           |
|---|---|---|---------------------------|
| Waste Management Plan                                   | No later than the date specified in table 1 for submittal of the final control plan.  | Waste management plan.  | Sec. 60.2755.             |
| Initial Test Report                                     | No later than 60 days following the initial performance test  | Complete test report for the initial performance test. The values for the site- specific operating limits. Installation of bag leak detection systems for fabric filters.   | Sec. 60.2760.             |
| Annual Report   | No later than 12 months following the submission of the initial test report. Subsequent reports are to be submitted no more than 12 months following the previous report.                   | Name and address. Statement and signature by responsible official. Date of report. Values for the operating limits. If no deviations or malfunctions were reported, a statement that no deviations occurred during the reporting period. Highest recorded 3-hour average and the lowest 3-hour average, as applicable, for each operating parameter recorded for the calendar year being reported. Information for deviations or malfunctions recorded under Sec. 60.2740(b)(6) and(c) through (e). If a performance test was conducted during the reporting period, the results of the test. If a performance test was not conducted during the reporting period, a statement that the requirements of Sec. 60.2155(a) or (b) were met. Documentation of periods when all qualified CISWI unit operators were unavailable for more than 8 hours but less than 2 weeks. | Secs. 60.2765 and 60.2770 |
| Emission Limitation or Operating Limit Deviation Report | By August 1 of that year for data collected during the first half of the calendar year. By February 1 of the following year for data collected during the second half of the calendar year. | Dates and times of deviations. Averaged and recorded data for these dates. Duration and causes for each deviation and the corrective actions taken. Copy of operating limit monitoring data and any test reports. Dates, times, and causes for monitor downtime incidents. Whether each deviation occurred during a period of startup, shutdown, or malfunction.  | Secs. 60.2775 and 60.2780 |
| Qualified Operator Deviation Notification               | Within 10 days of deviation   | Statement of cause of deviation. Description of efforts to have an accessible qualified operator. The date a qualified operator will be accessible.   | Sec. 60.2785(a)(1)        |

(Rule 1200-03-06-.06, continued)

|  |                                   |  |                    |
|--|-----------------------------------|--|--------------------|
| Qualified Operator Deviation Status Report                         | Every 4 weeks following deviation | Description of efforts to have an accessible qualified operator. The date a qualified operator will be accessible. Request for approval to continue operation. | Sec. 60.2785(a)(2) |
| Qualified Operator Deviation And Notification of Resumed Operation | Prior to resuming operation       | Notification that you are resuming operation   | Sec. 60.2785(b)    |

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 \a\ This table is only a summary, see the referenced sections of the rule for the complete requirements.

**Authority:** T.C.A. §§ 68-201-105 and 4-5-202. **Administrative History:** Original rule filed January 17, 2003; effective April 1, 2003.

**RULES  
OF  
THE TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
DIVISION OF AIR POLLUTION CONTROL**

**CHAPTER 1200-03-07  
PROCESS EMISSION STANDARDS**

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**1200-03-07-.01 GENERAL PROCESS PARTICULATE EMISSIONS STANDARDS.**

- (1) No person shall cause, suffer, allow, or permit particulate emissions in excess of the standards in this Chapter.
- (2) In any area where one or more sources are emitting particulates at rates in conformity with applicable maximum allowable emission rates and the ambient air quality standard for particulate matter is being exceeded, the Board shall be responsible for setting an appropriate emission standard for each source contributing to the particulate matter in the ambient air of the area, at such value as the Board may consider necessary to achieve the desired air quality.

Certain areas in the state have been identified as needing additional control beyond that required by this Chapter. These areas and the additional control requirements are stated in Chapter 1200-03-19.

- (3) The owner or operator of an existing process emission source proposing to make a modification of this source or to rebuild or to replace it shall only take such action if it will result in the source meeting the maximum allowable particulate emissions standard for a new process emission source.
- (4) Limiting the Effect of the Definition of Modification. For the purpose of determining the applicable particulate matter emission standards in this chapter, a change in fuel from natural gas, propane, butane, and/or fuel oil to any of these herein named fuels and any required alternations to existing fuel burning equipment to accommodate these fuels, shall not be considered a modification.
- (5) Upon mutual agreement of the owner or operator of any air contaminant source and the Technical Secretary, an emission limit more restrictive than that otherwise specified in this chapter may be established. This emission limit shall be stated as a special condition for any permit or order issued concerning the source. Violation of this agreed to, more stringent emission standard is grounds for revocation of the issued permit and/or other enforcement measures provided for in the Tennessee Air Quality Act

**Authority:** T.C.A. §§ 4-5-201, et seq.; 4-5-202; 53-3412; 68-25-105; 68-201-101, et seq.; 68-201-105; and 68-201-201, et seq. **Administrative History:** Original rule certified June 7, 1974. Amendment filed May 17, 1978; effective June 16, 1978. Amendment filed February 5, 1979; effective March 21, 1979.

(1200-03-07-.01, continued)

*Amendment filed September 21, 1988; effective November 6, 1988. Amendments filed June 6, 2018; effective September 4, 2018.*

### **1200-03-07-.02 CHOICE OF PARTICULATE EMISSION STANDARDS - EXISTING PROCESS.**

- (1) For any process emission source operating within the State of Tennessee, which was in operation or under construction prior to August 9, 1969, the allowable emission standard shall be obtained from either the diffusion equations presented in 1200-03-07-.02(3) below or the process weight table presented in 1200-03-07-.02(4) below. The owner or operator of such a process emission source shall make known, in writing, to the Technical Secretary by July 1, 1972, his choice of emission standard. If no choice is so indicated, the Technical Secretary shall designate the emission standard of 1200-03-07-.02(4) below as the applicable standard. The emission standard chosen, either by the owner or operator or by the Technical Secretary, must be attained on or before August 9, 1973.
- (2) For any process emission source operating within the State of Tennessee, construction of which began on or after August 9, 1969, and before June 7, 1974, the allowable emission standard shall be the diffusion equations presented in 1200-03-07-.02(3) below. This standard must have been attained at the time such process emission source first commenced operation. The owner or operator of such a source shall make known in writing to the Technical Secretary by July 1, 1972, whether he wishes to continue under the diffusion equations standard or to switch to the process weight table standard presented in 1200-03-07-.02(4). If no choice is so indicated, the Technical Secretary shall designate the emission standard of 1200-03-07-.02(4) below as the applicable standard. If the process weight table standard is chosen by such owner or operator or by the Technical Secretary, then such owner or operator shall have until August 9, 1973 to convert fully to the process weight table standard. It is expressly stipulated that in the interim period such a process emission source shall continue to observe the diffusion equations standard originally applicable.
- (3) For those owners or operators of process emission sources who elect to have their process emission regulated by diffusion equations, the maximum allowable particulate emissions from such sources shall be determined by the procedures defined in (a), (b), and (c) below.
  - (a) Stack gas exit temperature less than 100°F (See Note)
 
$$Q = 3.02 \times 10^{-4} V_s h_s^2 (d_s/h_s)^{0.71}$$
  - (b) Stack gas exit temperature of 125°F or greater (See Note)
    1. Stacks less than 500 feet in height
 
$$Q = 0.2h_s (Q_T \times 0.02 \times (T_s-60))^{0.25}$$
    2. Stacks 500 feet in height and greater
 
$$Q = 0.3h_s (Q_T \times 0.02 \times (T_s-60))^{0.25}$$
  - (c)
    1. For stack gas exit temperatures from 100°F to 124°F calculate allowable emissions as in (a) and either (b)1., or (b)2., depending upon stack height (using  $T_s$  of 125°F), and make linear interpolation based upon actual stack gas exit temperature.
    2. The terms of the preceding equation shall have the following meaning and units:
      - (i)  $d_s$  - inside diameter or equivalent diameter of stack tip in feet

(1200-03-07-.02, continued)

- (ii)  $h_s$  - stack height in feet (Vertical distance above grade directly below tip of stack) equal to the height in existence or approved pursuant to (State) review as of January 31, 1972 except as follows:
    - (I) In cases where the actual height is less than that stated above, the actual height shall be used.
    - (II) In cases where the actual height is greater than that stated above, and the stack height increase was constructed (grading and pouring of concrete was done) prior to February 8, 1974, the actual height shall be used up to two and one half times the height of the facility it serves.
  - (iii)  $Q$  - maximum allowable emission rate in pounds per hour
  - (iv)  $Q_T$  - volume rate of stack gas flow in cubic feet per second calculated to 60°F.
  - (v)  $T_s$  - temperature of stack gases at stack tip in F
  - (vi)  $V_s$  - velocity of stack gases at stack tip in feet per second
  - (vii) NOTE - In determining applicability of equations in this paragraph based upon the exit gas temperature, the actual exit gas temperature must equal or exceed the stated temperature during ninety (90) percent or more of the operating time.
- (4) For those owners or operators of process emissions sources who elect to have their process emissions regulated by the Process Weight Table, the maximum allowable particulate emissions from a process emission source shall be determined by Table 1.
  - (5) Whichever standard is chosen, all sources at the same facility must be regulated by that standard.
  - (6) The owner or operator of a facility having elected to be regulated under the diffusion equations in paragraph (3) of this rule may apply to the Technical Secretary for having said facilities regulated under the process weight table specified in paragraph (4) of this rule. Once said application is approved the facility cannot return to being regulated by the diffusion equations.

**Authority:** T.C.A. §§ 4-5-202, 53-3412, and 68-25-105. **Administrative History:** Original rule certified June 7, 1974. Amendment filed March 13, 1978; April 12, 1978.

### 1200-03-07-.03 NEW PROCESSES.

- (1) The allowable emission level of particulate matter from any process emission source beginning operation on or after April 3, 1972, shall be determined by Table 2.
- (2) Regardless of the specific emission standards for particulate matter in other places in these Regulations, the Board may require any new or modified air contaminant source constructing in a nonattainment area to apply best available control technology for control of particulate emissions as determined by the Technical Secretary at the time the application for the construction permit is approved.

(1200-03-07-.03, continued)

- (3) Regardless of the specific emission standards contained in this Chapter a new or modified process emission source locating in or significantly impacting upon a nonattainment area shall comply with the provisions of 1200-03-09-.01(5) prior to receiving a construction permit.
- (4) Regardless of the specific emission standards contained in this Chapter, all sources identified in 1200-03-09-.01(4) of these regulations shall comply with the standards set pursuant to Chapter 1200-03-09.

**Authority:** T.C.A. §§ 4-5-202, 53-3412, and 68-25-105. **Administrative History:** Original Rule certified June 7, 1974. Amendment filed January 10, 1977; effective February 9, 1977. Amendment filed February 5, 1978; effective March 21, 1979. Amendment filed May 7, 1979; effective June 21, 1979.

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TABLE 1 EXISTING PROCESS EMISSION SOURCES ALLOWABLE RATE OF EMISSION BASED ON PROCESS WEIGHT RATE<sup>a</sup>

| Process Weight Rate |         | Rate of Emission | Process Weight Rate |         | Rate of Emission |
|---------------------|---------|------------------|---------------------|---------|------------------|
| Lb/hr               | Tons/Hr | Lb/hr            | Lb/hr               | Tons/hr | Lb/hr            |
| 100                 | 0.05    | 0.551            | 16,000              | 8.00    | 16.5             |
| 200                 | 0.10    | 0.877            | 18,000              | 9.00    | 17.9             |
| 400                 | 0.20    | 1.40             | 20,000              | 10.00   | 19.2             |
| 600                 | 0.30    | 1.83             | 30,000              | 15.     | 25.2             |
| 800                 | 0.40    | 2.22             | 40,000              | 20.     | 30.5             |
| 1,000               | 0.50    | 2.58             | 50,000              | 25.     | 35.4             |
| 1,500               | 0.75    | 3.38             | 60,000              | 30.     | 40.0             |
| 2,000               | 1.00    | 4.10             | 70,000              | 35.     | 41.3             |
| 2,500               | 1.25    | 4.76             | 80,000              | 40.     | 42.5             |
| 3,000               | 1.50    | 5.38             | 90,000              | 45.     | 43.6             |
| 3,500               | 1.75    | 5.96             | 100,000             | 50.     | 44.6             |
| 4,000               | 2.00    | 6.52             | 120,000             | 60.     | 46.3             |
| 5,000               | 2.50    | 7.58             | 140,000             | 70.     | 47.8             |
| 6,000               | 3.00    | 8.56             | 160,000             | 80.     | 49.0             |
| 7,000               | 3.50    | 9.49             | 200,000             | 100.    | 51.3             |
| 8,000               | 4.00    | 10.4             | 1,000,000           | 500.    | 69.0             |
| 9,000               | 4.50    | 11.2             | 2,000,000           | 1,000.  | 77.6             |
| 10,000              | 5.00    | 12.0             | 6,000,000           | 3,000.  | 92.7             |
| 12,000              | 6.00    | 13.6             |                     |         |                  |

<sup>a</sup> Interpolation of the data in this table for process weight rates up to 60,000 lb/hr shall be accomplished by using the equation  $E = 4.10 P^{0.67}$  and interpolation and extrapolation of the data for process weight rates in excess of 60,000 lb/hr shall be accomplished by use of the equation:

$$E = 55.0 P^{0.11} - 40, \text{ where } E = \text{rate of emission in lb/hr}$$

and  $P = \text{process weight rate in tons/hr.}$



TABLE 2 NEW PROCESS EMISSION SOURCES ALLOWABLE RATE OF EMISSION  
BASED OF PROCESS WEIGHT RATE<sup>a</sup>

| Process Weight Rate |         | Rate of Emission | Process Weight Rate |         | Rate of Emission |
|---------------------|---------|------------------|---------------------|---------|------------------|
| Lb/Hr               | Tons/Hr | Lb/hr            | Lb/hr               | Tons/Hr | Lb/Hr            |
| 50                  | 0.025   | 0.36             | 16,000              | 8.00    | 13.0             |
| 100                 | 0.05    | 0.55             | 18,000              | 9.00    | 14.0             |
| 200                 | 0.10    | 0.86             | 20,000              | 10.     | 15.0             |
| 400                 | 0.20    | 1.32             |                     |         |                  |
| 600                 | 0.30    | 1.70             | 30,000              | 15.     | 19.2             |
| 800                 | 0.40    | 2.03             | 40,000              | 20.     | 23.0             |
| 1,000               | 0.50    | 2.34             | 50,000              | 25.     | 26.4             |
| 1,500               | 0.75    | 3.00             | 60,000              | 30.     | 29.6             |
| 2,000               | 1.00    | 3.59             | 70,000              | 35.     | 30.6             |
| 2,500               | 1.25    | 4.12             | 80,000              | 40.     | 31.2             |
| 3,000               | 1.50    | 4.62             | 90,000              | 45.     | 31.8             |
| 3,500               | 1.75    | 5.08             | 100,000             | 50.     | 32.4             |
| 4,000               | 2.00    | 5.52             | 120,000             | 60.     | 33.3             |
| 5,000               | 2.50    | 6.34             | 140,000             | 70.     | 34.2             |
| 6,000               | 3.00    | 7.09             | 160,000             | 80.     | 34.9             |
| 7,000               | 3.50    | 7.81             | 200,000             | 100.    | 36.2             |
| 8,000               | 4.00    | 8.5              | 1,000,000           | 500     | 46.8             |
| 9,000               | 4.50    | 9.1              |                     |         |                  |
| 10,000              | 5.00    | 9.7              |                     |         |                  |
| 12,000              | 6.00    | 10.9             |                     |         |                  |

<sup>a</sup> Interpolation of the data in Table 2 for the process weight rates up to 60,000 lbs/hr shall be accomplished by the use of the equation:

$$E = 3.59 P^{0.62} \text{ for } P \text{ less than or equal to } 30 \text{ tons/hr}$$

and interpolation and extrapolation of the data for process weight rates in excess of 60,000 lbs/hr shall be accomplished by use of the equation:

$$E = 17.31 P^{0.16} \text{ for } P \text{ greater than } 30 \text{ tons/hr}$$

Where: E = Emissions in pounds per hour  
P = Process weight rate in tons per hour

**1200-03-07-.04 LIMITING ALLOWABLE EMISSIONS.**

- (1) Irrespective of the maximum allowable emission as determined by any of the preceding equations or Process Weight Tables in this chapter, the concentration of particulate process emissions shall not be required to be less than 0.02 grain per dry cubic foot of stack gases corrected to 70°F and 1 atmosphere unless a lesser concentration is found by the Board to be necessary.
- (2) Irrespective of the maximum allowable emission as determined by any of the preceding equations or Process Weight Tables in this chapter, the maximum allowable concentration of particulate process emissions shall be 0.25 grains per dry cubic foot of stack gases corrected to 70°F and 1 atmosphere. This shall be achieved by all air contaminant sources on or before August 9, 1973. Air contaminant sources constructed after August 9, 1969, shall meet the above emission standard when they commence operation. This paragraph shall not apply to vents from storage tanks for liquids.
- (3) Irrespective of the maximum allowable emission as determined by any of the preceding equations or Process Weight Tables in this chapter, the maximum allowable particulate emissions for processes which are relocated more than 1.0 km from the previous position after November 6, 1988, shall not exceed the greater of the actual emissions at its previous location or the allowable emissions for a new process source.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule certified June 7, 1974. Amendment filed February 5, 1979; effective March 21, 1979. Amendment filed September 22, 1988; effective November 6, 1988. Amendment filed May 17, 1990; effective July 1, 1990.

**1200-03-07-.05 SPECIFIC PROCESS EMISSION STANDARDS.**

The emission limits set forth in rules 1200-03-07-.02, .03, and .04 will apply unless a specific process emission standard for a specifically designated type of process emission source is contained in a subsequent rule of this chapter.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule certified June 7, 1974.

**1200-03-07-.06 STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES.**

The Board shall from time to time, after public hearing, designate additional standard(s) of performance for new stationary sources as promulgated by the Environmental Protection Agency and published in the *Federal Register*.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule certified June 7, 1974.

**1200-03-07-.07 GENERAL PROVISIONS AND APPLICABILITY FOR PROCESS GASEOUS EMISSION STANDARDS.**

- (1) No person shall cause, suffer, allow, or permit gaseous emissions in excess of the standards in this chapter.
- (2) Any person constructing or otherwise establishing an air contaminant source emitting gaseous air contaminants after April 3, 1972, or relocating an air contaminant source more than 1.0 km from the previous position after November 6, 1988, shall install and utilize equipment and technology which is deemed reasonable and proper by the Technical Secretary.

(1200-03-07-.07, continued)

- (3) Reserved.
- (4) Total Reduced Sulfur Emissions from Kraft Mills. The owner or operator of a kraft mill constructed or modified prior to September 24, 1976, shall meet the emission standards listed in subparagraphs (a), (b), (c) and (d) of this paragraph no later than six years (i.e., January 22, 1988) for recovery furnaces; two years (i.e., January 22, 1984) for digesters, multiple effect evaporators, smelt dissolving tanks and four years (i.e., January 22, 1986) for lime kilns.
  - (a) Total reduced sulfur emissions from the recovery furnace shall not exceed 20 ppm by volume, expressed as H<sub>2</sub>S, on a dry basis, corrected to 8 percent oxygen on a 12-hour averaging basis.
  - (b) Total reduced sulfur emissions from the lime kiln shall not exceed 20 ppm by volume, expressed as H<sub>2</sub>S on a dry basis, corrected to 10 percent oxygen on a 12-hour averaging basis.
  - (c) Total reduced sulfur emissions from any digester system or multiple effect evaporator system shall not exceed 5 ppm by volume, expressed as H<sub>2</sub>S, on a dry basis, corrected to 10 percent oxygen on a 24-hour averaging basis.
  - (d) Total reduced sulfur emissions from any smelt dissolving tank shall not exceed 0.0168 grams/kilogram black liquor solids on a 24-hour averaging basis. In lieu of meeting the emissions standard the use of fresh water on the particulate control system will be deemed as being in compliance.
  - (e) The Technical Secretary will not consider periods of excess emissions to be indicative of a violation of the standards in this rule provided that:
    1. The percent of total number of possible contiguous periods of excess emissions in a quarter (excluding periods of startup, shutdown or malfunction) during which excess emissions occur does not exceed:
      - (i) One percent for TRS emissions from the recovery furnaces, or
      - (ii) Two percent for TRS emissions from lime kilns, and
    2. The Technical Secretary determines that the sources involved, including air pollution control equipment, are maintained and operated in a manner which is consistent with good air pollution control practice for minimizing emissions during periods of excess emissions.
- (5) Reserved.
- (6) Reserved.
- (7) Reserved. (See Rule 0400-30-39-.03.)
- (8) Reserved
- (9) Reserved. (See Rule 0400-30-39-.03.)

**Authority:** T.C.A. §§ 4-5-201, et seq.; 4-5-202; 68-201-101, et seq.; and 68-201-105. **Administrative History:** Original rule certified June 7, 1974. Amendment filed December 8, 1981; effective January 22, 1982. Amendment filed September 21, 1988; effective November 6, 1988. Amendment filed September 22, 1988; effective November 6, 1988. Amendment filed March 5, 1993; effective April 19, 1993.

(1200-03-07-.07, continued)

*Amendment filed October 15, 1998; effective December 28, 1998. Amendment filed January 15, 2009; effective March 31, 2009. Amendment filed February 3, 2009; effective April 19, 2009. Amendments filed July 10, 2023; effective October 8, 2023.*

**1200-03-07-.08 SPECIFIC PROCESS EMISSION STANDARDS.**

(1) Existing Ferrous Jobbing Cupolas

No later than August 9, 1973, the maximum particulate emission rate from existing ferrous jobbing cupolas shall be as given in Table 3.

TABLE 3 ALLOWABLE RATE OF PARTICULATE EMISSION  
BASED ON PROCESS WEIGHT RATE EXISTING FERROUS JOBBING CUPOLAS

| Process Weight<br>(lb/hr) | Maximum Weight<br>Discharge<br>(lb/hr) |
|---------------------------|--|
| 1,000                     | 3.05                                   |
| 2,000                     | 4.70                                   |
| 3,000                     | 6.35                                   |
| 4,000                     | 8.00                                   |
| 5,000                     | 9.58                                   |
| 6,000                     | 11.30                                  |
| 7,000                     | 12.90                                  |
| 8,000                     | 14.30                                  |
| 9,000                     | 15.50                                  |
| 10,000                    | 16.65                                  |
| 12,000                    | 18.70                                  |
| 16,000                    | 21.60                                  |
| 18,000                    | 23.40                                  |
| 20,000                    | 25.10                                  |

The emission rate for a process weight intermediate to those shown in the Table shall be determined by linear interpolation.

(2) Emissions From Nitric Acid Plants

(a) Existing Nitric Acid Plants

After July 1, 1975, no person shall cause, suffer, allow, or permit the emission into the air of nitrogen oxides from any nitric acid plant under construction or in operation prior to April 3, 1972, which are:

1. In excess of 5.5 lbs per ton of acid produced, maximum 2 hour average, expressed as NO<sub>2</sub>; or
2. 400 ppm (0.04% by volume dry basis) of nitrogen oxides, measured as NO<sub>2</sub>, whichever is the more restrictive.

(3) New and Existing Cotton Gins

(a) For the purpose of this paragraph, the following definitions apply:

1. "Cotton Gin" means any facility or plant which removes seed, lint, and trash from raw cotton and bales the lint cotton for further processing. All individual pieces of

(1200-03-07-.08, continued)

- equipment located at a cotton gin shall be considered as being a single process emission source.
2. "Cotton Gin Site or Gin Site" means the land upon which a cotton gin is located and all contiguous land having an identical ownership.
  3. "High Efficiency Cyclone" means any cyclone type collector of the 2D-2D or 1D-3D configuration. The 2D-2D design for small diameter cyclones is set forth in Agricultural Handbook 503, U.S. Dept. of Agriculture, Cotton Ginners Handbook, 1977 Edition, pages 81-84. The 1D-3D design for small diameter cyclones is the Texas A & M University long-cone cyclone design. Design specifics of this type of cyclone are set forth in Figure 6 of the article titled, "Air Utilization", by E.P. Columbus, which was presented at the Cotton Ginners Shortcourse which was held on July 27-31, 1987 at Stoneville, Mississippi.
  4. "Low Pressure Exhausts" means the exhaust air systems at a cotton gin which handles air from the cotton lint handling system and battery condenser.
  5. "High Pressure Exhausts" means all other exhaust air systems located at a cotton gin which are not defined as "low pressure exhausts".
  6. "Dust House" means a gravity settling chamber utilized for the control of particulate emissions from a cotton gin and meeting the specifications set forth in Agriculture Handbook 260, U.S. Dept. of Agriculture, Handbook for Cotton Ginners, 1964 Edition, page 93.
- (b) The following conditions apply to owners and operators of cotton gins subject to the provisions of this paragraph:
1. Reserved.
  2. The owner or operator of a cotton gin which was in operation or under construction on or prior to July 16, 1990, shall meet the standards set forth in Table 4 of rule 1200-03-07-.08 no later than July 1, 1991.
  3. The owner or operator of a cotton gin for which construction begins after July 16, 1990 shall meet the standards set forth in Table 4 at the time the cotton gin commences operation.
  4. In lieu of demonstrating compliance with the applicable emission standard contained in Table 4 of this rule the following control devices may be utilized:
    - (i) For emission control from low pressure exhausts, the use of screens with a mesh size of 80 by 80 or finer, or the use of perforated condenser drums with holes not exceeding .045 inches in diameter, or the use of a dust house.
    - (ii) For emission control from high pressure exhausts the use of high efficiency cyclones shall be deemed as demonstrating compliance.
  5. If compliance with the emission standard specified in Table 4 is required, then the testing methodology to be utilized shall be that specified in Chapter 2 of the Department of Health and Environment's Source Sampling Manual (dated December 10, 1987).

(1200-03-07-.08, continued)

- 6. Effective July 1, 1991, the burning of cotton gin waste at the gin site in a wigwam or any other type of enclosed burner shall be prohibited.
- (c) The allowable particulate emission standards for new and existing cotton gins shall be determined by Table 4.

TABLE 4 ALLOWABLE RATE OF PARTICULATE EMISSIONS  
BASED ON PROCESS WEIGHT RATE FOR NEW AND EXISTING COTTON GINS

| Process Weight Rate | Rate of Emission | Process Weight Rate | Rate of Emission |
|---------------------|------------------|---------------------|------------------|
| Lb/Hr               | Lb/Hr            | Lb/Hr               | Lb/Hr            |
| 1,000               | 1.6              | 9,000               | 13.7             |
| 1,500               | 2.4              | 10,000              | 15.2             |
| 2,000               | 3.1              | 12,000              | 18.2             |
| 2,500               | 3.9              | 14,000              | 21.2             |
| 3,000               | 4.7              | 16,000              | 24.2             |
| 3,500               | 5.4              | 18,000              | 27.2             |
| 4,000               | 6.2              | 20,000              | 30.1             |
| 5,000               | 7.7              | 30,000              | 44.9             |
| 6,000               | 9.2              | 40,000              | 59.7             |
| 7,000               | 10.7             | 50,000              | 64.0             |
| 8,000               | 12.2             | 60,000 or more      | 67.4             |

The allowable emission rate for a cotton gin with process weight rates intermediate to those shown in Table 4 shall be determined by linear interpolation.

(NOTE: All publications mentioned in paragraph (3) of this rule are available upon request by writing to:

Tennessee Division of Air Pollution Control

401 Church Street  
9th Floor, L & C Annex  
Nashville, Tennessee 37243-1531

(A reasonable charge may apply for copying said materials.)

(4) New and existing Kraft Mills.

The owner or operator of a kraft mill on which construction begins after January 1, 1973, shall meet the standards listed in subparagraphs (a), (b), and (c) of this paragraph at the time of operation of such mill commences. After August 9, 1973, no person shall cause, suffer, allow or permit particulate emissions from a kraft mill under construction or operation prior to September 11, 1980, in excess of the standard chosen in 1200-03-07-.02(1) or 1200-03-07-.02(2) provided, however, that after July 1, 1977, said emissions are as follows:

- (a) Particulate matter from all recovery stacks shall not exceed three pounds per ton of equivalent air-dried kraft pulp.

(1200-03-07-.08, continued)

- (b) Particulate matter from all lime kilns shall not exceed one pound per ton of equivalent air dried kraft pulp.
  - (c) Particulate matter from all smelt tanks shall not exceed on-half pound per ton of equivalent air dried kraft pulp.
- (5) Existing Asphalt Plants.

After August 9, 1973, no person shall cause, suffer, allow or permit the discharge of particulate emissions from any asphalt plant under construction or in operation prior to April 3, 1972, in excess of the standard selected in accordance with the provisions of 1200-03-07-.02(1) or 1200-03-07-.02(2). It is expressly provided that no later than July 1, 1975, these emissions shall not be in excess of the standards set forth in Table 1 of chapter 1200-03-07, entitled "Existing Process Emission Sources: Allowable Rate of Emission Based on Process Weight Rate." It is further stipulated that after that date, the rate of emission for existing asphalt plants with a process weight rate in excess of 200,000 pounds (100 tons) per hour shall not exceed 51.2 pounds per hour. Asphalt plants which are relocated more than 1.0 km from the previous position and did not receive a construction permit prior to November 6, 1988, shall not be allowed to emit more than the greater of the actual emissions at its previous location or the allowable emissions for a new asphalt plant.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule certified June 7, 1974; effective June 16, 1974. Amendment filed January 10, 1977; effective June 16, 1974. Amendment filed July 28, 1980; effective September 11, 1980. Amendment filed September 22, 1988; effective November 6, 1988. Amendment filed June 1, 1990; effective July 16, 1990.

#### 1200-03-07-.09 SULFURIC ACID MIST.

- (1) Sulfuric acid plants of any type commenced on or before April 3, 1972, must not emit more than 0.500 pounds of sulfuric acid mist per ton of 100% H<sub>2</sub>SO<sub>4</sub> produced, maximum one hour average expressed as H<sub>2</sub>SO<sub>4</sub>.
- (2) Sulfuric acid plants of any type commenced after April 3, 1972, must not emit more than 0.150 pounds of sulfuric acid mist per ton of 100% H<sub>2</sub>SO<sub>4</sub> produced, maximum one hour average expressed as H<sub>2</sub>SO<sub>4</sub>.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule effective February 9, 1977.

#### 1200-03-07-.10 GRAIN LOADING LIMIT FOR CERTAIN EXISTING SOURCES.

- (1) A certificate of validation shall be issued by the Technical Secretary to air contaminant sources meeting the conditions of paragraphs (2) and (3) below. The applicable standard for a source with a certificate of validation is 1.0 grains per dry standard cubic foot of stack gases corrected to 70°F and 1 atmosphere in lieu of paragraph 1200-03-07-.04(2).
- (2) The owner or operator of the air contaminant source must demonstrate to the satisfaction of the Technical Secretary that the following conditions exist:
  - (a) The air contaminant source was commenced before April 3, 1972; and no modification has been made to the source since that date.
  - (b) The air contaminant source meets all applicable emission standards outside of paragraph 1200-03-07-.04(2). Demonstration of this compliance with other regulations will require as a minimum an acceptable stack test report for particulate matter mass emissions (lbs/hr.) and verification of meeting the requirements of chapter 1200-03-05.

(1200-03-07-.10, continued)

- (c) The particulate matter ambient air quality standards are being met in the vicinity of the air contaminant source, and no deterioration in air quality will result from the granting of a certificate of validation. The Technical Secretary may require this achievement of air quality to be demonstrated.
- (d) A fee of five hundred dollars (\$500) has been paid to the Department of Environment and Conservation to cover the cost of review of the request for the certificate of validation.
- (e) The owner or operator shall submit an engineering report demonstrating that the investment cost of attaining 0.25 grains per dry standard cubic foot (gr/dscf) will exceed \$50,000 per pound of particulate matter emissions prevented from entering the atmosphere per hour; or demonstrate attainment of 0.25 gr/dscf is technically unfeasible. The investment cost per pound per hour shall be calculated by the following formula:

$$\text{Investment Cost per lb/hr} = \frac{\text{Capital Cost}}{(\text{Present Grain Loading/DSCF} - .25 \text{ gr/DSCF}) \left( \frac{\text{DSCF/hr}}{7000 \text{ gr/lb}} \right)}$$

where:

DSCF = dry standard cubic foot

capital cost = expenditures covering the procurement and erection of air pollution control systems or necessary process modifications.

- (f) The particulate matter emissions from the process emission source do not exceed 100 lbs/hr.
- (3) The owner or operator of the air contaminant source must, in addition:
    - (a) Post on the operating premises the certificate of validation.
    - (b) Keep the air pollution control equipment in good operating condition and utilize said equipment at all times.
  - (4) Upon receipt of information by the Technical Secretary that any of the requirements of Paragraph (2) have been violated and any requirement of Paragraph (3) has been violated three times in any two year period, the Technical Secretary shall call a show cause meeting pursuant to T.C.A. § 68-25-107(8) to inquire into the alleged violations. After hearing sufficient proof and making findings of fact, the Technical Secretary shall revoke the certificate of validation previously granted to the offending air

Contaminant source. After the certificate of validation has been revoked, the offending source shall comply with 1200-03-07-.04(2) as expeditiously as possible in a compliance schedule contained in an administrative order.

- (5) After granting of a construction permit for the modification of an air contaminant source for which a certificate of validation has been issued, the certificate of validation shall become void on the date of expiration of the construction permit and Paragraph 1200-03-07-.04(2) shall apply.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule effective March 21, 1979.



**1200-03-07-.11 CARBON MONOXIDE, ELECTRIC ARC FURNACES.**

Electric arc furnaces used in producing iron or steel and located in Knox County shall emit no more than 18.0 pounds of carbon monoxide per ton of metal produced, one hour average.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed September 10, 1977; effective October 25, 1979.

**1200-03-07-.12 CARBON MONOXIDE, CATALYTIC CRACKING UNITS.**

After July 1, 1980, all catalytic cracking units at petroleum refineries located in Shelby County must not discharge to the atmosphere carbon monoxide in excess of 0.050 per cent by volume.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed November 8, 1981; effective January 22, 1982.

**RULES  
OF  
TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
DIVISION OF AIR POLLUTION CONTROL**

**CHAPTER 1200-03-08  
FUGITIVE DUST**

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**1200-03-08-.01 FUGITIVE DUST.**

- (1) No person shall cause, suffer, allow, or permit any materials to be handled, transported, or stored; or a building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. Such reasonable precautions shall include, but not be limited to, the following:
  - (a) Use, where possible, of water or chemicals for control of dust in demolition of existing buildings or structures, construction operations, grading of roads, or the clearing of land;
  - (b) Application of asphalt, water, or suitable chemicals on dirt roads, material stock piles, and other surfaces which can create airborne dusts;
  - (c) Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials. Adequate containment methods shall be employed during sandblasting or other similar operations.
- (2) No person shall cause, suffer, allow, or permit fugitive dust to be emitted in such manner to exceed five (5) minutes per hour or twenty (20) minutes per day as to produce a visible emission beyond the property line of the property on which the emission originates, excluding malfunction of equipment as provided in Chapter 1200-03-20.
- (3) Compliance Schedule.
  - (a) For those operations in existence before April 3, 1972, fugitive dust control must be achieved by August 9, 1973.
  - (b) For those operations, the construction of which commences after April 3, 1972, fugitive dust control must be achieved at the time operation commences.
- (4) Regardless of the specific emission standards contained in this Chapter, all sources identified in rule 1200-03-09-.01(4) of these regulations shall comply with the standards set pursuant to Chapter 1200-03-09.

**Authority:** T.C.A. §§ 4-5-201, et seq.; 4-5-202; 53-3412; 68-25-105; and 68-201-101, et seq.  
**Administrative History:** Original rule certified June 7, 1974. Amendment filed May 7, 1979; effective June 21, 1979. Amendment filed June 21, 1979. Amendment filed July 11, 1980. Amendments filed June 6, 2018; effective September 4, 2018.

**1200-03-08-.02 SPECIAL ADDITIONAL CONTROL AREA FUGITIVE DUST REQUIREMENTS.**

Certain areas of the state have been identified as needing additional control beyond that required by this Chapter. These areas and the additional control requirements are stated in Chapter 1200-03-19.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed February 5, 1979; effective March 21, 1979. Amendment filed September 22, 1988; effective November 6, 1988.

**1200-03-08-.03 NEW AND/OR MODIFIED SOURCE.**

All air contaminant sources constructed and/or modified after November 6, 1988, shall meet the fugitive dust emission standards specified on their construction permit and subsequently transferred to their operating permits. These standards shall be prescribed in the form of a Board approved visible emission standard and reading technique on the permits.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule file September 22, 1988; effective November 6, 1988.

**RULES  
OF  
THE TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
DIVISION OF AIR POLLUTION CONTROL**

**CHAPTER 1200-03-09  
CONSTRUCTION AND OPERATING PERMITS**

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**1200-03-09-.01 CONSTRUCTION PERMITS.**

- (1) Application for Construction Permit
  - (a) Except as specifically exempted in Rule 1200-03-09-.04, no person shall begin the construction of a new air contaminant source or the modification of an air contaminant source which may result in the discharge of air contaminants without first having applied for and received from the Technical Secretary a construction permit or, if applicable, submitted a notice of intent and obtained a notice of coverage or authorization, for the construction or modification of such air contaminant source.
  - (b) The application for a construction permit shall be made on forms available from the Technical Secretary not less than ninety (90) days prior to the estimated starting date of construction. Sources identified in paragraph (4) or (5) of this rule shall make application for a construction permit as provided in such paragraph not less than one hundred twenty (120) days prior to the estimated date of construction.
  - (c) In addition to the information provided in the construction permit application forms, the Technical Secretary may require submission, by the owner or operator of a source to be constructed or modified, of such information on the nature and amounts of air contaminants to be emitted by the source or emitted by associated mobile sources, and any other information necessary to ensure compliance with this Division 1200-03, Division 0400-30, the control strategy, and the Tennessee Air Quality Act.
  - (d) Construction of a new air contaminant source or the modification of an air contaminant source which may result in the discharge of air contaminants must be in accordance with the approved construction permit application or notice of intent; the provisions and stipulations set forth in the construction permit, notice of coverage, or notice of authorization; this Division 1200-03; Division 0400-30; any applicable measures of the control strategy; and the Tennessee Air Quality Act.
  - (e) No construction permit shall be issued by the Technical Secretary if the approval to construct or modify an air contaminant source would result in a violation of the ambient air quality standards specified in Chapter 1200-03-03, would cause a violation of any other regulatory requirement under this Division 1200-03 or Division 0400-30, would result in a violation of applicable portions of the control strategy, or would interfere with attainment or maintenance of a national ambient air quality standard in a neighboring state. In the case where a source or modification was constructed without first obtaining a construction permit, a construction permit may be issued to the source or modification to establish as conditions of the permit, the necessary emission limits and requirements to assure that these regulatory requirements are met. The appropriate enforcement action shall be pursued to insure that ambient air quality standards and

(Rule 1200-03-09-.01, continued)

other regulatory requirements will be met. All emission limits and requirements of the construction permit must be met prior to issuance of an operating permit for the source or modification.

- (f) In the issuance of construction permits for new air contaminant sources, or modifications, source impact analysis shall demonstrate that allowable emission increases would not cause or contribute to air pollution in violation of any ambient air quality standard in Chapter 1200-03-03, of any national ambient air quality standard, or any applicable maximum allowable increase as defined in paragraph (4) of this rule. As required, all estimates of ambient concentrations shall be based on applicable air quality models and databases acceptable to the Technical Secretary and meeting the requirements specified in 40 CFR Part 51 Appendix W. The provisions of 40 CFR Part 51 Appendix W are hereby adopted by reference as published in the July 1, 2019 edition of the Code of Federal Regulations (CFR). Where an air quality impact model specified in 40 CFR Part 51 Appendix W is inappropriate, the Technical Secretary may approve use of a modified model or substituted model on a case-by-case basis after consultation with and upon written approval from the EPA Administrator.
  - (g) In the issuance of construction permits for new air contaminant sources or modifications, the degree of emission limitation required of any source for control of any air contaminant must not be affected by so much of any source's stack height that exceeds good engineering practice or by any other dispersion technique except as provided for in Chapter 1200-03-24 of these regulations.
  - (h) The Department shall on a monthly basis notify the public via electronic notice on the Department's website of the applicants seeking to obtain a permit to construct or modify an air contaminant source. The notice shall specify the general vicinity or location of the proposed source or modification, the type of source or modification, and opportunity for public comment. Comments shall be in writing and submitted by U.S. mail or by email to the Technical Secretary within 30 days after the date of public notice. Unless otherwise specified in the general permit, the requirements of this subparagraph are considered to be met for notices of intent for general permits as described in Rule 1200-03-09-.06 by monthly publication on the Department's website of a list of applicants for coverage under a general permit for construction or modification of an air contaminant source.
  - (i) Reserved.
  - (j) The Technical Secretary may elect to issue minor source combination construction/operating permits. Sources issued such permits are considered to be in compliance with paragraphs (1), (2), and (3) of Rule 1200-03-09-.02 if all conditions in the permit are complied with and the permittee applies for renewal of the operating permit as specified in the permit.
- (2) Definitions. As used in this chapter all terms not defined herein or in subsequent parts of this chapter shall have the meaning given them in Chapter 1200-03-02.
- (a) Reserved.
  - (b) "Control Strategy" means a combination of measures, approved by the Board, designated to achieve the aggregate reduction of emissions necessary for attainment and maintenance of the ambient air quality standards specified in the regulations under this Division 1200-03, or of the national ambient air quality standards including, but not limited to measures such as:

1. Emission limitations.

(Rule 1200-03-09-.01, continued)

2. State emission charges or other economic incentives or disincentives.
  3. Closing or relocation of residential, commercial, or industrial facilities.
  4. Changes in schedules or methods of operation of commercial or industrial facilities or transportation systems, including, but not limited to, short term changes made in accordance with standby plans.
  5. Periodic inspection and testing of motor vehicle emission control systems, at such time it is determined that such programs are feasible and practicable.
  6. Emission control measures applicable to in-use motor vehicles, including, but not limited to, measures such as mandatory maintenance, installation of emission control devices, and conversion of gaseous fuels.
  7. Any transportation control measures considered feasible and practicable.
  8. Any variation of, or alternative to any measure delineated herein.
  9. Control or prohibition of a fuel or fuel additive used in motor vehicles, if such control or prohibition is necessary to achieve a primary or secondary air quality standard, or national primary or secondary standard, and is approved by the Technical Secretary.
- (c) “National Ambient Air Quality Standard” means any ambient standard for an air contaminant promulgated by the Administrator of the Environmental Protection Agency and published in the Code of Federal Regulations.
- (d) “Best available control technology (BACT)” means an emission limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to regulation under these rules which would be emitted from any proposed new or modified air contaminant source which the Technical Secretary, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant. In no event shall application of best available control technology result in emissions of any pollutant which would exceed the emissions allowed by any applicable standard under Chapters 0400-30-38 and 1200-03-16 of these rules. If the Technical Secretary determines that technological or economic limitations on the application of measurement methodology to a particular class of sources would make the imposition of an emission standard infeasible, a design, equipment, work practice, or operational standard, or combination thereof, may be prescribed instead to require the application of best available control technology. Such standard shall, to the degree possible, set forth the emission reduction achievable by implementation of such design, equipment, work practice, or operation, and shall provide for compliance by means which achieve equivalent results. This definition does not apply to major sources and major modifications, as defined in subparagraph (4)(b) of this rule, which are subject to the provisions of paragraph (4) of this rule.
- (e) “Lowest achievable emission rate” (LAER) means, for any stationary source the more stringent rate of emissions based on the following:
1. The most stringent emissions limitation which is contained in the applicable standards under this Division 1200-03, or in any State Implementation Plan for

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such class or category of stationary source, unless the owner or operator of the proposed source demonstrates that such limitations are not achievable; or

2. The most stringent emissions limitation which is achieved in practice by such class or category of stationary source. This limitation, when applied to a modification, means the lowest achievable emissions rate for the new or modified emissions units within the stationary source. In no event shall the application of this term permit a proposed new or modified stationary source to emit any air contaminant in excess of the amount allowable under applicable new source standards of performance.
  3. This definition does not apply to major sources and major modifications, as defined in part (5)(b)1. of this rule, which are subject to the provisions of subparagraph (5)(b) of this rule. The definition at subpart (5)(b)1.(xviii) of this rule applies to major sources and major modifications in non-attainment areas.
- (3) Reserved.
- (4) Prevention of Significant Air Quality Deterioration
- (a) General Provisions
1. No new major stationary source or major modification, as defined in parts (b)1. and (b)2. of this paragraph, shall begin actual construction unless the requirements of this paragraph, as applicable, have been met.
  2. The requirements of this paragraph shall only apply to a proposed major stationary source, or major modification with respect to any pollutant which is emitted in significant amounts, or would result in a significant net emissions increase of the pollutant respectively. Also, the requirements of this paragraph do not apply to proposed pollutant emission sources or modifications in a nonattainment area as defined in Chapter 1200-03-02 for any pollutant to be emitted by the proposed source or modification for which the area is classified nonattainment.
  3. Any owner or operator who constructs or operates a source or modification not in accordance with the application submitted pursuant to this paragraph or with the terms of any approval to construct, or any owner or operator of a source or modification subject to this paragraph who commences construction after June 3, 1981 without applying for and receiving approval hereunder, shall be subject to appropriate enforcement action.
  4. Approval to construct shall become invalid if construction is not commenced within 18 months after issuance of an approved permit, if construction is discontinued for a period of 18 months or more, or if construction is not completed within 18 months of the completion date specified on the construction permit application. The Tennessee Air Pollution Control Board may grant an extension to complete construction of the source provided adequate justification is presented. An extension shall not exceed 18 months in time. The provision does not apply to the time period between construction of the approved phases of a phased construction project; each phase must commence construction within 18 months of the projected and approved commencement date.
  5. Approval to construct shall not relieve any owner or operator of the responsibility to comply fully with the applicable provisions under this Division 1200-03 and any other requirements under local, State, or Federal law.

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6. If a particular source or modification becomes a major stationary source or major modification solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of this paragraph shall apply to the source or modification as though construction had not yet commenced on the source or modification.
7. Permit Rescission
  - (i) Any permit for a prevention of significant air quality deterioration (PSD) source or modification that was issued prior to June 2, 1990, will remain in effect and binding until such time as the permittee files a completed application to obtain rescission. This application for rescission may be filed at any time by the permittee.
  - (ii) The Technical Secretary shall approve any application for rescission if the application shows that this paragraph 1200-03-09-.01(4), would not apply to the source or modification.
  - (iii) If requested by the permittee, the Technical Secretary may rescind only certain elements required in a PSD permit issued on or before June 3, 1981.
  - (iv) Those sources subject to PSD review before August 7, 1977 shall not be allowed to apply for a PSD permit rescission if construction had "commenced" by August 7, 1977.
  - (v) If a source or modification whose permit is rescinded were later found to be causing or contributing to an increment violation, additional control may be required if determined necessary by the Technical Secretary.
  - (vi) If the Technical Secretary rescinds a permit under this paragraph, the public shall be given adequate notice of the rescission. Electronic notification of an announcement of permit rescission on the Department's website within 60 days of the rescission shall be considered adequate notice.
8. Reserved.
9. Reserved.
10. Reserved.
11. The following specific provisions apply to projects at existing emissions units at a major stationary source (other than projects at a source with a plantwide applicability limitation [PAL]) in circumstances where there is a reasonable possibility that a project that is not a part of a major modification may result in a significant emissions increase and the owner or operator elects to use the method specified in items (b)38.(i)(I) through (III) of this paragraph for calculating projected actual emissions.
  - (i) Before beginning actual construction of the project, the owner or operator shall document and maintain a record of the following information:



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- (I) A description of the project;
  - (II) Identification of the emissions unit(s) whose emissions of a regulated NSR pollutant could be affected by the project; and
  - (III) A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including the baseline actual emissions, the projected actual emissions, the amount of emissions excluded under item (b)38.(i)(III) of this paragraph and an explanation for why such amount was excluded, and any netting calculations, if applicable.
- (ii) If the emissions unit is an existing electric utility steam generating unit, before beginning actual construction, the owner or operator shall provide a copy of the information set out in subpart (a)11.(i) of this paragraph to the Technical Secretary. Nothing in this subpart (a)11.(ii) shall be construed to require the owner or operator of such a unit to obtain any determination from the Technical Secretary before beginning actual construction.
  - (iii) The owner or operator shall monitor the emissions of any regulated NSR pollutant that could increase as a result of the project and that is emitted by any emissions unit identified in item (a)11.(i)(II) of this paragraph; and calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of 5 years following resumption of regular operations after the change, or for a period of 10 years following resumption of regular operations after the change if the project increases the design capacity or potential to emit of that regulated NSR pollutant at such emissions unit.
  - (iv) If the unit is an existing electric utility steam generating unit, the owner or operator shall submit a report to the Technical Secretary within 60 days after the end of each year during which records must be generated under subpart (a)11.(ii) of this paragraph setting out the unit's annual emissions during the calendar year that preceded submission of the report.
  - (v) If the unit is an existing unit other than an electric utility steam generating unit, the owner or operator shall submit a report to the Technical Secretary if the annual emissions, in tons per year, from the project identified in subpart (a)11.(i) of this paragraph, exceed the baseline actual emissions (as documented and maintained pursuant to item (a)11.(i)(III) of this paragraph) by a significant amount (as defined in part (b)24. of this paragraph) for that regulated NSR pollutant, and if such emissions differ from the preconstruction projection as documented and maintained pursuant to item (a)11.(i)(III) of this paragraph. Such report shall be submitted to the Technical Secretary within 60 days after the end of such year. The report shall contain the following:
    - (I) The name, address and telephone number of the major stationary source;
    - (II) The annual emissions as calculated pursuant to subpart (a)11.(iii) of this paragraph; and
    - (III) Any other information that the owner or operator wishes to include in the report (e.g., an explanation as to why the emissions differ from the preconstruction projection).

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12. The owner or operator of the source shall make the information required to be documented and maintained pursuant to part (a)11. of this paragraph available for review upon request for inspection by the Technical Secretary or the general public.
- (b) Definitions. As used in this paragraph, all terms not defined herein shall have the meaning given them in Chapter 1200-03-02.
1. "Major stationary source" means:
    - (i) Any of the following stationary sources, which emit or have the potential to emit, 100 tons per year or more of a regulated NSR pollutant.
      - (I) Fossil-fuel fired steam electric plants of more than 250 million BTU per hour heat input.
      - (II) Municipal incinerators (or combinations thereof) capable of charging more than 250 tons of refuse per day.
      - (III) Fossil-fuel boilers (or combinations thereof) totaling more than 250 million BTU per hour heat input.
      - (IV) Petroleum storage and transfer facilities with a total storage capacity exceeding 300,000 barrels.
      - (V) Coal cleaning plants (with thermal dryers)
      - (VI) Kraft pulp mills
      - (VII) Portland cement plants
      - (VIII) Primary zinc smelters
      - (IX) Iron and steel mill plants
      - (X) Primary aluminum ore reduction plants
      - (XI) Primary copper smelters
      - (XII) Hydrofluoric acid plants
      - (XIII) Sulfuric acid plants
      - (XIV) Nitric acid plants
      - (XV) Petroleum refineries
      - (XVI) Lime plants
      - (XVII) Phosphate rock processing plants
      - (XVIII) Coke oven batteries
      - (XIX) Sulfur recovery plants

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- (XX) Carbon black plants (furnace process)
  - (XXI) Primary lead smelters
  - (XXII) Fuel conversion plants
  - (XXIII) Sintering plants
  - (XXIV) Secondary metal production plants
  - (XXV) Chemical process plants
  - (XXVI) Taconite ore processing plants
  - (XXVII) Glass fiber processing plants
  - (XXVIII) Charcoal production plants
- (ii) Notwithstanding the stationary source size specified in subpart (b)1.(i) of this paragraph, any stationary source which emits or has the potential to emit, 250 tons per year or more of a regulated NSR pollutant.
- (iii) Any physical change that would occur at a stationary source not otherwise qualifying under part (b)1. as a major stationary source if the change would constitute a major stationary source by itself.
2. "Major modification" means any physical change in or change in the method of operation of a major stationary source that would result in a significant emissions increase (as defined in part (b)34. of this paragraph) of a regulated NSR pollutant (as defined in part (b)47. of this paragraph); and a significant net emissions increase of that pollutant from the major stationary source.
- (i) A physical change or change in the method of operation shall not include:
- (I) Routine maintenance, repair, or replacement;
  - (II) Use of an alternative fuel or raw material by reason of any order under section 2(a) and (b) of the Energy Supply and Environmental Coordination Act of 1974 (or any superseding legislation) or by reason of a natural gas curtailment plan pursuant to an applicable federal statute;
  - (III) Use of an alternative fuel by reason of an order or rule under section 125 of the Clean Air Act;
  - (IV) Use of an alternative fuel at a steam generating unit to the extent that the fuel is generated from municipal solid waste as determined by the Tennessee Division of Solid Waste Management.
  - (V) Use of an alternative fuel or raw material by a stationary source which the source was capable of accommodating before January 6, 1975, unless such change would be prohibited under a legally enforceable permit condition which was established after January 6, 1975, or under regulations of this Division 1200-03, or under regulations approved by the Environmental Protection Agency pursuant to 40 CFR 51.160-51.166;

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- (VI) An increase in the hours of operation or in the production rate, unless such change would be prohibited under a legally enforceable permit condition which was established after January 6, 1975, or under regulations of this Division 1200-03.
  - (VII) Any change in ownership at a stationary source.
  - (VIII) Reserved.
  - (IX) The installation, operation, cessation, or removal of a temporary clean coal technology demonstration project, provided that the project complies with:
    - I. The State Implementation Plan for the State in which the project is located, and
    - II. Other requirements necessary to attain and maintain the national ambient air quality standards during the project and after it is terminated.
  - (X) The installation or operation of a permanent clean coal technology demonstration project that constitutes re-powering, provided that the project does not result in an increase in the potential to emit of any regulated pollutant emitted by the unit. This exemption shall apply on a pollutant-by-pollutant basis.
- (ii) This definition shall not apply with respect to a particular regulated NSR pollutant when the major stationary source is complying with the requirements under subparagraph (s) of this paragraph for a PAL for that pollutant. Instead, the definition at subpart (s)2.(viii) of this paragraph shall apply.
3. Major sources and modifications for ozone
- (i) A source that is major for either volatile organic compounds or nitrogen oxides shall be considered major for ozone.
  - (ii) Any significant emissions increase from any emissions units or net emissions increase at a major stationary source that is significant for either volatile organic compounds or nitrogen oxides shall be considered significant for ozone.
4. Net emission increases
- (i) "Net emissions increase" means, with respect to any regulated NSR pollutant emitted by a major stationary source, the amount by which the sum of the following exceeds zero:
    - (I) The increase in emissions from a particular physical change or change in the method of operation at a stationary source, as calculated pursuant to part (c)4. of this paragraph; and
    - (II) Any other increases and decreases in actual emissions at the major stationary source that are contemporaneous with the particular change and are otherwise creditable. Baseline actual emissions for

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calculating increases and decreases under this item (b)4.(i)(II) shall be determined as provided in part (b)45., except that items (b)45.(i)(III) and (b)45.(ii)(IV) of this paragraph shall not apply.

- (ii) An increase or decrease in actual emissions is contemporaneous with the increase from the particular change only if it occurs between:
  - (I) The date five years before a completed application for the particular change is submitted; and
  - (II) The date that the increase from the particular change occurs.
- (iii) An increase or decrease in actual emissions is creditable only if:
  - (I) It occurs within the five years prior to the date a completed application for the particular change is submitted; and
  - (II) The Technical Secretary has not relied on it in issuing a permit for the source under regulations approved pursuant to this rule, which permit is in effect when the increase in actual emissions from the particular change occurs; and
  - (III) Reserved.
- (iv) An increase or decrease in actual emissions of sulfur dioxide, particulate matter, or nitrogen oxides that occurs before the applicable minor source baseline date is creditable only if it is required to be considered in calculating the amount of maximum allowable increases remaining available.
- (v) An increase in actual emissions is creditable only to the extent that the new level of actual emissions exceeds the old level.
- (vi) A decrease in actual emissions is creditable only to the extent that:
  - (I) The old level of actual emissions or the old level of allowable emissions, whichever is lower, exceeds the new level of actual emissions;
  - (II) It is enforceable as a practical matter at and after the time that actual construction on the particular change begins; and
  - (III) It has approximately the same qualitative significance for public health and welfare as that attributed to the increase from the particular change; and
  - (IV) Reserved.
- (vii) An increase that results from a physical change at a source occurs when the emissions unit on which construction occurred becomes operational and begins to emit a particular pollutant. Any replacement unit that requires shakedown becomes operational only after a reasonable shakedown period as determined by the Technical Secretary, not to exceed 180 days.
- (viii) Subpart (b)22.(i) of this paragraph shall not apply for determining creditable increases and decreases.

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5. "Potential to emit" means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is legally enforceable. Secondary emissions do not count in determining the potential to emit of a stationary source.
6. "Stationary source" means any building, structure, facility, or installation which emits or may emit a regulated NSR pollutant—except the activities of any vessel.
7. "Building, structure, facility, or installation" means all of the pollutant-emitting activities which belong to the same industrial grouping, are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control), except the activities of any vessel. Pollutant-emitting activities shall be considered as part of the same industrial grouping if they belong to the same "Major Group" (i.e., described by the first two digits in the code which is specified in the Standard Industrial Classification Manual, 1972, as amended by the 1977 Supplement (U.S. Government Printing Office stock numbers 4101-0066 and 003-005-00176-0, respectively)).
8. "Emissions unit" means any part of a stationary source that emits or would have the potential to emit any regulated NSR pollutant and includes an electric utility steam generating unit as defined in part (b)52. of this paragraph. For purposes of this paragraph, there are two types of emissions units as described in subparts (b)8.(i) and (ii) of this paragraph.
  - (i) A new emissions unit is any emissions unit that is (or will be) newly constructed and that has existed for less than 2 years from the date such emissions unit first operated.
  - (ii) An existing emissions unit is any emissions unit that does not meet the requirements in subpart (b)8.(i) of this paragraph. A replacement unit, as defined in part (b)33. of this paragraph, is an existing emissions unit.
9. "Construction" means any physical change or change in the method of operation (including fabrication, erection, installation, demolition, or modification of an emissions unit) which would result in a change in actual emissions.
10. "Commence" as applied to construction of a major stationary source or major modification means that the owner or operator has all necessary preconstruction approvals or permits and either has:
  - (i) Begun, or caused to begin, a continuous program of actual on-site construction of the source, to be completed within the time frame as allowed in part 1200-03-09-.01(4)(a)4., or
  - (ii) Entered into binding agreements or contractual obligations, which cannot be canceled or modified without substantial loss to the owner or operator, to undertake a program of actual construction of the source to be completed within the time frame as allowed in part 1200-03-09-.01(4)(a)4.
11. "Necessary preconstruction approvals or permits" means all permits or approvals required under air quality control laws and regulations.

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12. "Begin actual construction" means, in general, initiation of physical on-site construction activities on an emissions unit which are of a permanent nature. Such activities include, but are not limited to, installation of building supports and foundations, laying of underground pipework, and construction of permanent storage structures. With respect to a change in method of operation this term refers to those on-site activities, other than preparatory activities, which mark the initiation of the change.
13. "Pollutant" means those air contaminants which fall under the categories of criteria and non-criteria pollutants. Criteria pollutants are those for which an ambient air quality standard has been established. The non-criteria pollutants are air contaminants that are not criteria pollutants.
14. "Baseline area" means any intrastate area (and every part thereof) not designated as a nonattainment area in which the major source or major modification establishing the minor source baseline date would construct or would have an air quality impact for the pollutant for which the baseline date is established, as follows: Equal to or greater than 1  $\mu\text{g}/\text{m}^3$  (annual average) for  $\text{SO}_2$ ,  $\text{NO}_2$ , or  $\text{PM}_{10}$ ; or equal to or greater than 0.3  $\mu\text{g}/\text{m}^3$  (annual average) for  $\text{PM}_{2.5}$ .
  - (i) Area redesignations under this Division, 1200-03, cannot intersect or be smaller than the area of impact of any major stationary source or major modification which establishes a minor source baseline date or is subject to the regulations in this paragraph.
15. "Baseline date":
  - (i) "Major source baseline date" means in the case of  $\text{PM}_{10}$  and sulfur dioxide, January 6, 1975; in the case of nitrogen dioxide, February 8, 1988; and in the case of  $\text{PM}_{2.5}$ , October 20, 2010.
  - (ii) "Minor source baseline date" means the earliest date after the trigger date on which a major stationary source or a major modification submits a complete application to the Technical Secretary or to the EPA administrator. The trigger date is:
    - (I) In the case of  $\text{PM}_{10}$  and sulfur dioxide, August 7, 1977;
    - (II) In the case of nitrogen dioxide, February 8, 1988; and
    - (III) In the case of  $\text{PM}_{2.5}$ , October 20, 2011.
  - (iii) The baseline date is established for each pollutant for which increments or other equivalent measures have been established if:
    - (I) The area in which the proposed source or modification would construct is not designated as a nonattainment area for the pollutant on the date of its complete application.
    - (II) In the case of a major stationary source, the pollutant would be emitted in significant amounts, or, in the case of a major modification, there would be a significant net emissions increase of the pollutant.

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16. "Baseline concentration" means that ambient concentration level which exists in the baseline area at the time of the applicable minor source baseline date. A baseline concentration is determined for each pollutant for which a minor source baseline date is established and shall include:
  - (i) The actual emissions representative of sources in existence on the applicable minor source baseline date, except as provided in subpart (b)16.(iii); and
  - (ii) The allowable emissions of major stationary sources that commenced construction before the major source baseline date, but were not in operation by the applicable minor source baseline date.
  - (iii) The following will not be included in the baseline concentration and will affect the applicable maximum allowable increment increase(s):
    - (I) Actual emissions from any major stationary source on which construction commenced after the major source baseline date; and
    - (II) Actual emissions increases and decreases at any stationary source occurring after the minor source baseline date.
17. "Allowable emissions" means the emissions rate of a stationary source calculated using the maximum rated capacity of the source (unless the source is subject to legally enforceable limits which restrict the operating rate, or hours of operation, or both) and the most stringent of the following:
  - (i) The applicable standards under this Division 1200-03 or in the State Implementation Plan, including those with a future compliance date; or
  - (ii) The emissions rate specified as a legally enforceable permit condition established pursuant to this Rule 1200-03-09-.01, including those with a future compliance date.
18. "Legally enforceable" means all limitations and conditions which are enforceable by the Technical Secretary and the EPA Administrator, including those under this Division 1200-03 and the State Implementation Plan, and any permit requirements established pursuant to this Rule 1200-03-09-.01.
19. "Secondary emissions" means emissions which occur as a result of the construction or operation of a major stationary source or major modification, but do not come from the major stationary source or major modification itself. For the purpose of this rule, secondary emissions must be specific, well defined, quantifiable, and impact the same general area as the stationary source or modification which causes the secondary emissions. Secondary emissions include emissions from any offsite support facility which would not otherwise be constructed or increase its emissions except as a result of the construction or operation of the major stationary source or major modification. Secondary emissions do not include any emissions which come directly from a mobile source, such as emissions from the tailpipe of a motor vehicle, from a train, or from a vessel.
20. "Innovative control technology" means any system of air pollution control that has not been adequately demonstrated in practice, but would have a substantial likelihood of achieving greater continuous emissions reduction than any control



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- system in current practice or of achieving at least comparable reductions at lower cost in terms of energy, economics, or non-air quality environmental impacts.
21. "Fugitive emissions" means those emissions which could not reasonably pass through a stack, chimney, vent, roof monitor, or other functionally equivalent opening.
  22. "Actual emissions" means the actual rate of emissions of a regulated NSR pollutant from an emissions unit, as determined in accordance with subparts (i) through (iii) below, except that this definition shall not apply for calculating whether a significant emissions increase has occurred, or for establishing a PAL under subparagraph (s) of this paragraph. Instead, parts (b)38. and (b)45. of this paragraph shall apply for those purposes.
    - (i) In general, actual emissions as of a particular date shall equal the average rate, in tons per year, at which the unit actually emitted the pollutant during a consecutive 24-month period which precedes the particular date and which is representative of normal source operation. The Technical Secretary may allow the use of a different time period upon a determination that it is more representative of normal source operation. Actual emissions shall be calculated using the unit's actual operating hours, production rates, and types of materials processed, stored, or combusted during the selected time period.
    - (ii) The Technical Secretary may presume that source-specific allowable emissions for the unit are equivalent to the actual emissions of the unit.
    - (iii) For any emissions unit that has not begun normal operations on the particular date, actual emissions shall equal the potential to emit of the unit on that date.
  23. "Complete" means, in reference to an application for a permit, that the application contains all the information necessary for processing the application. Designating an application complete for purposes of permit processing does not preclude the Technical Secretary from requesting or accepting any additional information.
  24. "Significant" means, in reference to a net emissions increase or the potential of a source to emit any of the following pollutants, a rate of emissions that would equal or exceed any of the following rates:
    - (i) Pollutant and Emissions Rate
      - (I) Carbon monoxide: 100 tons per year (tpy)
      - (II) Nitrogen oxides: 40 tpy
      - (III) Sulfur dioxide: 40 tpy
      - (IV) Particulate matter: 25 tpy of particulate matter emissions; 15 tpy of PM10 emissions.
      - (V) Ozone: 40 tpy of either volatile organic compounds or nitrogen oxides.
      - (VI) Lead (elemental): 0.6 tpy

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- (VII) Fluorides: 3 tpy
  - (VIII) Sulfuric acid mist: 7 tpy
  - (IX) Total reduced sulfur (including H<sub>2</sub>S): 10 tpy
  - (X) Reduced sulfur compounds (including H<sub>2</sub>S): 10 tpy
  - (XI) Municipal waste combustor organics (measured as total tetra-through octa- chlorinated dibenzo-p-dioxins and dibenzofurans): 3.2 x 10<sup>-6</sup> megagrams per year (3.5 x 10<sup>-6</sup> tpy).
  - (XII) Municipal waste combustor metals (measured as particulate matter): 15 tpy
  - (XIII) Municipal waste combustor acid gases (measured as sulfur dioxide and hydrogen chloride): 36 megagrams per year (40 tpy)
  - (XIV) Ozone depleting substances (listed under Section 602 of the federal Clean Air Act): 40 tpy
  - (XV) Hydrogen sulfide: 10 tpy
  - (XVI) Municipal solid waste landfill emissions (measured as non-methane organic compounds): 50 tpy
  - (XVII) PM<sub>2.5</sub>: 10 tpy of direct PM<sub>2.5</sub> emissions; 40 tpy of sulfur dioxide emissions; 40 tpy of nitrogen oxide emissions unless demonstrated not to be a PM<sub>2.5</sub> precursor under item 47.(i)(III) of this subparagraph.
- (ii) "Significant" means, in reference to a net emissions increase or the potential of a source to emit a regulated NSR pollutant subject to regulations of EPA under the Clean Air Act and that subpart (b)24.(i) does not list, any emissions rate.
  - (iii) Notwithstanding subpart (b)24.(i), "significant" means any emissions rate or any net emissions increase associated with a major stationary source or major modification, which would construct within 10 kilometers of a Class I area and have an impact on such area equal to or greater than 1 ug/m<sup>3</sup> (24-hour average).
- 25. "Federal Land Manager" means, with respect to any lands in the United States, the Secretary of the department with authority over such lands.
  - 26. "High terrain" means any area having an elevation 900 feet or more above the base of the stack of a source.
  - 27. "Low terrain" means any area other than high terrain.
  - 28. "Adverse impact on visibility" means visibility impairment which interferes with the management, protection, preservation or enjoyment of the visitors visual experience of the Federal Class I area. This determination must be made on a case-by-case basis taking into account the geographic extent, intensity, duration, frequency and time of visibility impairments, and how these factors correlate with

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- the times of visitor use of the Federal Class I area, and with the frequency and timing of natural conditions that reduce visibility.
29. Reserved.
  30. "Dispersion technique" shall have the meaning as provided in Chapter 1200-03-24.
  31. "Good engineering practice" (GEP) shall have the meaning as provided in Chapter 1200-03-24.
  32. "Welfare" all language referring to effects on welfare includes, but is not limited to, effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, and climate, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being, whether caused by transformation, conversion, or combination with other air pollutants.
  33. "Replacement unit" means an emissions unit for which all the criteria listed in subparts (b)33.(i) through (iv) of this paragraph are met. No creditable emission reductions shall be generated from shutting down the existing emissions unit that is replaced.
    - (i) The emissions unit is a reconstructed unit within the meaning of part 54. of this subparagraph, or the emissions unit completely takes the place of an existing emissions unit.
    - (ii) The emissions unit is identical to or functionally equivalent to the replaced emissions unit.
    - (iii) The replacement does not change the basic design parameter(s) of the process unit.
    - (iv) The replaced emissions unit is permanently removed from the major stationary source, otherwise permanently disabled, or permanently barred from operation by a permit that is enforceable as a practical matter. If the replaced emissions unit is brought back into operation, it shall constitute a new emissions unit.
  34. "Significant emissions increase" means, for a regulated NSR pollutant, an increase in emissions that is significant (as defined in part (b)24. of this paragraph) for that pollutant.
  35. Reserved.
  36. "Pollution prevention" means any activity that through process changes, product reformulation or redesign, or substitution of less polluting raw materials, eliminates or reduces the release of air pollutants (including fugitive emissions) and other pollutants to the environment prior to recycling, treatment, or disposal; it does not mean recycling (other than certain "in-process recycling" practices), energy recovery, treatment, or disposal.
  37. Reserved.
  38. "Projected actual emissions" means the maximum annual rate, in tons per year, at which an existing emissions unit is projected to emit a regulated NSR pollutant

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in any one of the 5 years (12-month period) following the date the unit resumes regular operation after the project, or in any one of the 10 years following that date, if the project involves increasing the emissions unit's design capacity or its potential to emit that regulated NSR pollutant, and full utilization of the unit would result in a significant emissions increase, or a significant net emissions increase at the major stationary source.

- (i) In determining the projected actual emissions under part (b)38. of this paragraph (before beginning actual construction), the owner or operator of the major stationary source:
  - (I) Shall consider all relevant information, including but not limited to, historical operational data, the company's own representations, the company's expected business activity and the company's highest projections of business activity, the company's filings with the State or Federal regulatory authorities, and compliance plans under the approved plan; and
  - (II) Shall include fugitive emissions to the extent quantifiable and emissions associated with startups, shutdowns, and malfunctions; and
  - (III) Shall exclude, in calculating any increase in emissions that results from the particular project, that portion of the unit's emissions following the project that an existing unit could have accommodated during the consecutive 24-month period used to establish the baseline actual emissions under part (b)45. of this paragraph and that are also unrelated to the particular project, including any increased utilization due to product demand growth; or,
  - (IV) In lieu of using the method set out in items (b)38.(i)(I) through (III) of this paragraph, may elect to use the emissions unit's potential to emit, in tons per year, as defined under part (b)5. of this paragraph.

39. Reserved.

40. "Prevention of Significant Deterioration Program" (PSD) program means a major source preconstruction permit program that has been approved by the Administrator and incorporated into the State Implementation Plan (SIP) to implement the requirements of 40 CFR 51.166. Any permit issued under such a program is a major NSR permit.

41. "Continuous emissions monitoring system (CEMS)" means all of the equipment that may be required to meet the data acquisition and availability requirements of this section, to sample, condition (if applicable), analyze, and provide a record of emissions on a continuous basis.

42. "Predictive emissions monitoring system (PEMS)" means all of the equipment necessary to monitor process and control device operational parameters (for example, control device secondary voltages and electric currents) and other information (for example, gas flow rate, O<sub>2</sub> or CO<sub>2</sub> concentrations), and calculate and record the mass emissions rate (for example, lb/hr) on a continuous basis.

43. "Continuous parameter monitoring system (CPMS)" means all of the equipment necessary to meet the data acquisition and availability requirements of this paragraph, to monitor process and control device operational parameters (for

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example, control device secondary voltages and electric currents) and other information (for example, gas flow rate, O<sub>2</sub> or CO<sub>2</sub> concentrations), and to record average operational parameter value(s) on a continuous basis.

44. "Continuous emissions rate monitoring system (CERMS)" means the total equipment required for the determination and recording of the pollutant mass emissions rate (in terms of mass per unit of time).
45. "Baseline actual emissions" means the rate of emissions, in tons per year, of a regulated NSR pollutant, as determined in accordance with subparts (b)45.(i) through (iv) of this paragraph.
  - (i) For any existing electric utility steam generating unit, baseline actual emissions means the average rate, in tons per year, at which the unit actually emitted the pollutant during any consecutive 24-month period selected by the owner or operator within the 5-year period immediately preceding when the owner or operator begins actual construction of the project. The Technical Secretary shall allow the use of a different time period upon a determination that it is more representative of normal source operation.
    - (I) The average rate shall include fugitive emissions to the extent quantifiable, and emissions associated with startups, shutdowns, and malfunctions.
    - (II) The average rate shall be adjusted downward to exclude any non-compliant emissions that occurred while the source was operating above an emission limitation that was legally enforceable during the consecutive 24-month period.
    - (III) For a regulated NSR pollutant, when a project involves multiple emissions units, one consecutive 24-month period must be used to determine the baseline actual emissions for the emissions units being changed. However, the Technical Secretary is authorized to allow the use of multiple, pollutant specific consecutive 24-month baselines in determining the magnitude of a significant net emissions increase and the applicability of major new source review requirements if all of the following conditions are met:
      - I. Construction of a new source or modification would become subject to major new source review if a single 2-year baseline is used for all pollutants.
      - II. One or more pollutants were emitted during such 2-year period in amounts that were less than otherwise permitted for reasons other than operations at a lower production or utilization rate. Qualifying examples include, but are not limited to, the voluntary use of:
        - A. A cleaner fuel than otherwise permitted in a fuel burning operation (e.g., natural gas instead of coal in a multi-fuel boiler),
        - B. A coating with a lower VOC content than otherwise permitted in a coating operation,

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- C. A voluntary improvement in the control efficiency of an air pollution control device or the voluntary addition of a control device where one did not exist before, and
  - D. Alternate production methods, raw materials, or products that result in lower emissions of one or more pollutants.
- III. Use of alternate 2-year baselines for the pollutants described in subitem II above would result in the construction of the new source or modification not being subject to major new source review.
  - IV. The use of the multiple baselines is not prohibited by any applicable provision of the USEPA's new source review regulations.

The burden for demonstrating that these conditions are met is upon the permit applicant. The demonstration and the Technical Secretary's approval will be made a part of the permit record.

- (IV) The average rate shall not be based on any consecutive 24-month period for which there is inadequate information for determining annual emissions, in tons per year, and for adjusting this amount if required by item (b)45.(i)(II) of this paragraph.
- (ii) For an existing emissions unit (other than an electric utility steam generating unit), baseline actual emissions means the average rate, in tons per year, at which the emissions unit actually emitted the pollutant during any consecutive 24-month period selected by the owner or operator within the 10-year period immediately preceding either the date the owner or operator begins actual construction of the project, or the date a complete permit application is received by the Technical Secretary for a permit required either under this section or under a plan approved by the Administrator, whichever is earlier, except that the 10-year period shall not include any period earlier than November 15, 1990.
    - (I) The average rate shall include fugitive emissions to the extent quantifiable, and emissions associated with startups, shutdowns, and malfunctions.
    - (II) The average rate shall be adjusted downward to exclude any non-compliant emissions that occurred while the source was operating above an emission limitation that was legally enforceable during the consecutive 24-month period.
    - (III) The average rate shall be adjusted downward to exclude any emissions that would have exceeded an emission limitation with which the major stationary source must currently comply, had such major stationary source been required to comply with such limitations during the consecutive 24-month period. However, if an emission limitation is part of a maximum achievable control technology standard that the Administrator proposed or promulgated under 40 CFR 63, the baseline actual emissions need only be adjusted if the State has taken credit for such emissions reductions in an attainment demonstration or maintenance plan.

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(IV) For a regulated NSR pollutant, when a project involves multiple emissions units, one consecutive 24-month period must be used to determine the baseline actual emissions for the emissions units being changed. However, the Technical Secretary is authorized to allow the use of multiple, pollutant specific consecutive 24-month baselines in determining the magnitude of a significant net emissions increase and the applicability of major new source review requirements if all of the following conditions are met:

- I. Construction of a new source or modification would become subject to major new source review if a single 2-year baseline is used for all pollutants.
- II. One or more pollutants were emitted during such 2-year period in amounts that were less than otherwise permitted for reasons other than operations at a lower production or utilization rate. Qualifying examples include, but are not limited to, the voluntary use of:
  - A. A cleaner fuel than otherwise permitted in a fuel burning operation (e.g., natural gas instead of coal in a multi-fuel boiler),
  - B. A coating with a lower VOC content than otherwise permitted in a coating operation,
  - C. A voluntary improvement in the control efficiency of an air pollution control device or the voluntary addition of a control device where one did not exist before, and
  - D. Alternate production methods, raw materials, or products that result in lower emissions of one or more pollutants.
- III. Use of alternate 2-year baselines for the pollutants described in Subitem II. above would result in the construction of the new source or modification not being subject to major new source review.
- IV. The use of the multiple baselines is not prohibited by any applicable provision of the USEPA's new source review regulations.

The burden for demonstrating that these conditions are met is upon the permit applicant. The demonstration and the Technical Secretary's approval will be made a part of the permit record.

(V) The average rate shall not be based on any consecutive 24-month period for which there is inadequate information for determining annual emissions, in tons per year, and for adjusting this amount if required by items (b)45.(ii)(II) and (III) of this paragraph.

(iii) For a new emissions unit, the baseline actual emissions for purposes of determining the emissions increase that will result from the initial construction and operation of such unit shall equal zero; and thereafter, for all other purposes, shall equal the unit's potential to emit.

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- (iv) For a PAL for a stationary source, the baseline actual emissions shall be calculated for existing electric utility steam generating units in accordance with the procedures contained in subpart (b)45.(i) of this paragraph, for other existing emissions units in accordance with the procedures contained in subpart (b)45.(ii) of this paragraph, and for a new emissions unit in accordance with the procedures contained in subpart (b)45.(iii) of this paragraph.
46. "Subject to regulation" means, for any air pollutant, that the pollutant is subject to either a provision in the Clean Air Act, or a nationally-applicable regulation codified by the Administrator in subchapter C of Chapter I of Title 40 of the Code of Federal Regulations, that requires actual control of the quantity of emissions of that pollutant, and that such a control requirement has taken effect and is operative to control, limit or restrict the quantity of emissions of that pollutant released from the regulated activity. Except that:
- (i) Greenhouse gases (GHGs), the air pollutant defined in part 86.1818–12(a) of Chapter I of Title 40 of the Code of Federal Regulations as the aggregate group of six greenhouse gases: Carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, shall not be subject to regulation except as provided in subparts (iv) through (v) of this part.
    - (I) In the event that the U.S. Court of Appeals for the D.C. Circuit or the U.S. Supreme Court issues an order which would render GHG emissions not subject to regulation under the Prevention of Significant Deterioration, New Source Review provisions and/or the Title V operating permit program of the Federal Act, then GHGs shall not be subject to regulation, nor shall GHG emissions be required to be included in any construction or operating permit under this regulation 1200-03, as of the effective date of the Federal Register notice of vacatur.
    - (II) In the event that there is a change to Federal law that supersedes regulation of GHGs under the Prevention of Significant Deterioration, New Source Review provisions and/or the Title V operating permit program of the Federal Act, then GHGs shall not be subject to regulation, nor shall GHG emissions be required to be included in any construction or operating permit under this regulation 1200-03, as of the effective date of the change in Federal law.
  - (ii) For purposes of subparts (iii) through (v) of this part, the term tpy CO<sub>2</sub> equivalent emissions (CO<sub>2</sub>e) shall represent an amount of GHGs emitted, and shall be computed as follows:
    - (I) Multiplying the mass amount of emissions (tpy), for each of the six greenhouse gases in the pollutant GHGs, by the gas's associated global warming potential published at Table A–1 to subpart A of part 98 of Chapter I of Title 40 of the Code of Federal Regulations - Global Warming Potentials.
    - (II) Sum the resultant value from item (ii)(I) of this part for each gas to compute a tpy CO<sub>2</sub>e.
  - (iii) The term emissions increase as used in subparts (iv) through (v) of this part shall mean that both a significant emissions increase (as calculated



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using the procedures in part (c)4. of this paragraph) and a significant net emissions increase (as defined in parts (b)4. and (b)24. of this paragraph) occur. For the pollutant GHGs, an emissions increase shall be based on tpy CO<sub>2e</sub>, and shall be calculated assuming the pollutant GHGs is a regulated NSR pollutant, and “significant” is defined as 75,000 tpy CO<sub>2e</sub> instead of applying the value in subpart (b)24.(ii) of this paragraph.

- (iv) Beginning January 2, 2011, the pollutant GHGs is subject to regulation if:
  - (I) The stationary source is a new major stationary source for a regulated NSR pollutant that is not GHGs, and also will emit or will have the potential to emit 75,000 tpy CO<sub>2e</sub> or more; or
  - (II) The stationary source is an existing major stationary source for a regulated NSR pollutant that is not GHGs, and also will have an emissions increase of a regulated NSR pollutant, and an emissions increase of 75,000 tpy CO<sub>2e</sub> or more; and,
- (v) Beginning July 1, 2011, in addition to the provisions in subpart (iv) of this part, the pollutant GHGs shall also be subject to regulation:
  - (I) At a new stationary source that will emit or have the potential to emit 100,000 tpy CO<sub>2e</sub>; or
  - (II) At an existing stationary source that emits or has the potential to emit 100,000 tpy CO<sub>2e</sub>, when such stationary source undertakes a physical change or change in the method of operation that will result in an emissions increase of 75,000 tpy CO<sub>2e</sub> or more.

47. “Regulated NSR pollutant,” for purposes of this paragraph, means the following:

- (i) Any pollutant for which a national ambient air quality standard has been promulgated and any pollutant identified under this part as a constituent or precursor to such pollutant. Precursors identified by the Administrator for purposes of NSR are the following:
  - (I) Volatile organic compounds and nitrogen oxides are precursors to ozone in all attainment and unclassifiable areas.
  - (II) Sulfur dioxide is a precursor to PM<sub>2.5</sub> in all attainment and unclassifiable areas.
  - (III) Nitrogen oxides are presumed to be precursors to PM<sub>2.5</sub> in all attainment and unclassifiable areas, unless the State has demonstrated to the satisfaction of the EPA Administrator or EPA demonstrates that emissions of nitrogen oxides from sources in a specific area are not a significant contributor to that area’s ambient PM<sub>2.5</sub> concentrations.
  - (IV) Volatile organic compounds are presumed not to be precursors to PM<sub>2.5</sub> in any attainment or unclassifiable area, unless the State has demonstrated to the satisfaction of the EPA Administrator or EPA demonstrates that emissions of volatile organic compounds from sources in a specific area are a significant contributor to that area’s ambient PM<sub>2.5</sub> concentrations.

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- (ii) Any pollutant that is subject to any standard promulgated under section 111 of the Federal Clean Air Act;
  - (iii) Any Class I or II substance subject to a standard promulgated under or established by title VI of the Federal Clean Air Act; or
  - (iv) Any pollutant that otherwise is subject to regulation under the Federal Clean Air Act as defined in part (b)46. of this paragraph.
  - (v) Notwithstanding subparts (b)47.(i) through (iv) of this paragraph, the term “regulated NSR pollutant” shall not include any or all hazardous air pollutants either listed in section 112 of the Federal Clean Air Act or added to the list pursuant to section 112(b)(2) of the Federal Clean Air Act, and which have not been delisted pursuant to section 112(b)(3) of the Federal Clean Air Act, unless the listed hazardous air pollutant is also regulated as a constituent or precursor of a general pollutant listed under section 108 of the Federal Clean Air Act.
  - (vi) PM<sub>2.5</sub> emissions and PM<sub>10</sub> emissions shall include gaseous emissions from a source or activity which condense to form particulate matter at ambient temperatures. On or after January 1, 2011, such condensable particulate matter shall be accounted for in applicability determinations and in establishing emissions limitations for PM<sub>2.5</sub> and PM<sub>10</sub> in PSD permits. Compliance with emissions limitations for PM<sub>2.5</sub>, and PM<sub>10</sub> issued prior to this date shall not be based on condensable particulate matter unless required by the terms and conditions of the permit or the applicable implementation plan. Applicability determinations made prior to this date without accounting for condensable particulate matter shall not be considered in violation of this paragraph unless the applicable implementation plan required condensable particulate matter to be included.
48. “Reviewing authority” means the State air pollution control agency, local agency, other State agency, Indian tribe, or other agency authorized by the Administrator to carry out a permit program under 40 CFR 51.165, or the Administrator in the case of EPA-implemented permit programs under 40 CFR 52.21.
49. “Project” means a physical change in, or change in method of operation of, an existing major stationary source.
50. “Lowest achievable emission rate (LAER)” is as defined in subpart (5)(b)1.(xviii) of this rule.
51. Reserved.
52. “Electric utility steam generating unit” means any steam electric generating unit that is constructed for the purpose of supplying more than one-third of its potential electric output capacity and more than 25 MW electrical output to any utility power distribution system for sale. Any steam supplied to a steam distribution system for the purpose of providing steam to a steam-electric generator that would produce electrical energy for sale is also considered in determining the electrical energy output capacity of the affected facility.
53. “Best available control technology” (BACT) means an emissions limitation (including a visible emissions standard) based on the maximum degree of reduction for each regulated NSR pollutant which would be emitted from any

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proposed major stationary source or major modification which the Technical Secretary, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant. In no event shall application of best available control technology result in emissions of any pollutant which would exceed the emissions allowed by any applicable standard under 40 CFR part 60 or 61. If the Technical Secretary determines that technological or economic limitations on the application of measurement methodology to a particular emissions unit would make the imposition of an emissions standard infeasible, a design, equipment, work practice, operational standard, or combination thereof, may be prescribed instead to satisfy the requirement for the application of BACT. Such standard shall, to the degree possible, set forth the emissions reduction achievable by implementation of such design, equipment, work practice or operation, and shall provide for compliance by means which achieve equivalent results.

54. "Reconstruction" means the replacement of components of an existing facility to such an extent that:
- (i) The fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new facility, and
  - (ii) It is technologically and economically feasible to meet the applicable standards set forth in this chapter.
  - (iii) This part applies only in this chapter 1200-03-09 unless specified otherwise.
55. "Clean coal technology" means any technology, including technologies applied at the pre-combustion, combustion, or post combustion stage, at a new or existing facility which will achieve significant reductions in air emissions of sulfur dioxide or oxides of nitrogen associated with the utilization of coal in the generation of electricity, or process steam which was not in widespread use as of November 15, 1990.
56. "Clean coal technology demonstration project" means a project using funds appropriated under the heading "Department of Energy—Clean Coal Technology", up to a total amount of \$2,500,000,000 for commercial demonstration of clean coal technology, or similar projects funded through appropriations for the Environmental Protection Agency. The Federal contribution for a qualifying project shall be at least 20 percent of the total cost of the demonstration project.
57. "Temporary clean coal technology demonstration project" means a clean coal technology demonstration project that is operated for a period of 5 years or less, and which complies with the State implementation plan for the State in which the project is located and other requirements necessary to attain and maintain the national ambient air quality standards during and after the project is terminated.
58. "Re-powering" means replacement of an existing coal-fired boiler with one of the following clean coal technologies: atmospheric or pressurized fluidized bed combustion, integrated gasification combined cycle, magnetohydrodynamics, direct and indirect coal-fired turbines, integrated gasification fuel cells, or as

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determined by the Administrator, in consultation with the Secretary of Energy, a derivative of one or more of these technologies, and any other technology capable of controlling multiple combustion emissions simultaneously with improved boiler or generation efficiency and with significantly greater waste reduction relative to the performance of technology in widespread commercial use as of November 15, 1990. Re-powering shall also include any oil and/or gas-fired unit that has been awarded clean coal technology demonstration funding as of January 1, 1991, by the U.S. Department of Energy. The Technical Secretary shall give expedited consideration to permit applications for any source that satisfies the requirements of this subsection and is granted an extension under section 409 of the Clean Air Act.

(c) Applicability.

1. The requirements of this paragraph apply to the construction of any new major stationary source (as defined in part (b)1. of this paragraph) or any project at an existing major stationary source in an area designated as attainment or unclassifiable under sections 107(d)(1)(A)(ii) or (iii) of the Federal Clean Air Act.
2. The requirements of subparagraphs (j), (k), (l), and (n); parts (e)1., 2., and 7.; and parts (a)5., 6., 8., 9., and 10. of this paragraph apply to the construction of any new major stationary source or the major modification of any existing major stationary source, except as this rule otherwise provides.
3. No new major stationary source or major modification to which the requirements of subparagraphs (j), (k), (l), and (n); parts (e)1., 2., and 7.; and parts (a)5., 6., 8., 9., and 10. of this rule apply shall begin actual construction without a permit that states that the major stationary source or major modification will meet those requirements.
4.
  - (i) Except as otherwise provided in parts (c)5. and 6. of this paragraph, and consistent with the definition of major modification contained in part (b)2. of this paragraph, a project is a major modification for a regulated NSR pollutant if it causes two types of emissions increases—a significant emissions increase (as defined in part (b)34. of this paragraph), and a significant net emissions increase (as defined in parts (b)4. and 24. of this paragraph). The project is not a major modification if it does not cause a significant emissions increase. If the project causes a significant emissions increase, then the project is a major modification only if it also results in a significant net emissions increase.
  - (ii) The procedure for calculating (before beginning actual construction) whether a significant emissions increase (*i.e.*, the first step of the process) will occur depends upon the type of emissions units being modified, according to subparts (c)4.(iii) through (vi) of this paragraph. The procedure for calculating (before beginning actual construction) whether a significant net emissions increase will occur at the major stationary source (*i.e.*, the second step of the process) is contained in the definition in part (b)4. of this paragraph. Regardless of any such preconstruction projections, a major modification results if the project causes a significant emissions increase and a significant net emissions increase.
  - (iii) Actual-to-projected-actual applicability test for projects that only involve existing emissions units. A significant emissions increase of a regulated NSR pollutant is projected to occur if the sum of the difference between the projected actual emissions (as defined in part (b)38. of this paragraph) and

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the baseline actual emissions (as defined in subparts (b)45.(i) and (ii) of this paragraph) for each existing emissions unit, equals or exceeds the significant amount for that pollutant (as defined in part (b)24. of this paragraph).

- (iv) Actual-to-potential test for projects that only involve construction of a new emissions unit(s). A significant emissions increase of a regulated NSR pollutant is projected to occur if the sum of the difference between the potential to emit (as defined in part (b)5. of this paragraph) from each new emissions unit following completion of the project and the baseline actual emissions (as defined in subpart (b)45.(iii) of this paragraph) of these units before the project equals or exceeds the significant amount for that pollutant (as defined in part (b)24. of this paragraph).
  - (v) Reserved.
  - (vi) Hybrid test for projects that involve multiple types of emissions units. A significant emissions increase of a regulated NSR pollutant is projected to occur if the sum of the emissions increases for each emissions unit, using the method specified in subparts (c)4.(iii) through (iv) of this paragraph as applicable with respect to each emissions unit, for each type of emissions unit equals or exceeds the significant amount for that pollutant (as defined in part (b)24. of this paragraph).
5. For any major stationary source for a PAL for a regulated NSR pollutant, the major stationary source shall comply with requirements under subparagraph (s) of this paragraph.
6. Reserved.
- (d) Major stationary sources and major modifications are exempt from certain provisions of this paragraph in accordance with the following:
- 1. Major stationary sources or major modifications as defined in this paragraph shall not be subject to the requirements of this paragraph (except as provided in part (4)(a)7. of this paragraph) if:
    - (i) The source or modification would be a major stationary source or major modification only if fugitive emissions, to the extent quantifiable, are considered in calculating the potential to emit of the stationary source or modification and such source does not belong to any of the categories listed under subpart (b)1.(i), or any other stationary source category which, as of the (effective date of this rule) is being regulated under Chapters 0400-30-38 and 1200-03-16.
    - (ii) The source or modification was subject to the new construction rules and regulations as in effect before June 3, 1981, and the owner or operator:
      - (I) Obtained all final Federal, State, and local preconstruction approvals or permits necessary before June 3, 1981.
      - (II) Commenced construction within 18 months of receipt of all necessary Federal, State, and local preconstruction approvals or permits; and

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- (III) Did not discontinue construction for a period of 18 months or more and completed construction within the time frame as allowed in part 1200-03-09-.01(4)(a)4.
  - (iii) The source or modification was subject to the prevention of significant deterioration rules and regulations as in effect before June 3, 1981, and the owner or operator:
    - (I) Submitted a completed application before June 3, 1981.
    - (II) Commenced construction within 18 months of receipt of all necessary Federal, State, and local preconstruction approvals or permits; and
    - (III) Did not discontinue construction for a period of 18 months or more and completed construction within the time frame as allowed in part 1200-03-09-.01(4)(a)4.
  - (iv) The source or modification was not subject to this paragraph, with respect to particulate matter, as in effect before June 2, 1990 and the owner or operator:
    - (I) Obtained all final Federal, State, and local preconstruction approvals or permits necessary before June 2, 1990.
    - (II) Commenced construction within 18 months of receipt of all necessary Federal, State, and local preconstruction approvals or permits; and
    - (III) Did not discontinue construction for a period of 18 months or more and completed construction within the time frame as allowed in part 1200-03-09-.01(4)(a)4.
- 2. A major stationary source or modification as defined in this paragraph that was subject to the prevention of significant deterioration rules and regulations, with respect to particulate matter, as in effect before June 2, 1990 does not have to meet the PM10 requirements effective on June 2, 1990 if the owner or operator:
  - (i) Submitted a completed application (as determined by the Technical Secretary) before June 2, 1990.
  - (ii) Commenced construction within 18 months of receipt of all necessary Federal, State, and local preconstruction approvals or permits; and
  - (iii) Did not discontinue construction for a period of 18 months or more and completed construction within the time frame as allowed in part 1200-03-09-.01(4)(a)4.
- 3. No major stationary source or major modification as defined in this paragraph shall be subject to the requirements of this paragraph with respect to a particular pollutant if the owner or operator demonstrates that, as to that pollutant, the source or modification is located in an area designated as nonattainment as defined in Rule 1200-03-02-.01.
- 4. Source impact and air quality analysis as required in parts (e)1., (e)3., and (e)7. of this paragraph shall not apply to a proposed major stationary source or major

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modification with respect to a particular pollutant, if the allowable emissions of that pollutant from a new source, or the net emissions increase of that pollutant from a modification, would be temporary and impact no Class I area and no area where an applicable increment is known to be violated.

5. Source impact and air quality analysis as required in parts (e)1.,(e)3., and (e)7. of this paragraph as they relate to any maximum allowable increase for a Class II area do not apply to a major modification of a stationary source that was in existence on March 1, 1978, if the net increase in allowable emissions of each regulated NSR pollutant from the modification after the application of best available control technology would be less than 50 tons per year.
6. Air quality analysis as required in this paragraph may be exempted with respect to preconstruction monitoring for a particular pollutant by the Technical Secretary if:
  - (i) The emissions increase of the pollutant from a new stationary source or the net emissions increase of the pollutant from a modification would cause, in any area, air quality impacts less than the following amounts:
    - (I) Carbon monoxide - 575 ug/m<sup>3</sup>, 8-hour average;
    - (II) Nitrogen dioxide - 14 ug/m<sup>3</sup>, annual average;
    - (III) Particulate matter:  
10 µg/m<sup>3</sup> of TSP, 24-hour average  
10 µg/m<sup>3</sup> of PM<sub>10</sub>, 24-hour average;
    - (IV) Sulfur dioxide - 13 ug/m<sup>3</sup>, 24-hour average;
    - (V) Ozone - no de minimis air quality level has been established. However, any net increase of 100 tons per year or more of either volatile organic compounds or nitrogen oxides subject to PSD would be required to perform an ambient impact analysis, including the gathering of ambient air quality data.
    - (VI) Lead (elemental) - 0.1 ug/m<sup>3</sup>, 3-month average;
    - (VII) Fluorides - 0.25 ug/m<sup>3</sup>, 24-hour average;
    - (VIII) Total reduced sulfur - 10 ug/ m<sup>3</sup>, 1-hour average;
    - (IX) Reduced sulfur compounds - 10 ug/ m<sup>3</sup>, 1-hour average;
    - (X) Hydrogen sulfide - 0.2 µg/m<sup>3</sup>, 1-hour average; or
  - (ii) The pollutants are not listed in subpart (d)6.(i); or
  - (iii) Representative existing ambient air quality data, consistent with the requirements of the Ambient Monitoring Guideline for Prevention of Significant Deterioration (PSD), EPA-450/4-87-007, are available for any pollutant as emitted by a major stationary source, or major modification; or
  - (iv) The existing air pollutant levels are conservatively estimated to be less than the concentrations listed in subpart (i) of this part, and a monitoring

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network may not reliably measure the predicted background concentrations; or

- (v) The concentrations of the pollutant in the area that the source or modification would affect are less than the concentrations listed in subpart (d)6.(i) of this paragraph.
7. A portable stationary source which has previously received construction approval under the requirements of this paragraph may relocate if:
- (i) Emissions from the source would be temporary and would not exceed its allowable emissions; and
  - (ii) The emissions from the source would impact no Class I area and no area where an applicable increment is known to be violated; and
  - (iii) Notice shall be given to the Technical Secretary 30 days prior to the relocation, giving the new temporary location and the probable length of operation at the new location.
8. Exclusions from Increment Consumption
- (i) Maximum allowable increases (ambient air increments) as specified in subparagraph 1200-03-09-.01(4)(f) shall not apply to concentrations as described below.
    - (I) Concentrations attributable to the increase in emissions from stationary sources which have converted from the use of petroleum products, natural gas, or both by reason of an order in effect under sections 2(a) and (b) of the Energy Supply and Environmental Coordination Act of 1974 (or any superseding legislation) over the emissions from such sources before the effective date of such an order;
    - (II) Concentrations attributable to the increase in emissions from sources which have converted from using natural gas by reason of a natural gas curtailment plan in effect pursuant to an applicable Federal law over the emissions from such sources before the effective date of such plan;
    - (III) Concentrations of particulate matter attributable to the increase in emissions from construction or other temporary emissions-related activities of new or modified sources;
    - (IV) Concentrations attributable to the temporary increase in emissions of sulfur dioxide, particulate matter, or nitrogen oxides from stationary sources which are affected by plan revisions approved as meeting the criteria specified in subpart 7.(iii).
  - (ii) No exclusion of such concentrations shall apply more than five years after the effective date of the order to which item 7.(i)(I) refers or of the plan to which item 7.(i)(II) refers, whichever is applicable. If both such order and plan are applicable, no such exclusion shall apply more than five years after the later of such effective dates.



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- (iii) For purposes of excluding concentrations pursuant to item 7.(i)(IV), the proposed plan revision shall:
  - (I) Specify the time over which the temporary emissions increase of sulfur dioxide, particulate matter, or nitrogen oxides would occur. Such time is not to exceed two years in duration.
  - (II) Specify that the time period for excluding certain contributions in accordance with item 7.(iii)(I) is not renewable.
  - (III) Allow no emission increase from a stationary source which would:
    - I. Impact a Class I area or an area where an applicable increment is known to be violated; or
    - II. Cause or contribute to the violation of a national ambient air quality standard;
  - (IV) Require limitations to be in effect at the end of the time period specified in accordance with item 7.(iii)(I) which would ensure that the emissions levels from stationary sources affected by the plan revision would not exceed those levels occurring from such sources before the plan revision was approved.
- 9. With the approval of the Technical Secretary, the requirements for air quality monitoring of PM<sub>10</sub> in part (e)7. of this paragraph may not apply to a particular major stationary source or major modification if the owner or operator submitted an application for a permit on or before June 1, 1988 and the Technical Secretary determines that the application as submitted before that date was complete, except with respect to the particulate matter monitoring requirements in part (e)7. of this paragraph.
- 10. Preapplication air quality analysis for ozone as required in part (e)7. of this paragraph will not be necessary if the source owner or operator chooses to meet the lowest achievable emission rate (LAER) in lieu of meeting the requirements to apply best available control technology (BACT) for emissions of volatile organic compounds or nitrogen oxides and is required to conduct post-construction monitoring for ozone.
- (e) The owner or operator of the proposed major stationary source or major modification:
  - 1. Shall demonstrate by performing source impact analysis that allowable emission increases from the proposed source or modification, in conjunction with all other applicable emissions increases or reduction (including secondary emissions) would not cause or contribute to air pollution in violation of:
    - (i) Any Tennessee ambient air quality standard in the source impact area.
    - (ii) Any applicable maximum allowable increase over the baseline concentration in any area.
  - 2. Shall submit all data necessary to make the analyses and determinations required under this paragraph.
    - (i) The data shall include:

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- (I) A description of the nature, location, design capacity, and typical operating schedule of the source or modification, including specifications and drawings needed for the review showing its design and plant layout.
- (II) A detailed proposed schedule for construction of the source or modification.
- (III) A detailed description as to what system of continuous emission reduction is planned for the source or modification, emission estimates, and any other information necessary to determine that best available control technology (BACT) would be applied where required by this paragraph.
- (IV) Additional impact analysis
  - I. The impairment to visibility, soils, and vegetation that would occur as a result of the source or modification and the associated general commercial, residential, industrial, and other growth. Vegetation having no significant commercial or recreational value may be excluded from the analysis.
  - II. The air quality impact projected for the area as a result of general commercial, residential, industrial, and other growth associated with the source or modification.
  - III. The Technical Secretary may require monitoring of visibility in any Federal Class I area near the proposed new stationary source or major modification, for such purposes and by such means as the Technical Secretary deems necessary and appropriate.
- (ii) Upon request by the Technical Secretary, the owner or operator shall also provide information on:
  - (I) The air quality impact of the source or modification, including meteorological and topographical data.
  - (II) The air quality impacts, and the nature and extent of any or all general commercial, residential, industrial, and other growth which has occurred since the PSD baseline date in the area the source or modification would affect. Such data in the possession of the Division shall be made available to the owner or operator.
3. Shall, after construction of the stationary source or modification, conduct such post-construction monitoring as the Technical Secretary determines is necessary to determine the effect emissions from the stationary source or modification may have, or are having on air quality in any area.
4. Shall meet the quality assurance requirements as specified in the Code of Federal Regulations, Title 40, Part 58, Appendix B, as published July 1, 1991, during the operation of monitoring stations for purposes of satisfying parts (e)3. and (e)7. of this paragraph.
5. Shall insure that the major stationary source or the major modification be in compliance with all applicable emission limitations of this Division 1200-03.

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6. Shall pay the cost of all publications required under this paragraph.
7. Shall perform the preapplication air quality analysis as outlined below:
  - (i) Any application for a construction permit pursuant to the regulations of this paragraph shall contain an analysis of ambient air quality in the area that the major stationary source or major modification would affect for each of the following pollutants:
    - (I) For the source, each pollutant that it would have the potential to emit in a significant amount;
    - (II) For the modification, each pollutant for which it would result in a significant net emissions increase.
  - (ii) For a pollutant for which an ambient air quality standard exists in these regulations (other than non-methane hydrocarbons), the analysis shall contain continuous air quality monitoring data gathered for purposes of determining whether emissions of that pollutant would cause or contribute to a violation of the standard or any maximum allowable increase unless specifically exempted in subparagraph 1200-03-09-.01(4)(d).
  - (iii) In general, the continuous air monitoring data that is required shall have been gathered over a period of one year and shall represent the year preceding receipt of the application, except that, if the Technical Secretary determines that a complete and adequate analysis can be accomplished with monitoring data gathered over a period shorter than one year (but not to be less than four months), the data that is required shall have been gathered over at least that shorter period.
  - (iv) Reserved.
  - (v) With respect to any pollutant for which no Tennessee Ambient Air Quality Standard exists, the analysis shall contain such air quality monitoring data as is determined by the Technical Secretary and EPA to be necessary to assess ambient air quality for that pollutant in any area that the emissions of the pollutant would affect.
  - (vi) The requirements for air quality monitoring of PM<sub>10</sub> in subparts (ii) and (iii) of this part shall apply to a particular source or modification if the owner or operator of the source or modification submits an application for a permit after June 1, 1988 and no later than December 1, 1988. The data shall have been gathered over at least the period from February 1, 1988 to the date the application becomes otherwise complete in accordance with the provisions set forth under (i. through v.) of this part, except that if the Technical Secretary determines that a complete and adequate analysis can be accomplished with monitoring data over a shorter period (not to be less than 4 months), the data required in (i. through v.) shall have been gathered over that shorter period.
  - (vii) For any application that becomes complete, except as to the requirements of subparts (ii) and (iii) of this part pertaining to PM<sub>10</sub>, after December 1, 1988 and no later than August 1, 1989 the data that subpart (ii) requires shall have been gathered over at least the period from August 1, 1988 to the date the application becomes otherwise complete, except that if the

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Technical Secretary determines that a complete and adequate analysis can be accomplished with monitoring data over a shorter period (not to be less than 4 months), the data that subpart (ii) of this part requires shall have been gathered over that shorter period.

- (f) Ambient Air Increments. In areas designated as class I, II, or III, increases in pollutant concentration over the baseline concentration shall be limited to the following:

MAXIMUM ALLOWABLE INCREASE  
(Micrograms per cubic meter)

| <u>Pollutant</u>                           | <u>µg/m<sup>3</sup></u> |
|--|-------------------------|
| <u>Class I</u>                             |                         |
| PM <sub>2.5</sub> :                        |                         |
| Annual arithmetic mean                     | 1                       |
| 24-hour maximum                            | 2                       |
| PM <sub>10</sub> :                         |                         |
| PM- <sub>10</sub> , Annual arithmetic mean | 4                       |
| PM- <sub>10</sub> , 24-hour maximum        | 8                       |
| Sulfur dioxide:                            |                         |
| Annual arithmetic mean                     | 2                       |
| 24-hour maximum                            | 5                       |
| 3-hour maximum                             | 25                      |
| Nitrogen dioxide:                          |                         |
| Annual arithmetic mean                     | 2.5                     |
| <u>Class II</u>                            |                         |
| PM <sub>2.5</sub> :                        |                         |
| Annual arithmetic mean                     | 4                       |
| 24-hour maximum                            | 9                       |
| PM <sub>10</sub> :                         |                         |
| Annual arithmetic mean                     | 17                      |
| 24-hour maximum                            | 30                      |
| Sulfur dioxide:                            |                         |
| Annual arithmetic mean                     | 20                      |

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|                        |     |
|------------------------|-----|
| 24-hour maximum        | 91  |
| 3-hour maximum         | 512 |
| Nitrogen dioxide:      |     |
| Annual arithmetic mean | 25  |
| <u>Class III</u>       |     |
| PM <sub>2.5</sub> :    |     |
| Annual arithmetic mean | 8   |
| 24-hour maximum        | 18  |
| PM <sub>10</sub> :     |     |
| Annual arithmetic mean | 34  |
| 24-hour maximum        | 60  |
| Sulfur dioxide:        |     |
| Annual arithmetic mean | 40  |
| 24-hour maximum        | 182 |
| 3-hour maximum         | 700 |
| Nitrogen dioxide:      |     |
| Annual arithmetic mean | 50  |

For any period other than an annual period, the applicable maximum allowable increase may be exceeded during one such period per year at any one location.

(g) Area classifications - For the purpose of this paragraph, the following classifications shall apply:

1. Class I Areas - Great Smoky Mountains National Park, Joyce Kilmer Slickrock National Wilderness Area, and the Cohutta Wilderness Area.
2. Class III Areas - None
3. Class II Areas - Remainder of the state

Areas in surrounding states are classified as specified in the EPA approved implementation plan for each adjoining state.

(h) Restrictions on area classifications.

1. All of the following areas which were in existence on August 7, 1977, shall be Class I areas and may not be redesignated:

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- (i) International parks,
    - (ii) National wilderness areas which exceed 5,000 acres in size,
    - (iii) National memorial parks which exceed 5,000 acres in size, and
    - (iv) National parks which exceed 6,000 acres in size.
  2. Areas which were redesignated as Class I before August 7, 1977, shall remain Class I, but may be redesignated as provided in this section.
  3. Any other area, unless otherwise specified in the legislation creating such as area, is initially designated Class II, but may be redesignated as provided in this section.
  4. The following areas may be redesignated only as Class I or II:
    - (i) An area which as of August 7, 1977, exceeded 10,000 acres in size and was a national monument, a national primitive area, a national preserve, a national recreational area, a national wild and scenic river, a national wildlife refuge, a national lakeshore or seashore; and
    - (ii) A national park or national wilderness area established after August 7, 1977, which exceeds 10,000 acres in size.
  5. In redesignation, the procedures specified in 40 CFR 51.166(g) as of July 1, 1992, shall be applied.
- (i) Ambient air ceilings
1. No concentration of a pollutant shall exceed the concentration permitted under the Tennessee secondary ambient air quality standard (Chapter 1200-03-03, Table 1), or the concentration permitted under the Tennessee primary ambient air quality standard (Chapter 1200-03-03, Table 1), whichever concentration is lowest for the pollutant for a period of exposure.
  2. Except as permitted by Section 123 of the Clean Air Act Amendments of 1977, dispersion techniques which exceed good engineering practice, and which were implemented after December 31, 1970, will not be considered when determining the emission limitations required for control of any pollutant.
- (j) Control Technology Review
1. A major stationary source or major modification shall meet each applicable emissions limitation under this Division 1200-03 and the State Implementation Plan, and each applicable emission standard and standard of performance under 40 CFR parts 60 and 61.
  2. A new major stationary source shall apply best available control technology for each regulated NSR pollutant that it would have the potential to emit in significant amounts.
  3. At the time of construction permitting, a major modification shall apply best available control technology for each regulated NSR pollutant for which it would result in a significant net emissions increase at the source. This requirement applies to each proposed emissions unit at which a net emissions increase in the

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pollutant would occur as a result of a physical change or change in the method of operation in the unit.

4. For phased construction projects, the determination of best available control technology shall be reviewed and modified as appropriate at the latest reasonable time which occurs no later than 18 months prior to commencement of construction of each independent phase of the project. At such time, the owner or operator of the applicable stationary source may be required to demonstrate the adequacy of any previous determination of best available control technology for the source.

(k) Air Quality Models.

As required under this paragraph, all estimates of ambient concentrations shall be based on applicable air quality models and databases acceptable to the Technical Secretary and meeting the requirements specified in 40 CFR Part 51 Appendix W. The provisions of 40 CFR Part 51 Appendix W are hereby adopted by reference as published in the July 1, 2019 edition of the Code of Federal Regulations (CFR). Where an air quality impact model specified in 40 CFR Part 51 Appendix W is inappropriate, the Technical Secretary may approve use of a modified model or substituted model after consultation with the EPA Administrator. The use of a modified or substituted model must be subject to notice and opportunity for public comment under procedures developed in accordance with subparagraph (l) of this paragraph.

(l) Public Participation

1. Within 30 days after receipt of an application to construct, or any addition to such application, the Technical Secretary shall advise the applicant of any deficiency in the application or in the information submitted. In the event of such a deficiency, the date of receipt of the application shall be, for the purpose of this section, the date on which the Technical Secretary received all required information.
2. The Technical Secretary shall make a final determination on the application no later than 6 months after receipt of a complete application. If there is a need for a longer period of time for review, it shall be agreed upon by mutual consent. In no case may this review period be longer than 1 year. The review process involves performing the following actions:
  - (i) Make a preliminary determination whether construction should be approved, approved with conditions, or disapproved.
  - (ii) Make available in at least one location in each air quality control region in which the proposed source or modification would be constructed a copy of all materials the applicant submitted, a copy of the preliminary determination, and a copy or summary of other materials, if any, considered in making the preliminary determination.
  - (iii) Notify the public via electronic notice on the Department's website of the application, the preliminary determination, the degree of increment consumption that is expected from the proposed source construction or modification, and the opportunity for comment at a public hearing as well as written public comment. The notice shall be available for the duration of the public comment period and shall include the notice of public comment, the draft permit, information on how to access the administrative record for

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the draft permit, and how to request and/or attend a public hearing on the draft permit.

- (iv) Send a copy of the notice of public comment to the applicant and to officials and agencies having cognizance over the location where the proposed construction would occur as follows: State or local air pollution control agencies, the chief executives of the city and county where the source or modification would be located, any comprehensive regional land use planning agency, the EPA Administrator, and any State or Federal Land Manager whose lands may be affected by emissions from the source or modification.
  - (v) Provide opportunity for a public hearing for interested persons to appear and submit written or oral comments on the air quality impact of the source or modification, alternatives to it, the control technology required, and other appropriate considerations.
  - (vi) Consider all written comments submitted within a time specified in the notice of public comment and all comments received at any public hearing(s) in making a final decision on the approvability of the application. No later than 10 days after the close of the public comment period, the applicant may submit a written response to any comments submitted by the public or request an extension for this purpose. The Technical Secretary shall consider the applicant's response in making a final decision. The Technical Secretary shall make all comments available for public inspection in the same locations where the Technical Secretary made available preconstruction information relating to the proposed source or modification.
  - (vii) Make a final determination whether construction should be approved, approved with conditions, or disapproved pursuant to this paragraph.
  - (viii) Notify the applicant in writing of the final determination and make such notification available for public inspection at the same location where the Technical Secretary made available preconstruction information and public comments relating to the source or modification.
  - (ix) All public comments and written comments prepared by the Technical Secretary will be maintained in the public depositories for one year from the date of issuance of the final determination.
- (m) Violations of Ambient Air Quality Increments or Standards

The Technical Secretary shall not issue a construction permit to a source or facility to construct in an area where the increment is known to be violated or the air quality review predicts a violation of the increment or the ambient air quality standards except in accordance with the following:

1. All new or modified facilities shall utilize good engineering practice as determined by the Technical Secretary in designing stacks. In no event shall that part of a stack which exceeds good engineering practice stack height be taken into account for the purpose of determining the degree of emission limitation required for the control of any pollutant for which there is an ambient air quality standard established in Chapter 1200-03-03, Table 1.



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2. A major source or modification which would normally be required to meet BACT shall be required to meet the Lowest Achievable Emission Rate (LAER) for that type of source as determined at the time of the permit application. The term "lowest achievable emission rate" shall be defined as found in part 1200-03-09-.01(4)(b)50. of this rule.
3. If requirements of parts 1200-03-09-.01(4)(m)1. and 2. are not adequate to protect the increment or the ambient air quality standards, the source shall obtain emission offsets, legally enforceable at or before the time of PSD permit issuance, sufficient to predict that the increment or air quality standard will no longer be violated. The offsets shall be accomplished on or before the time of the new source operation and demonstrated through a source test or through another method acceptable to the Technical Secretary.
4. A major stationary source or major modification will be considered to cause or contribute to a violation of an ambient air quality standard when such source or modification would, at a minimum, exceed the following significance levels at any locality that does not or would not meet the applicable ambient air quality standard:

| Pollutant        | Annual | 24 hour | 8 hour | 3 hour | 1 hour |
|------------------|--------|---------|--------|--------|--------|
| PM <sub>10</sub> | 1      | 5       |        |        |        |
| Sulfur Dioxide   | 1      | 5       |        | 25     |        |
| Carbon Monoxide  |        |         | 500    |        | 2000   |
| Nitrogen Dioxide | 1      |         |        |        |        |

(Levels are in units of micrograms per cubic meter.)

5. This rule does not exempt the source from meeting the requirements of paragraph 1200-03-09-.01(5).
- (n) Sources Impacting Class I Areas - Additional Requirements
1. Notice to Federal Land Managers and the EPA Administrator

The Technical Secretary shall promptly provide written notice of receipt of any permit application for a proposed major stationary source or major modification, the emissions from which may affect a Class I area or which may have an adverse impact on visibility in any Class I area to the EPA Administrator, the Federal Land Manager, and the Federal official charged with direct responsibility for management of any lands within any such area. The Technical Secretary shall transmit to the EPA Administrator and the Federal Land Manager a copy of each permit application relating to a major stationary source or major modification which would affect a Class I area. This application shall include a copy of all information relevant to the permit application and shall be given within 30 days of receipt of the permit application, and at least 60 days prior to any public hearing on the application for a permit to construct. Such notification shall include an analysis of the proposed source's anticipated impacts on visibility in the Federal Class I area. The Technical Secretary shall also provide the EPA Administrator, the Federal Land Manager and such Federal officials with a copy of the preliminary determination and shall make available to them any materials used in making that determination promptly after the Technical Secretary makes

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it. In addition, notification of public hearings, final determinations, and permits issued shall be provided. Finally, the Technical Secretary shall also notify all affected Federal Land Managers within 30 days of receipt of any advance notification of any such permit application.

2. Denial - Impact on Air Quality Related Values

The Federal Land Manager of any such lands may demonstrate to the Technical Secretary that the emissions from a proposed source or modification would have an adverse impact on the air quality-related values (including visibility) of those lands, notwithstanding that the change in air quality resulting from emissions from such source or modification would not cause or contribute to concentrations which would exceed the maximum allowable increases for a Class I area. If the Technical Secretary concurs with such demonstration, then he shall not issue the permit.

3. Class I Variances

The owner or operator of a proposed source or modification may demonstrate to the Federal Land Manager that the emissions from such source or modification would have no adverse impact on the air quality related values of any such lands (including visibility), notwithstanding that the change in air quality resulting from emissions from such source or modification would cause or contribute to concentrations which would exceed the maximum allowable increases for a Class I area. If the Federal Land Manager concurs with such demonstration and he so certifies, the Technical Secretary, provided that the applicable requirements of this paragraph are otherwise met, may issue the permit with such emission limitations as may be necessary as approved by the Tennessee Air Pollution Control Board to assure that emissions of sulfur dioxide, PM<sub>2.5</sub>, PM<sub>10</sub>, and nitrogen oxides would not exceed the following maximum allowable increases over baseline concentration for such pollutants:

| <u>Pollutant</u>       | <u>Maximum Allowable Increase <math>\mu\text{g}/\text{m}^3</math></u> |
|------------------------|---|
| PM <sub>2.5</sub> :    |   |
| Annual arithmetic mean | 4   |
| 24-hr maximum          | 9   |
| PM <sub>10</sub> :     |   |
| Annual arithmetic mean | 17  |
| 24-hr maximum          | 30  |
| Sulfur dioxide:        |   |
| Annual arithmetic mean | 20  |
| 24-hr maximum          | 91  |
| 3-hr maximum           | 325   |
| Nitrogen dioxide:      |   |
| Annual arithmetic mean | 25  |

4. Visibility Analysis

The Technical Secretary shall consider any analysis performed by the Federal Land Manager, provided to the Technical Secretary within 30 days of the notification and analysis required in part 1. of this subparagraph, that a proposed new major stationary source or major modification may have an adverse impact on visibility in any Federal Class I area. If the Technical Secretary concurs with the analysis then he shall not issue the permit. Where the Technical Secretary

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finds that such an analysis does not demonstrate to the satisfaction of the Technical Secretary that an adverse impact on visibility will result in the Federal Class I area, the Technical Secretary must, in the notice of public hearing on the permit application, either explain his decision or give notice as to where the explanation can be obtained.

(o) Innovative Control Technology

1. The owner or operator of a proposed major stationary source or major modification may request that the Technical Secretary approve a system of innovative control technology.
2. The Technical Secretary, with the consent of the Governor(s) of the other affected State(s), may determine that the source or modification may employ a system of innovative control technology if:
  - (i) The proposed control system would not cause or contribute to an unreasonable risk to public health, welfare, or safety in its operation or function.
  - (ii) The owner or operator agrees to achieve a level of continuous emissions reduction equivalent to that which would have been required under part 1200-03-09-.01(4)(j)1. by a date specified by the Technical Secretary. Such date shall not be later than 4 years from the time of startup, or 7 years from permit issuance.
  - (iii) The source or modification would meet the requirements of parts (e)1. and (j)1. based on the emission rate that the stationary source employing the system of innovative control technology would be required to meet on the date specified by the Technical Secretary.
  - (iv) The source or modification shall not:
    - (I) Cause or contribute to a violation of an applicable ambient air quality standard; or
    - (II) Have an adverse impact on any Class I area; or
    - (III) Impact any area where an applicable increment is known to be violated; and
  - (v) All other applicable requirements including those for public participation have been met.
3. The Technical Secretary shall withdraw any approval to employ a system of innovative control technology made under this subparagraph, if:
  - (i) The proposed system fails by the specified date to achieve the required continuous emissions reduction rate; or
  - (ii) The proposed system fails before the specified date so as to contribute to ambient air quality violations, or to an unreasonable risk to public health, welfare, or safety; or

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- (iii) The Technical Secretary decides at any time that the proposed system is unlikely to achieve the required level of control, or to protect the public health, welfare, or safety.
4. If a source or modification fails to meet the required level of continuous emission reduction within the specified time period or the approval is withdrawn in accordance with part (o)3., the Technical Secretary may allow the source or modification up to an additional 3 years to meet the requirement for the application of best available control technology through use of a demonstrated system of control.
- (p) Reserved.
  - (q) Reserved.
  - (r) Reserved.
  - (s) Actuals PALs.
    - 1. Applicability.
      - (i) The Technical Secretary may approve the use of an actuals PAL for any existing major stationary source if the PAL meets the requirements in parts (s)1. through 15. of this paragraph. The term “PAL” shall mean “actuals PAL” throughout subparagraph (s) of this paragraph.
      - (ii) Any physical change in or change in the method of operation of a major stationary source that maintains its total source-wide emissions below the PAL level, meets the requirements in parts (s)1. through 15. of this paragraph, and complies with the PAL permit:
        - (I) Is not a major modification for the PAL pollutant;
        - (II) Does not have to be approved through the major NSR program; and
        - (III) Is not subject to the provisions in part (a)6. of this paragraph (restrictions on relaxing enforceable emission limitations that the major stationary source used to avoid applicability of the major NSR program).
      - (iii) Except as provided under item (s)1.(ii)(III) of this paragraph, a major stationary source shall continue to comply with all applicable Federal or State requirements, emission limitations, and work practice requirements that were established prior to the effective date of the PAL.
    - 2. Definitions. When a term is not defined in these subparts, it shall have the meaning given in subparagraph (b) of this rule or in the Federal Clean Air Act.
      - (i) “Actuals PAL” for a major stationary source means a PAL based on the baseline actual emissions (as defined in part (b)45. of this paragraph) of all emissions units (as defined in part (b)8. of this paragraph) at the source, that emit or have the potential to emit the PAL pollutant.
      - (ii) “Allowable emissions” means “allowable emissions” as defined in part (b)17. of this paragraph, except as this definition is modified according to items (s)2.(ii)(I) and (II) of this paragraph.

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- (I) The allowable emissions for any emissions unit shall be calculated considering any emission limitations that are enforceable as a practical matter on the emissions unit's potential to emit.
- (II) An emissions unit's potential to emit shall be determined using the definition in part (b)5. of this paragraph, except that the words "or enforceable as a practical matter" should be added after "federally enforceable."
- (iii) "Small emissions unit" means an emissions unit that emits or has the potential to emit the PAL pollutant in an amount less than the significant level for that PAL pollutant, as defined in part (b)24. of this paragraph or in the Federal Clean Air Act, whichever is lower.
- (iv) "Major emissions unit" means:
  - (I) Any emissions unit that emits or has the potential to emit 100 tons per year or more of the PAL pollutant in an attainment area; or
  - (II) Any emissions unit that emits or has the potential to emit the PAL pollutant in an amount that is equal to or greater than the major source threshold for the PAL pollutant as defined by the Federal Clean Air Act for nonattainment areas. For example, in accordance with the definition of major stationary source in section 182(c) of the Federal Clean Air Act, an emissions unit would be a major emissions unit for VOC if the emissions unit is located in a serious ozone nonattainment area and it emits or has the potential to emit 50 or more tons of VOC per year.
- (v) "Plantwide applicability limitation (PAL)" means an emission limitation expressed in tons per year, for a pollutant at a major stationary source, that is enforceable as a practical matter and established source-wide in accordance with parts (s)1. through 15. of this paragraph.
- (vi) "PAL effective date" generally means the date of issuance of the PAL permit. However, the PAL effective date for an increased PAL is the date any emissions unit that is part of the PAL major modification becomes operational and begins to emit the PAL pollutant.
- (vii) "PAL effective period" means the period beginning with the PAL effective date and ending 10 years later.
- (viii) "PAL major modification" means, notwithstanding parts (b)2., 3., and 4. of this paragraph (the definitions for major modification and net emissions increase), any physical change in or change in the method of operation of the PAL source that causes it to emit the PAL pollutant at a level equal to or greater than the PAL.
- (ix) "PAL permit" means the major NSR permit, the minor NSR permit, or the State operating permit under a program that is approved into the plan, or the title V permit issued by the Technical Secretary that establishes a PAL for a major stationary source.
- (x) "PAL pollutant" means the pollutant for which a PAL is established at a major stationary source.

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- (xi) "Significant emissions unit" means an emissions unit that emits or has the potential to emit a PAL pollutant in an amount that is equal to or greater than the significant level (as defined in part (b)24. of this paragraph or in the Federal Clean Air Act, whichever is lower) for that PAL pollutant, but less than the amount that would qualify the unit as a major emissions unit as defined in subpart (s)2.(iv) of this paragraph.
3. Permit application requirements. As part of a permit application requesting a PAL, the owner or operator of a major stationary source shall submit the following information in subparts (s)3.(i) through (iii) of this paragraph to the Technical Secretary for approval.
- (i) A list of all emissions units at the source designated as small, significant or major based on their potential to emit. In addition, the owner or operator of the source shall indicate which, if any, Federal or State applicable requirements, emission limitations, or work practices apply to each unit.
  - (ii) Calculations of the baseline actual emissions (with supporting documentation). Baseline actual emissions are to include emissions associated not only with operation of the unit, but also emissions associated with startup, shutdown, and malfunction.
  - (iii) The calculation procedures that the major stationary source owner or operator proposes to use to convert the monitoring system data to monthly emissions and annual emissions based on a 12-month rolling total for each month as required by subpart (s)13.(i) of this paragraph.
4. General requirements for establishing PALs.
- (i) The Technical Secretary may establish a PAL at a major stationary source, provided that at a minimum, the requirements in items (s)4.(i)(I) through (VII) of this paragraph are met.
    - (I) The PAL shall impose an annual emission limitation in tons per year, that is enforceable as a practical matter, for the entire major stationary source. For each month during the PAL effective period after the first 12 months of establishing a PAL, the major stationary source owner or operator shall show that the sum of the monthly emissions from each emissions unit under the PAL for the previous 12 consecutive months is less than the PAL (a 12-month average, rolled monthly). For each month during the first 11 months from the PAL effective date, the major stationary source owner or operator shall show that the sum of the preceding monthly emissions from the PAL effective date for each emissions unit under the PAL is less than the PAL.
    - (II) The PAL shall be established in a PAL permit that meets the public participation requirements in part (s)5. of this paragraph.
    - (III) The PAL permit shall contain all the requirements of part (s)7. of this paragraph.
    - (IV) The PAL shall include fugitive emissions, to the extent quantifiable, from all emissions units that emit or have the potential to emit the PAL pollutant at the major stationary source.

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- (V) Each PAL shall regulate emissions of only one pollutant.
  - (VI) Each PAL shall have a PAL effective period of 10 years.
  - (VII) The owner or operator of the major stationary source with a PAL shall comply with the monitoring, recordkeeping, and reporting requirements provided in parts (s)12. through 14. of this paragraph for each emissions unit under the PAL through the PAL effective period.
- (ii) At no time (during or after the PAL effective period) are emissions reductions of a PAL pollutant that occur during the PAL effective period creditable as decreases for purposes of offsets under subpart (5)(b)2.(v) of this rule unless the level of the PAL is reduced by the amount of such emissions reductions and such reductions would be creditable in the absence of the PAL.
5. Public participation requirements for PALs. PALs for existing major stationary sources shall be established, renewed, or increased, through a procedure that is consistent with 40 CFR 51.160 and 51.161, subparagraph (l) of this paragraph, part (5)(b)3. of this rule, or (11)(f)8. This includes the requirement that the Technical Secretary provide the public with notice of the proposed approval of a PAL permit and at least a 30-day period for submittal of public comment. The Technical Secretary must address all material comments before taking final action on the permit.
6. Setting the 10-year actuals PAL level.
- (i) Except as provided in subpart (s)6.(ii) of this paragraph, the actuals PAL level for a major stationary source shall be established as the sum of the baseline actual emissions (as defined in part (b)45. of this paragraph) of the PAL pollutant for each emissions unit at the source; plus an amount equal to the applicable significant level for the PAL pollutant under part (b)24. of this paragraph or under the Federal Clean Air Act, whichever is lower. When establishing the actuals PAL level, for a PAL pollutant, only one consecutive 24-month period must be used to determine the baseline actual emissions for all existing emissions units. Emissions associated with units that were permanently shut down after this 24-month period must be subtracted from the PAL level. The Technical Secretary shall specify a reduced PAL level(s) (in tons/yr) in the PAL permit to become effective on the future compliance date(s) of any applicable Federal or State regulatory requirement(s) that the Technical Secretary is aware of prior to issuance of the PAL permit. For instance, if the source owner or operator will be required to reduce emissions from industrial boilers in half from baseline emissions of 60 ppm NOX to a new rule limit of 30 ppm, then the permit shall contain a future effective PAL level that is equal to the current PAL level reduced by half of the original baseline emissions of such unit(s).
  - (ii) For newly constructed units (which do not include modifications to existing units) on which actual construction began after the 24-month period, in lieu of adding the baseline actual emissions as specified in subpart (s)6.(i) of this paragraph, the emissions must be added to the PAL level in an amount equal to the potential to emit of the units.

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7. Contents of the PAL permit. The PAL permit shall contain, at a minimum, the information in subparts (s)7.(i) through (x) of this paragraph.
  - (i) The PAL pollutant and the applicable source-wide emission limitation in tons per year.
  - (ii) The PAL permit effective date and the expiration date of the PAL (PAL effective period).
  - (iii) Specification in the PAL permit that if a major stationary source owner or operator applies to renew a PAL in accordance with part (s)10. of this paragraph before the end of the PAL effective period, then the PAL shall not expire at the end of the PAL effective period. It shall remain in effect until a revised PAL permit is issued by the Technical Secretary.
  - (iv) A requirement that emission calculations for compliance purposes include emissions from startups, shutdowns and malfunctions.
  - (v) A requirement that, once the PAL expires, the major stationary source is subject to the requirements of part (s)9. of this paragraph.
  - (vi) The calculation procedures that the major stationary source owner or operator shall use to convert the monitoring system data to monthly emissions and annual emissions based on a 12-month rolling total for each month as required by subpart (s)13.(i) of this paragraph.
  - (vii) A requirement that the major stationary source owner or operator monitor all emissions units in accordance with the provisions under part (s)13. of this paragraph.
  - (viii) A requirement to retain the records required under part (s)12. of this paragraph on site. Such records may be retained in an electronic format.
  - (ix) A requirement to submit the reports required under part (s)14. of this paragraph by the required deadlines.
  - (x) Any other requirements that the Technical Secretary deems necessary to implement and enforce the PAL.
8. PAL effective period and reopening of the PAL permit.
  - (i) PAL effective period. The Technical Secretary shall specify a PAL effective period of 10 years.
  - (ii) Reopening of the PAL permit.
    - (I) During the PAL effective period, the Technical Secretary shall reopen the PAL permit to:
      - I. Correct typographical/calculation errors made in setting the PAL or reflect a more accurate determination of emissions used to establish the PAL;
      - II. Reduce the PAL if the owner or operator of the major stationary source creates creditable emissions reductions for use as offsets under subpart (5)(b)2.(v) of this rule; and



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- III. Revise the PAL to reflect an increase in the PAL as provided under part (s)11. of this paragraph.
  - (II) The Technical Secretary may reopen the PAL permit for the following:
    - I. Reduce the PAL to reflect newly applicable Federal requirements (for example, NSPS) with compliance dates after the PAL effective date;
    - II. Reduce the PAL consistent with any other requirement, that is enforceable as a practical matter, and that the State may impose on the major stationary source under the plan; and
    - III. Reduce the PAL if the Technical Secretary determines that a reduction is necessary to avoid causing or contributing to a NAAQS or PSD increment violation, or to an adverse impact on an AQRV that has been identified for a Federal Class I area by a Federal Land Manager and for which information is available to the general public.
  - (III) Except for the permit reopening in subitem (s)8.(ii)(I) of this paragraph for the correction of typographical/calculation errors that do not increase the PAL level, all reopenings shall be carried out in accordance with the public participation requirements of part (s)5. of this paragraph.
9. Expiration of a PAL. Any PAL that is not renewed in accordance with the procedures in part (s)10. of this paragraph shall expire at the end of the PAL effective period, and the requirements in subpart (s)9.(i) through (v) of this paragraph shall apply.
- (i) Each emissions unit (or each group of emissions units) that existed under the PAL shall comply with an allowable emission limitation under a revised permit established according to the procedures in items (s)9.(i)(I) and (II) of this paragraph.
    - (I) Within the time frame specified for PAL renewals in subpart (s)10.(ii) of this paragraph, the major stationary source shall submit a proposed allowable emission limitation for each emissions unit (or each group of emissions units, if such a distribution is more appropriate as decided by the Technical Secretary) by distributing the PAL allowable emissions for the major stationary source among each of the emissions units that existed under the PAL. If the PAL had not yet been adjusted for an applicable requirement that became effective during the PAL effective period, as required under subpart (s)10.(v) of this paragraph, such distribution shall be made as if the PAL had been adjusted.
    - (II) The Technical Secretary shall decide whether and how the PAL allowable emissions will be distributed and issue a revised permit incorporating allowable limits for each emissions unit, or each group of emissions units, as the Technical Secretary determines is appropriate.

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- (ii) Each emissions unit(s) shall comply with the allowable emission limitation on a 12-month rolling basis. The Technical Secretary may approve the use of monitoring systems (source testing, emission factors, etc.) other than CEMS, CERMS, PEMS or CPMS to demonstrate compliance with the allowable emission limitation.
  - (iii) Until the Technical Secretary issues the revised permit incorporating allowable limits for each emissions unit, or each group of emissions units, as required under item (s)9.(i)(II) of this paragraph, the source shall continue to comply with a source-wide, multi-unit emissions cap equivalent to the level of the PAL emission limitation.
  - (iv) Any physical change or change in the method of operation at the major stationary source will be subject to major NSR requirements if such change meets the definition of major modification in parts (b)2. and 3. of this paragraph.
  - (v) The major stationary source owner or operator shall continue to comply with any State or Federal applicable requirements (BACT, RACT, NSPS, etc.) that may have applied either during the PAL effective period or prior to the PAL effective period except for those emission limitations that had been established pursuant to part (a)6. of this paragraph, but were eliminated by the PAL in accordance with the provisions in item (s)1.(ii)(III) of this paragraph.
10. Renewal of a PAL.
- (i) The Technical Secretary shall follow the procedures specified in part (s)5. of this paragraph in approving any request to renew a PAL for a major stationary source, and shall provide both the proposed PAL level and a written rationale for the proposed PAL level to the public for review and comment. During such public review, any person may propose a PAL level for the source for consideration by the Technical Secretary.
  - (ii) Application deadline. A major stationary source owner or operator shall submit a timely application to the Technical Secretary to request renewal of a PAL. A timely application is one that is submitted at least 6 months prior to, but not earlier than 18 months from, the date of permit expiration. This deadline for application submittal is to ensure that the permit will not expire before the permit is renewed. If the owner or operator of a major stationary source submits a complete application to renew the PAL within this time period, then the PAL shall continue to be effective until the revised permit with the renewed PAL is issued.
  - (iii) Application requirements. The application to renew a PAL permit shall contain the information required in items (s)10.(iii)(I) through (IV) of this paragraph.
    - (I) The information required in subparts (s)3.(i) through (iii) of this paragraph.
    - (II) A proposed PAL level.
    - (III) The sum of the potential to emit of all emissions units under the PAL (with supporting documentation).

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- (IV) Any other information the owner or operator wishes the Technical Secretary to consider in determining the appropriate level for renewing the PAL.
  - (iv) PAL adjustment. In determining whether and how to adjust the PAL, the Technical Secretary shall consider the options outlined in items (s)10.(iv)(I) and (II) of this paragraph. However, in no case may any such adjustment fail to comply with item (s)10.(iv)(III) of this paragraph.
    - (I) If the emissions level calculated in accordance with part (s)6. of this paragraph is equal to or greater than 80 percent of the PAL level, the Technical Secretary may renew the PAL at the same level without considering the factors set forth in item (s)10.(iv)(II) of this paragraph; or
    - (II) The Technical Secretary may set the PAL at a level that it determines to be more representative of the source's baseline actual emissions, or that it determines to be appropriate considering air quality needs, advances in control technology, anticipated economic growth in the area, desire to reward or encourage the source's voluntary emissions reductions, or other factors as specifically identified by the Technical Secretary in its written rationale.
    - (III) Notwithstanding items (s)10.(iv)(I) and (II) of this paragraph:
      - I. If the potential to emit of the major stationary source is less than the PAL, the Technical Secretary shall adjust the PAL to a level no greater than the potential to emit of the source; and
      - II. The Technical Secretary shall not approve a renewed PAL level higher than the current PAL, unless the major stationary source has complied with the provisions of part (s)11. of this paragraph (increasing a PAL).
  - (v) If the compliance date for a State or Federal requirement that applies to the PAL source occurs during the PAL effective period, and if the Technical Secretary has not already adjusted for such requirement, the PAL shall be adjusted at the time of PAL permit renewal or title V permit renewal, whichever occurs first.
11. Increasing a PAL during the PAL effective period.
- (i) The Technical Secretary may increase a PAL emission limitation only if the major stationary source complies with the provisions in items (s)11.(i)(I) through (IV) of this paragraph.
    - (I) The owner or operator of the major stationary source shall submit a complete application to request an increase in the PAL limit for a PAL major modification. Such application shall identify the emissions unit(s) contributing to the increase in emissions so as to cause the major stationary source's emissions to equal or exceed its PAL.
    - (II) As part of this application, the major stationary source owner or operator shall demonstrate that the sum of the baseline actual emissions of the small emissions units, plus the sum of the baseline actual emissions of the significant and major emissions units

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assuming application of BACT equivalent controls, plus the sum of the allowable emissions of the new or modified emissions unit(s), exceeds the PAL. The level of control that would result from BACT equivalent controls on each significant or major emissions unit shall be determined by conducting a new BACT analysis at the time the application is submitted, unless the emissions unit is currently required to comply with a BACT or LAER requirement that was established within the preceding 10 years. In such a case, the assumed control level for that emissions unit shall be equal to the level of BACT or LAER with which that emissions unit must currently comply.

- (III) The owner or operator obtains a major NSR permit for all emissions unit(s) identified in item (s)11.(i)(I) of this paragraph, regardless of the magnitude of the emissions increase resulting from them (that is, no significant levels apply). These emissions unit(s) shall comply with any emissions requirements resulting from the major NSR process (for example, BACT), even though they have also become subject to the PAL or continue to be subject to the PAL.
  - (IV) The PAL permit shall require that the increased PAL level shall be effective on the day any emissions unit that is part of the PAL major modification becomes operational and begins to emit the PAL pollutant.
- (ii) The Technical Secretary shall calculate the new PAL as the sum of the allowable emissions for each modified or new emissions unit, plus the sum of the baseline actual emissions of the significant and major emissions units (assuming application of BACT equivalent controls as determined in accordance with item (s)11.(i)(II) of this paragraph), plus the sum of the baseline actual emissions of the small emissions units.
  - (iii) The PAL permit shall be revised to reflect the increased PAL level pursuant to the public notice requirements of part (s)5. of this paragraph.
12. Monitoring requirements for PALs
- (i) General requirements.
    - (I) Each PAL permit must contain enforceable requirements for the monitoring system that accurately determines plantwide emissions of the PAL pollutant in terms of mass per unit of time. Any monitoring system authorized for use in the PAL permit must be based on sound science and meet generally acceptable scientific procedures for data quality and manipulation. Additionally, the information generated by such system must meet minimum legal requirements for admissibility in a judicial proceeding to enforce the PAL permit.
    - (II) The PAL monitoring system must employ one or more of the four general monitoring approaches meeting the minimum requirements set forth in items (s)12.(ii)(I) through (IV) of this paragraph and must be approved by the Technical Secretary.
    - (III) Notwithstanding item (s)12.(i)(II) of this paragraph, you may also employ an alternative monitoring approach that meets item (s)12.(i)(I) of this paragraph if approved by the Technical Secretary.

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- (IV) Failure to use a monitoring system that meets the requirements of this paragraph renders the PAL invalid.
- (ii) Minimum performance requirements for approved monitoring approaches. The following are acceptable general monitoring approaches when conducted in accordance with the minimum requirements in subparts (s)12.(iii) through (ix) of this paragraph:
  - (I) Mass balance calculations for activities using coatings or solvents;
  - (II) CEMS;
  - (III) CPMS or PEMS; and
  - (IV) Emission factors.
- (iii) Mass balance calculations. An owner or operator using mass balance calculations to monitor PAL pollutant emissions from activities using coating or solvents shall meet the following requirements:
  - (I) Provide a demonstrated means of validating the published content of the PAL pollutant that is contained in or created by all materials used in or at the emissions unit;
  - (II) Assume that the emissions unit emits all of the PAL pollutant that is contained in or created by any raw material or fuel used in or at the emissions unit, if it cannot otherwise be accounted for in the process; and
  - (III) Where the vendor of a material or fuel, which is used in or at the emissions unit, publishes a range of pollutant content from such material, the owner or operator must use the highest value of the range to calculate the PAL pollutant emissions unless the Technical Secretary determines there is site-specific data or a site-specific monitoring program to support another content within the range.
- (iv) CEMS. An owner or operator using CEMS to monitor PAL pollutant emissions shall meet the following requirements:
  - (I) CEMS must comply with applicable Performance Specifications found in 40 CFR part 60, appendix B; and
  - (II) CEMS must sample, analyze, and record data at least every 15 minutes while the emissions unit is operating.
- (v) CPMS or PEMS. An owner or operator using CPMS or PEMS to monitor PAL pollutant emissions shall meet the following requirements:
  - (I) The CPMS or the PEMS must be based on current site-specific data demonstrating a correlation between the monitored parameter(s) and the PAL pollutant emissions across the range of operation of the emissions unit; and

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- (II) Each CPMS or PEMS must sample, analyze, and record data at least every 15 minutes, or at another less frequent interval approved by the Technical Secretary, while the emissions unit is operating.
  - (vi) Emission factors. An owner or operator using emission factors to monitor PAL pollutant emissions shall meet the following requirements:
    - (I) All emission factors shall be adjusted, if appropriate, to account for the degree of uncertainty or limitations in the factors' development;
    - (II) The emissions unit shall operate within the designated range of use for the emission factor, if applicable; and
    - (III) If technically practicable, the owner or operator of a significant emissions unit that relies on an emission factor to calculate PAL pollutant emissions shall conduct validation testing to determine a site-specific emission factor within 6 months of PAL permit issuance, unless the Technical Secretary determines that testing is not required.
  - (vii) A source owner or operator must record and report maximum potential emissions without considering enforceable emission limitations or operational restrictions for an emissions unit during any period of time that there is no monitoring data, unless another method for determining emissions during such periods is specified in the PAL permit.
  - (viii) Notwithstanding the requirements in subparts (s)12.(iii) through (vii) of this paragraph, where an owner or operator of an emissions unit cannot demonstrate a correlation between the monitored parameter(s) and the PAL pollutant emissions rate at all operating points of the emissions unit, the Technical Secretary shall, at the time of permit issuance:
    - (I) Establish default value(s) for determining compliance with the PAL based on the highest potential emissions reasonably estimated at such operating point(s); or
    - (II) Determine that operation of the emissions unit during operating conditions when there is no correlation between monitored parameter(s) and the PAL pollutant emissions is a violation of the PAL.
  - (ix) Re-validation. All data used to establish the PAL pollutant must be re-validated through performance testing or other scientifically valid means approved by the Technical Secretary. Such testing must occur at least once every 5 years after issuance of the PAL.
13. Recordkeeping requirements.
- (i) The PAL permit shall require an owner or operator to retain a copy of all records necessary to determine compliance with any requirement of subparagraph (s) of this paragraph and of the PAL, including a determination of each emissions unit's 12-month rolling total emissions, for 5 years from the date of such record.
  - (ii) The PAL permit shall require an owner or operator to retain a copy of the following records, for the duration of the PAL effective period plus 5 years:

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- (I) A copy of the PAL permit application and any applications for revisions to the PAL; and
  - (II) Each annual certification of compliance pursuant to title V and the data relied on in certifying the compliance.
14. Reporting and notification requirements. The owner or operator shall submit semi-annual monitoring reports and prompt deviation reports to the Technical Secretary in accordance with the applicable title V operating permit program. The reports shall meet the requirements in subparts (s)14.(i) through (iii) of this paragraph.
- (i) Semi-annual report. The semi-annual report shall be submitted to the Technical Secretary within 30 days of the end of each reporting period. This report shall contain the information required in items (s)14.(i)(I) through (VII) of this paragraph.
    - (I) The identification of owner and operator and the permit number.
    - (II) Total annual emissions (tons/year) based on a 12-month rolling total for each month in the reporting period recorded pursuant to subpart (s)13.(i) of this paragraph.
    - (III) All data relied upon, including, but not limited to, any Quality Assurance or Quality Control data, in calculating the monthly and annual PAL pollutant emissions.
    - (IV) A list of any emissions units modified or added to the major stationary source during the preceding 6-month period.
    - (V) The number, duration, and cause of any deviations or monitoring malfunctions (other than the time associated with zero and span calibration checks), and any corrective action taken.
    - (VI) A notification of a shutdown of any monitoring system, whether the shutdown was permanent or temporary, the reason for the shutdown, the anticipated date that the monitoring system will be fully operational or replaced with another monitoring system, and whether the emissions unit monitored by the monitoring system continued to operate, and the calculation of the emissions of the pollutant or the number determined by method included in the permit, as provided by subpart (s)12.(vii) of this paragraph.
    - (VII) A signed statement by the responsible official (as defined by the applicable title V operating permit program) certifying the truth, accuracy, and completeness of the information provided in the report.
  - (ii) Deviation report. The major stationary source owner or operator shall promptly submit reports of any deviations or exceedance of the PAL requirements, including periods where no monitoring is available. A report submitted pursuant to item .02(11)(e)1.(iii)(III) of this chapter shall satisfy this reporting requirement. The deviation reports shall be submitted within the time limits prescribed by item .02(11)(e)1.(iii)(III) of this chapter. The reports shall contain the following information:

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- (I) The identification of owner and operator and the permit number;
  - (II) The PAL requirement that experienced the deviation or that was exceeded;
  - (III) Emissions resulting from the deviation or the exceedance; and
  - (IV) A signed statement by the responsible official (as defined by the applicable title V operating permit program) certifying the truth, accuracy, and completeness of the information provided in the report.
- (iii) Re-validation results. The owner or operator shall submit to the Technical Secretary the results of any re-validation test or method within three months after completion of such test or method.
15. Transition requirements.
- (i) The Technical Secretary may not issue a PAL that does not comply with the requirements in parts (s)1. through 15. of this paragraph after the Administrator has approved regulations incorporating these requirements into the State Implementation Plan (SIP).
  - (ii) The Technical Secretary may supersede any PAL which was established prior to the date of approval of the plan by the Administrator with a PAL that complies with the requirements of parts (s)1. through 15. of this paragraph.
- (t) If any provision of this section, or the application of such provision to any person or circumstance, is held invalid, the remainder of this section, or the application of such provision to persons or circumstances other than those as to which it is held invalid, shall not be affected thereby.
- (5) Growth Policy
- (a) Attainment and Unclassified Areas
- The Technical Secretary shall not grant a permit for the construction or modification of any air contaminant source in an attainment or unclassified area if such construction or modification will interfere with the maintenance of an air quality standard or PSD increment where applicable, or will violate any provisions of the Tennessee Air Quality Act, or section 165(a)(3) of the Clean Air Act, Amendments of 1990.
- (b) Nonattainment Areas
1. Definitions as used in this subparagraph are not alphabetized. All terms not defined herein shall have the meaning given them in Chapter 1200-03-02.
- (i) "Stationary source" means any building, structure, facility, or installation which emits or may emit a regulated NSR pollutant.
  - (ii) "Building, structure, facility, or installation" means all of the air contaminant-emitting activities which belong to the same industrial grouping, are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control). Air



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contaminant-emitting activities shall be considered as part of the same industrial grouping if they belong to the same “Major Group” (i.e., which have the same two digit code) which is specified in the Standard Industrial Classification Manual, 1972, as amended by the 1977 Supplement (U.S. Government Printing Office stock numbers 4101-0065 and 003-005-00176-0, respectively).

- (iii) “Potential to emit” means the maximum capacity of a stationary source to emit an air contaminant under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit an air contaminant, including air contaminant control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design only if the limitation or the effect it would have on emissions is “legally enforceable.” Secondary emissions do not count in determining the “potential to emit” of a stationary source.
- (iv) “Major stationary source” means:
  - (I) Any stationary source of air contaminants which emits, or has the potential to emit, 100 tons per year or more of any regulated NSR pollutant, except that lower emissions thresholds shall apply in areas subject to subpart 2, subpart 3, or subpart 4 of part D, title I of the Clean Air Act, according to subitems I. through VI. of this item.
    - I. 50 tons per year of either volatile organic compounds or nitrogen oxides in any serious ozone non-attainment area.
    - II. 50 tons per year of either volatile organic compounds or nitrogen oxides in an area within an ozone transport region, except for any severe or extreme ozone non-attainment area.
    - III. 25 tons per year of either volatile organic compounds or nitrogen oxides in any severe ozone non-attainment area.
    - IV. 10 tons per year of either volatile organic compounds or nitrogen oxides in any extreme ozone non-attainment area.
    - V. 50 tons per year of carbon monoxide in any serious non-attainment area for carbon monoxide, where stationary sources contribute significantly to carbon monoxide levels in the area (as determined under rules issued by the Administrator of the U.S. EPA).
    - VI. 70 tons per year of PM–10 in any serious non-attainment area for PM–10; or
  - (II) Any physical change that would occur at a stationary source not qualifying under item (iv)(I) as a major stationary source, if the change would constitute a major stationary source by itself.
  - (III) A major stationary source that is major for volatile organic compounds or nitrogen oxides shall be considered major for ozone.
  - (IV) The fugitive emissions of a stationary source shall not be included in determining for any of the purposes of this item, whether it is a major

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stationary source, unless the source belongs to one of the following categories of stationary sources:

- I. Coal cleaning plants (with thermal dryers);
- II. Kraft pulp mills;
- III. Portland cement plants;
- IV. Primary zinc smelters;
- V. Iron and steel mills;
- VI. Primary aluminum ore reduction plants;
- VII. Primary copper smelters;
- VIII. Municipal incinerators (or combination thereof) capable of charging more than 250 tons of refuse per day;
- IX. Hydrofluoric, sulfuric, or nitric acid plants;
- X. Petroleum refineries;
- XI. Lime plants;
- XII. Phosphate rock processing plants;
- XIII. Coke oven batteries;
- XIV. Sulfur recovery plants;
- XV. Carbon black plants (furnace process);
- XVI. Primary lead smelters;
- XVII. Fuel conversion plants;
- XVIII. Sintering plants;
- XIX. Secondary metal production plants;
- XX. Chemical process plants;
- XXI. Fossil-fuel boilers (or combination thereof) totaling more than 250 million British thermal units per hour heat input;
- XXII. Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels;
- XXIII. Taconite ore processing plants;
- XXIV. Glass fiber processing plants;
- XXV. Charcoal production plants;

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XXVI. Fossil fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input; and

XXVII. Any other stationary source category that is regulated under Chapter 1200-03-16, New Source Performance Standards (as of August 7, 1980), Chapter 1200-03-11, Hazardous Air Contaminants (as of August 7, 1980), Chapter 1200-03-31, Case-by-Case Determinations of Hazardous Air Pollutant Control Requirements (as of September 18, 1994), or Chapter 0400-30-38, Emission Standards for Hazardous Air Pollutants (as of the most recent effective date of this rule).

(v) Major modification:

(I) "Major modification" means any physical change in or change in the method of operation of a major stationary source that would result in:

I. A significant emissions increase of a regulated NSR pollutant (as defined in subpart 1.(xlix) of this subparagraph).

II. A significant net emissions increase of that pollutant from the major stationary source.

(II) Any significant emissions increase (as defined in subpart 1.(xxxix) of this subparagraph) from any emissions units or net emissions increase (as defined in subpart 1.(vi) of this subparagraph) at a major stationary source that is significant for volatile organic compounds and/or nitrogen oxides shall be considered significant for ozone.

(III) A physical change or change in the method of operation shall not include:

I. Routine maintenance, repair, and replacement;

II. Use of an alternative fuel or raw material by reason of any order under section 2(a) and (b) of the Energy Supply and Environmental Coordination Act of 1974 (or any superseding legislation) or by reason of a natural gas curtailment plan pursuant to the federal power act;

III. Use of an alternative fuel by reason of an order or Rule under Section 125 of the Clean Air Act Amendments, August 7, 1977;

IV. Use of an alternative fuel at a steam generating unit (burning equipment of 250 million BTU's per hour or larger) to the extent that the fuel is generated from municipal solid waste as determined by the Tennessee Division of Solid Waste Management.

V. Use of an alternative fuel or raw material by a stationary source which the source was capable of accommodating before December 12, 1976, unless such change would be prohibited under a legally enforceable permit condition which was established after December 12, 1976, pursuant to 40 CFR

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Part 52.21 (July 1, 1993), or under regulations approved pursuant to 40 CFR Part 51 Subpart I or 51.166 (July 1, 1993), or the source is approved to use under any permit issued pursuant to this paragraph;

- VI. An increase in the hours of operation or in the production rate, unless such change would be prohibited under a legally enforceable permit condition which was established after December 21, 1976, pursuant to 40 CFR Part 52.21 (July 1, 1993) or regulations approved pursuant to 40 CFR Part 51 Subpart I or 40 CFR Part 51.166 (July 1, 1993).
- VII. Any change in ownership at a stationary source.
- VIII. Reserved.
- IX. The installation, operation, cessation, or removal of a temporary clean coal technology demonstration project, provided that the project complies with:
  - A. The State Implementation Plan for the State in which the project is located, and
  - B. Other requirements necessary to attain and maintain the national ambient air quality standards during the project and after it is terminated.

(IV) This definition shall not apply with respect to a particular regulated NSR pollutant when the major stationary source is complying with the requirements under part 10. of this subparagraph for a PAL for that pollutant. Instead, the definition at item 10.(ii)(VIII) of this subparagraph shall apply.

(V) Any physical change in, or change in the method of operation of, a major stationary source of volatile organic compounds that results in any increase in emissions of volatile organic compounds from any discrete operation, emissions unit, or other pollutant emitting activity at the source shall be considered a significant net emissions increase and a major modification for ozone, if the major stationary source is located in an extreme ozone non-attainment area that is subject to subpart 2, part D, title I of the Clean Air Act.

(VI) Any physical change in, or change in the method of operation of, a major stationary source of nitrogen oxides that results in any increase in emissions of nitrogen oxides from any discrete operation, emissions unit, or other pollutant emitting activity at the source shall be considered a significant net emissions increase and a major modification for ozone, if the major stationary source is located in an extreme ozone non-attainment area that is subject to subpart 2, part D, title I of the Clean Air Act.

(vi) Net emission increases

(I) "Net emissions increase" means, with respect to any regulated NSR pollutant emitted by a major stationary source, the amount by which the sum of the following exceeds zero:

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- I. The increase in emissions from a particular physical change or change in the method of operation at a stationary source as calculated pursuant to subparts 2.(xii) through (xvii) of this subparagraph; and
  - II. Any other increases and decreases in actual emissions at the major stationary source that are contemporaneous with the particular change and are otherwise creditable. Baseline actual emissions for calculating increases and decreases under this subitem II. shall be determined as provided in subpart 1.(xlvii) of this subparagraph, except that subitems 1.(xlvii)(I)III. and IV. of this subparagraph shall not apply.
- (II) An increase or decrease in the actual emissions is contemporaneous with the increase from the particular change only if it occurs before the date that the increase from the particular change occurs.
- (III) An increase or decrease in actual emissions is creditable only if;
- I. It occurs within a reasonable period to be specified by the Technical Secretary; and
  - II. The Technical Secretary has not relied on it in issuing a permit for the source under regulations approved pursuant to 40 CFR Part 51 Subpart I, which permit is in effect when the increase in actual emissions from the particular change occurs; and
  - III. Reserved.
- (IV) An increase in actual emissions is creditable only to the extent that the new level of actual emissions exceeds the old level.
- (V) A decrease in actual emissions is creditable only to the extent that:
- I. The old level of actual emission or the old level of allowable emissions which ever is the lower, exceeds the new level of actual emissions; and
  - II. It is enforceable as a practical matter at and after the time that actual construction on the particular change begins; and
  - III. The Technical Secretary has not relied on it in issuing any permit under regulation approved pursuant to 40 CFR Part 51 Subpart I or the Technical Secretary has not relied on it in demonstrating attainment or reasonable further progress; and
  - IV. It has approximately the same qualitative significance for public health and welfare as that attributed to the increase from the particular change; and
  - V. Reserved.
- (VI) An increase that results from a physical change at a stationary source occurs when the emissions unit on which construction occurred becomes operational and begins to emit a particular air

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contaminant. Any replacement unit that requires shakedown becomes operational only after a reasonable shakedown period as determined by the Technical Secretary, not to exceed 180 days.

- (VII) Item 1.(xiii)(I) of this subparagraph shall not apply for determining creditable increases and decreases or after a change.
- (vii) "Emissions unit" means any part of a stationary source that emits or would have the potential to emit any regulated NSR pollutant. This definition includes an electric steam generating unit as defined in subpart 1.(lvi) of this subparagraph. For purposes of this section, there are two types of emissions units as described in items 1.(vii)(I) and (II) of this subparagraph.
- (I) A new emissions unit is any emissions unit which is (or will be) newly constructed and which has existed for less than 2 years from the date such emissions unit first operated.
- (II) An existing emissions unit is any emissions unit that does not meet the requirements in item 1.(vii)(I) of this subparagraph. A replacement unit, as defined in subpart 1.(xxxvi) of this subparagraph, is an existing emissions unit.
- (viii) "Secondary emissions" means emissions which would occur as a result of the construction or operation of a major stationary source or major modification, but do not come from the major stationary source or major modification itself. For the purposes of this rule, secondary emissions must be specific, well defined, quantifiable, and impact the same general area as the stationary source or modification which causes the secondary emissions. Secondary emissions include, emissions from any off-site support facility which would not otherwise be constructed or increase its emissions except as a result of the construction or operation of the major stationary source of major modification. Secondary emissions do not include any emissions which come directly from a mobile source such as emissions from the tailpipe of a motor vehicle, from a train, or from a vessel.
- (ix) "Fugitive emissions" means those emissions which could not reasonably pass through a stack, chimney, vent or other functionally equivalent opening.
- (x) "Significant" means, in reference to a net emissions increase or the potential of a source to emit any of the following air contaminants, a rate of emissions that would equal or exceed any of the following rates:
- (I) Air Contaminant and Emissions Rate
- I. Carbon monoxide: 100 tons per year (tpy)
  - II. Nitrogen Oxides: 40 tpy
  - III. Sulfur dioxide: 40 tpy
  - IV. Ozone: 40 tpy of an ozone precursor
  - V. Lead: 0.6 tpy

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- VI.  $PM_{10}$ : 15 tpy
  - VII.  $PM_{2.5}$ : 10 tpy of direct  $PM_{2.5}$  emissions; 40 tpy of sulfur dioxide emissions; 40 tpy of nitrogen oxide emissions unless demonstrated not to be a  $PM_{2.5}$  precursor under subitem 1.(xlix)(III)III. of this subparagraph.
- (II) Notwithstanding the significant emissions rate for ozone in item (I) of this subpart, significant means, in reference to an emissions increase or a net emissions increase, any increase in actual emissions of either volatile organic compounds or nitrogen oxides that would result from any physical change in, or change in the method of operation of, a major stationary source located in a serious or severe ozone non-attainment area that is subject to subpart 2, part D, title I of the Clean Air Act, if such emissions increase of either volatile organic compounds or nitrogen oxides exceeds 25 tons per year.
  - (III) Reserved.
  - (IV) Notwithstanding the significant emissions rate for carbon monoxide under item (I) of this subpart, significant means, in reference to an emissions increase or a net emissions increase, any increase in actual emissions of carbon monoxide that would result from any physical change in, or change in the method of operation of, a major stationary source in a serious non-attainment area for carbon monoxide if such increase equals or exceeds 50 tons per year, provided the Administrator of the U.S. EPA has determined that stationary sources contribute significantly to carbon monoxide levels in that area.
  - (V) Notwithstanding the significant emissions rates for ozone under items (I) and (II) of this subpart, any increase in actual emissions of either volatile organic compounds or nitrogen oxides from any emissions unit at a major stationary source of either volatile organic compounds or nitrogen oxides located in an extreme ozone non-attainment area that is subject to subpart 2, part D, title I of the Clean Air Act shall be considered a significant net emissions increase.
- (xi) "Allowable emissions" means the emissions rate of a stationary source calculated using the maximum rated capacity of the source (unless the source is subject to legally enforceable limits which restrict the operating rate, or hours of operation, or both) and the most stringent of the following:
    - (I) The applicable standards set forth in:
      - I. The New Source Performance Standards (NSPS) or;
      - II. The National Emission Standards for Hazardous Air Pollutants (NESHAP) contained in Chapter 0400-30-38, Emission Standards for Hazardous Air Pollutants, and Chapter 1200-03-31, Case-by-Case Determinations of Hazardous Air Pollution Control Requirements, or;

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- III. Limits established pursuant to the applicable standards under Division 1200-03 or;
  - IV. In the State Implementation Plan, emissions rates, specified as a legally enforceable permit condition established pursuant to this rule 1200-03-09-.01 including those with a future compliance date
- (xii) “Legally enforceable” means all limitations and conditions which are enforceable by the Technical Secretary and the EPA Administrator and are included under this Division 1200-03 and the State Implementation Plan. All orders issued by the Tennessee Air Pollution Control Board, operating permits and their respective special conditions issued in accordance with the Act and Regulations, and any certificate authorized by the Act or the Regulations shall be taken to public hearing and made part of the State Implementation Plan by the Board to be legally enforceable.
- (xiii) “Actual emissions” means the actual rate of emissions of a regulated NSR pollutant from an emissions unit, as determined in accordance with items 1.(xiii)(I) through (III) of this subparagraph, except that this definition shall not apply for calculating whether a significant emissions increase has occurred, or for establishing a PAL under part 10. of this subparagraph. Instead, subparts 1.(xxxix) and (xlvii) of this subparagraph shall apply for those purposes.
- (I) In general, actual emissions as of a particular date shall equal the average rate, in tons per year, at which the emissions unit actually emitted the air contaminant during a consecutive 24-month period which precedes the particular date and which is representative of normal source operation. The Technical Secretary may allow the use of a different time period upon a determination that it is more representative of normal source operation. Actual emissions shall be calculated using the unit’s actual operating hours, production rates, and types of materials processed, stored, or combusted during the selected time period.
  - (II) In the absence of reliable data, the Technical Secretary may presume that permitted-specific allowable emissions for the emissions unit are equivalent to the actual emissions of the emissions unit.
  - (III) For any emissions unit that has not begun normal operations on the particular date, actual emissions shall equal the potential to emit of the unit on that date.
- (xiv) “Construction” means any physical change or change in the method of operation (including fabrication, erection, installation, demolition, or modification of an emissions unit) that would result in a change in emissions.
- (xv) “Commence Construction”
- “Commence construction” as applied to a major stationary source or major modification means that the owner or operator has all necessary construction permits and either has begun, or caused to begin, a continuous program of actual on-site construction of the stationary source,



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to be completed within a reasonable time; or entered into binding agreements or contractual obligations, which cannot be canceled or modified without substantial loss to the owner or operator, to undertake a program of actual construction of the stationary source to be completed within a reasonable time.

- (xvi) "Necessary Preconstruction permits" means those permits required under the Federal air quality control laws and regulations which are part of the approved SIP under Division 1200-03.
- (xvii) "Begin actual construction" means, in general, initiation of physical on-site construction activities on an emissions unit which are of a permanent nature. Such activities include, but are not limited to, installation of building supports and foundations, laying of underground pipe work, and construction of permanent storage structures. With respect to a change in method of operation this term refers to those on-site activities, other than preparatory activities, which mark the initiation of the change.
- (xviii) "Lowest achievable emission rate" (LAER) means, for any source, the more stringent rate of emissions based on the following:
  - (I) The most stringent emissions limitation which is contained in the applicable standards under this Division 1200-03, or in any State Implementation Plan for such class or category of stationary source, unless the owner or operator of the proposed source demonstrates that such limitations are not achievable; or
  - (II) The most stringent emissions limitation which is achieved in practice by such class or category of stationary sources. This limitation, when applied to a modification, means the lowest achievable emissions rate for the new or modified emissions units within the stationary source. In no event shall the application of this term permit a proposed new or modified stationary source to emit any pollutant in excess of the amount allowable under applicable New Source Standards of Performance.
- (xix) "Significantly impact" means the contribution by a new stationary source or modification to the air quality in a nonattainment area in concentrations equal to or greater than the amount as follows:

| Pollutant         | Annual                | Averaging Time (hours) |                       |                      |                     |
|-------------------|-----------------------|------------------------|-----------------------|----------------------|---------------------|
|                   |                       | 24                     | 8                     | 3                    | 1                   |
| SO <sub>2</sub>   | 1.0 µg/m <sup>3</sup> | 5 µg/m <sup>3</sup>    |                       | 25 µg/m <sup>3</sup> |                     |
| PM <sub>10</sub>  | 1.0 µg/m <sup>3</sup> | 5 µg/m <sup>3</sup>    |                       |                      |                     |
| PM <sub>2.5</sub> | 0.3 µg/m <sup>3</sup> | 1.2 µg/m <sup>3</sup>  |                       |                      |                     |
| NO <sub>2</sub>   | 1.0 µg/m <sup>3</sup> |                        |                       |                      |                     |
| CO                |                       |                        | 0.5 mg/m <sup>3</sup> |                      | 2 mg/m <sup>3</sup> |

- (xx) "Minor stationary source" means any source which is not a major stationary source
- (xxi) "Minor modification" means
  - (I) Any modification which is not a major modification; or

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- (II) Any modification which is a physical change in or a change in the method of operation of a minor stationary source provided the change would not constitute a major stationary source by itself.
- (xxii) "Reasonable stack heights" means a stack height which will minimize air quality impact, not to exceed the Tennessee ambient air quality standards in any case. The Technical Secretary shall on a case-by-case basis, taking into account the existing air quality in the area and the economic costs to the stationary source, determine the achievable stack height to be used by the stationary source or modification. In no circumstance shall the stack height be less than 20 feet above ground level, or be required to exceed stack height procedure. Stacks not emitting the nonattainment pollutants are not required to meet the minimum stack height requirement. Stationary sources which emit volatile organic compounds and nitrogen oxide and are located in ozone nonattainment areas will not be required to meet the minimum stack height requirement.
- (xxiii) "Reasonable Further Progress" (RFP) means such annual incremental reductions in emissions of the relevant air pollutant as are required by this part or may reasonably be required by the Technical Secretary or the EPA Administrator for the purpose of ensuring attainment of the applicable ambient air quality standard by the applicable date.
- (xxiv) "Reasonable available control technology" (RACT) means devices, systems, process modifications, or other apparatus or techniques that are reasonably available taking into account:
  - (I) The necessity of imposing such controls in order to attain and maintain an ambient air quality standard,
  - (II) The social, environmental and economic impact of such controls, and
  - (III) Alternative means of providing for attainment and maintenance of such standard.
- (xxv) "Compliance schedule" means a chronology of actions to be taken by a noncomplying source to bring it into full compliance with Division 1200-03 or permits issued thereto. Generally speaking, compliance schedule increments will be divided into (1) engineering evaluation for problem solution, (2) procurement of the equipment and/or services necessary to solve the problem, (3) on-site delivery of the equipment, (4) completion of the equipment's installation including startup of said equipment and (5) source testing to establish the air contaminant emission levels of the completed installation if required by the Technical Secretary.
- (xxvi) "Air contaminant" is particulate matter, dust, fumes, gas, mist, smoke, or vapor, or any combinations thereof, total suspended particulates, PM<sub>10</sub>, sulfur dioxide, carbon monoxide, ozone, nitrogen oxides, lead, and gaseous fluorides expressed as HF.
- (xxvii) "Good Engineering Practice" (GEP)
  - (GEP) Stack height means the greater of:

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(I) 65 meters, measured from the ground-level elevation at the base of the stack or,

(II) I. For a stack in existence on January 12, 1979, and for which the owner or operator had obtained all applicable permits or approvals required under 40 CFR part 51 and 52 (July 1, 1993)

$$H_g = 2.5 H,$$

provided the owner or operator produces evidence that this equation was actually relied on in establishing an emission limitation;

II. For all other stacks,

$$H_g = H + 1.5L$$

where

$H_g$  = good engineering practice stack height, measured from the ground-level elevation at the base of the stack. This is the height at which structural downwash no longer influences computer modeled ambient impacts.

$H$  = height of nearby structure(s) measured from the ground-level elevation at the base of the stack.

$L$  = lesser dimension, height or projected width, of nearby structure(s)

provided that the Technical Secretary may require the use of a field study or fluid model to verify GEP stack height for the source; or

(III) The height demonstrated by a fluid model or a field study approved by the Technical Secretary, which ensures that the emissions from a stack do not result in excessive concentrations of any air pollutant as a result of atmospheric downwash, wakes, or eddy effects created by the source itself, nearby structures or nearby terrain features.

(xxviii) "Nonattainment Area" means any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) any ambient air quality standard for the pollutant. As used in this chapter "nonattainment area" includes all the areas as defined by 1200-03-02-.01(1)(ffff) plus any areas determined as not meeting any ambient air quality standards as a result of required monitoring as part of a construction permit application. The demonstration required under section 165(a)(3) of the 1990 Clean Air Act, shall not apply to maximum allowable increases for Class II areas in the case of an expansion or modification of a major emitting facility which was in existence on the date of enactment of the Clean Air Act, Amendments of 1977, and whose allowable emissions of air pollutants is established as required in subsection 165(a)(4) of the 1990 Clean Air Act.

(xxix) Reserved.

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(xxx) “Volatile Organic Compounds” and “exempt compounds” have the same meaning as defined in Division 1200-03-18-.01 Definitions.

(xxxi) “Ambient Air Quality Standard” (AAQS) means any Primary Ambient Air Quality Standard or Secondary Ambient Air Quality Standard or Tennessee Ambient Air Quality Standard as defined in Chapter 1200-03-03.

(xxxii) “Class I, Class II, or Class III” areas means areas of the state as defined by Division 1200-03-09-.01(4)(g).

(xxxiii) “Ozone precursor” means volatile organic compounds and/or nitrogen oxides. A proposed new source or a net emissions increase at an existing source in an ozone transport region (or an ozone nonattainment area) can be classified as major based on either VOC or NO<sub>x</sub> emissions or both (but not in combination). That is, the determination of major must be made individually for each pollutant, since VOC and NO<sub>x</sub> emissions cannot be added to meet the minimum level required for such a demonstration.

(l) Notwithstanding subpart (xxxiii) of this part, NO<sub>x</sub> shall not be considered an ozone precursor when:

- I. Additional NO<sub>x</sub> emissions reductions would not be expected to decrease ozone;
- II. The Administrator of EPA determines, for certain classes or categories of sources (when the Administrator approves the Tennessee State Implementation Plan or Plan revision), that net air quality benefits would be greater in the absence of further nitrogen oxides reductions from sources concerned; and
- III. The Administrator of the U.S. EPA has granted a NO<sub>x</sub> waiver applying the standards set forth under section 182(f) of the Clean Air Act and the waiver continues to apply.

(xxxiv) “Stack height procedures” means those procedures that must provide that the degree of emission limitation required of any source for control of any air pollutant must not be affected by so much of any source’s stack height that exceed good engineering practice or by any other dispersion technique, except as provided in 40 CFR Part 51.118(b) (July 1, 1993). Such procedures must provide that before the Technical Secretary issues a permit to a source based on a good engineering practice stack height that exceeds the height allowed by 40 CFR Part 51.100(ii)(1) or (2) (July 1, 1993), the Technical Secretary must notify the public of the availability of the demonstration study and must provide opportunity for public hearing on it. This subpart does not require such procedures to restrict in any manner the actual stack height of any source.

(xxxv) “Portable Stationary Source” means any source that is mounted on any chassis or skids and may be moved by the application of a lifting or pulling force. In addition, there shall be no cable, chain, turnbuckle, bolt or other means (except electrical connections) by which any piece of equipment is attached or clamped to any anchor, slab, or structure, including bedrock that must be removed prior to the application of a lifting or pulling force for the purpose of transporting the unit, except that such connection as

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deemed appropriate by the Technical Secretary may be exempted for safety considerations from the specified restrictions on a qualifying source.

(xxxvi)“Replacement unit” means an emissions unit for which all the criteria listed in items 1.(xxxvi)(I) through (IV) of this subparagraph are met. No creditable emission reductions shall be generated from shutting down the existing emissions unit that is replaced.

- (I) The emissions unit is a reconstructed unit within the meaning of part (4)(b)54. of this rule, or the emissions unit completely takes the place of an existing emissions unit.
- (II) The emissions unit is identical to or functionally equivalent to the replaced emissions unit.
- (III) The replacement does not alter the basic design parameters of the process unit.
- (IV) The replaced emissions unit is permanently removed from the major stationary source, otherwise permanently disabled, or permanently barred from operation by a permit that is enforceable as a practical matter. If the replaced emissions unit is brought back into operation, it shall constitute a new emissions unit.

(xxxvii)Reserved.

(xxxviii)“Pollution prevention” means any activity that through process changes, product reformulation or redesign, or substitution of less polluting raw materials, eliminates or reduces the release of air pollutants (including fugitive emissions) and other pollutants to the environment prior to recycling, treatment, or disposal; it does not mean recycling (other than certain “in-process recycling” practices), energy recovery, treatment, or disposal.

(xxxix)“Significant emissions increase” means, for a regulated NSR pollutant, an increase in emissions that is significant (as defined in subpart 1.(x) of this subparagraph) for that pollutant.

(xl) “Projected actual emissions” means, the maximum annual rate, in tons per year, at which an existing emissions unit is projected to emit a regulated NSR pollutant in any one of the 5 years (12-month period) following the date the unit resumes regular operation after the project, or in any one of the 10 years following that date, if the project involves increasing the emissions unit’s design capacity or its potential to emit of that regulated NSR pollutant and full utilization of the unit would result in a significant emissions increase or a significant net emissions increase at the major stationary source.

- (I) In determining the projected actual emissions under subpart 1.(xl) of this subparagraph before beginning actual construction, the owner or operator of the major stationary source:
  - I. Shall consider all relevant information, including but not limited to, historical operational data, the company’s own representations, the company’s expected business activity and the company’s highest projections of business activity, the

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company's filings with the State or Federal regulatory authorities, and compliance plans under the approved plan; and

II. Shall include fugitive emissions to the extent quantifiable, and emissions associated with startups, shutdowns, and malfunctions; and

III. Shall exclude, in calculating any increase in emissions that results from the particular project, that portion of the unit's emissions following the project that an existing unit could have accommodated during the consecutive 24-month period used to establish the baseline actual emissions under subpart 1.(xlvii) of this subparagraph and that are also unrelated to the particular project, including any increased utilization due to product demand growth; or,

(II) In lieu of using the method set out in subitems 1.(xl)(l)l. through III. of this subparagraph, may elect to use the emissions unit's potential to emit, in tons per year, as defined under subpart 1.(iii) of this subparagraph.

(xli) Reserved.

(xlii) "Nonattainment major new source review (NSR) program" means a major source preconstruction permit program that has been approved by the Administrator and incorporated into the SIP to implement the requirements of this subparagraph, or a program that implements 40 CFR 51, appendix S, Sections I through VI. Any permit issued under such a program is a major NSR permit.

(xliii) "Continuous emissions monitoring system" (CEMS) means all of the equipment that may be required to meet the data acquisition and availability requirements of this section, to sample, condition (if applicable), analyze, and provide a record of emissions on a continuous basis.

(xliv) "Predictive emissions monitoring system" (PEMS) means all of the equipment necessary to monitor process and control device operational parameters (for example, control device secondary voltages and electric currents) and other information (for example, gas flow rate, O<sub>2</sub> or CO<sub>2</sub> concentrations), and calculate and record the mass emissions rate (for example, lb/hr) on a continuous basis.

(xlv) "Continuous parameter monitoring system" (CPMS) means all of the equipment necessary to meet the data acquisition and availability requirements of this section, to monitor process and control device operational parameters (for example, control device secondary voltages and electric currents) and other information (for example, gas flow rate, O<sub>2</sub> or CO<sub>2</sub> concentrations), and to record average operational parameter value(s) on a continuous basis.

(xlvi) "Continuous emissions rate monitoring system" (CERMS) means the total equipment required for the determination and recording of the pollutant mass emissions rate (in terms of mass per unit of time).

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(xlvii) "Baseline actual emissions" means the rate of emissions, in tons per year, of a regulated NSR pollutant, as determined in accordance with items 1.(xlvii)(I) through (IV) of this subparagraph.

- (I) For any existing electric utility steam generating unit, baseline actual emissions means the average rate, in tons per year, at which the unit actually emitted the pollutant during any consecutive 24-month period selected by the owner or operator within the 5-year period immediately preceding when the owner or operator begins actual construction of the project. The Technical Secretary shall allow the use of a different time period upon a determination that it is more representative of normal source operation.
- I. The average rate shall include fugitive emissions to the extent quantifiable, and emissions associated with startups, shutdowns, and malfunctions.
  - II. The average rate shall be adjusted downward to exclude any non-compliant emissions that occurred while the source was operating above any emission limitation that was legally enforceable during the consecutive 24-month period.
  - III. For a regulated NSR pollutant, when a project involves multiple emissions units, one consecutive 24-month period must be used to determine the baseline actual emissions for the emissions units being changed. However, the Technical Secretary is authorized to allow the use of multiple, pollutant specific consecutive 24-month baselines in determining the magnitude of a significant net emissions increase and the applicability of major new source review requirements if all of the following conditions are met:
    - A. Construction of a new source or modification would become subject to major new source review if a single 2-year baseline is used for all pollutants.
    - B. One or more pollutants were emitted during such 2-year period in amounts that were less than otherwise permitted for reasons other than operations at a lower production or utilization rate. Qualifying examples include, but are not limited to, the voluntary use of:
      - (A) A cleaner fuel than otherwise permitted in a fuel burning operation (e.g., natural gas instead of coal in a multi-fuel boiler),
      - (B) A coating with a lower VOC content than otherwise permitted in a coating operation,
      - (C) A voluntary improvement in the control efficiency of an air pollution control device or the voluntary addition of a control device where one did not exist before, and

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(D) Alternate production methods, raw materials, or products that result in lower emissions of one or more pollutants.

C. Use of alternate 2-year baselines for the pollutants described in subitem II. above would result in the construction of the new source or modification not being subject to major new source review.

D. The use of the multiple baselines is not prohibited by any applicable provision of the USEPA's new source review regulations.

The burden for demonstrating that these conditions are met is upon the permit applicant. The demonstration and the Technical Secretary's approval will be made a part of the permit record.

IV. The average rate shall not be based on any consecutive 24-month period for which there is inadequate information for determining annual emissions, in tons per year, and for adjusting this amount if required by subitem 1.(xlvii)(I)II. of this subparagraph.

(II) For an existing emissions unit (other than an electric utility steam generating unit), baseline actual emissions means the average rate, in tons per year, at which the emissions unit actually emitted the pollutant during any consecutive 24-month period selected by the owner or operator within the 10-year period immediately preceding either the date the owner or operator begins actual construction of the project, or the date a complete permit application is received by the Technical Secretary for a permit required either under this subparagraph or under a plan approved by the Administrator, whichever is earlier, except that the 10-year period shall not include any period earlier than November 15, 1990.

I. The average rate shall include fugitive emissions to the extent quantifiable, and emissions associated with startups, shutdowns, and malfunctions.

II. The average rate shall be adjusted downward to exclude any non-compliant emissions that occurred while the source was operating above an emission limitation that was legally enforceable during the consecutive 24-month period.

III. The average rate shall be adjusted downward to exclude any emissions that would have exceeded an emission limitation with which the major stationary source must currently comply, had such major stationary source been required to comply with such limitations during the consecutive 24-month period. However, if an emission limitation is part of a maximum achievable control technology standard that the Administrator proposed or promulgated under 40 CFR 63, the baseline actual emissions need only be adjusted if the State has taken credit for such emissions reductions in an attainment



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demonstration or maintenance plan consistent with the requirements of item 2.(v)(VII) of this subparagraph.

- IV. For a regulated NSR pollutant, when a project involves multiple emissions units, one consecutive 24-month period must be used to determine the baseline actual emissions for the emissions units being changed. However, the Technical Secretary is authorized to allow the use of multiple, pollutant specific consecutive 24-month baselines in determining the magnitude of a significant net emissions increase and the applicability of major new source review requirements if all of the following conditions are met:
- A. Construction of a new source or modification would become subject to major new source review if a single 2-year baseline is used for all pollutants.
  - B. One or more pollutants were emitted during such 2-year period in amounts that were less than otherwise permitted for reasons other than operations at a lower production or utilization rate. Qualifying examples include, but are not limited to, the voluntary use of:
    - (A) a cleaner fuel than otherwise permitted in a fuel burning operation (e.g., natural gas instead of coal in a multi-fuel boiler),
    - (B) a coating with a lower VOC content than otherwise permitted in a coating operation,
    - (C) A voluntary improvement in the control efficiency of an air pollution control device or the voluntary addition of a control device where one did not exist before, and
    - (D) alternate production methods, raw materials, or products that result in lower emissions of one or more pollutants.
  - C. Use of alternate 2-year baselines for the pollutants described in section B. above would result in the construction of the new source or modification not being subject to major new source review.
  - D. The use of the multiple baselines is not prohibited by any applicable provision of the USEPA's new source review regulations.

The burden for demonstrating that these conditions are met is upon the permit applicant. The demonstration and the Technical Secretary's approval will be made a part of the permit record.

- V. The average rate shall not be based on any consecutive 24-month period for which there is inadequate information for determining annual emissions, in tons per year, and for

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adjusting this amount if required by subitems 1.(xlvii)(II)II. and III. of this subparagraph.

- (III) For a new emissions unit, the baseline actual emissions for purposes of determining the emissions increase that will result from the initial construction and operation of such unit shall equal zero; and thereafter, for all other purposes, shall equal the unit's potential to emit.
- (IV) For a PAL for a major stationary source, the baseline actual emissions shall be calculated for existing electric utility steam generating units in accordance with the procedures contained in item 1.(xlvii)(I) of this subparagraph, for other existing emissions units in accordance with the procedures contained in item 1.(xlvii)(II) of this subparagraph, and for a new emissions unit in accordance with the procedures contained in item 1.(xlvii)(III) of this subparagraph.

(xlviii) Reserved.

(xlix) "Regulated NSR pollutant," for purposes of this subparagraph, means the following:

- (I) Nitrogen oxides or any volatile organic compounds;
- (II) Any pollutant for which a national ambient air quality standard has been promulgated; or
- (III) Any pollutant that is a constituent or precursor of a general pollutant listed under items 1.(xlix)(I) or (II) of this subparagraph, provided that a constituent or precursor pollutant may only be regulated under NSR as part of regulation of the general pollutant. Precursors for purposes of NSR are the following:
  - I. Volatile organic compounds and nitrogen oxides are precursors to ozone in all ozone nonattainment areas.
  - II. Sulfur dioxide is a precursor to PM<sub>2.5</sub> in all PM<sub>2.5</sub> nonattainment areas.
  - III. Nitrogen oxides are presumed to be precursors to PM<sub>2.5</sub> in all PM<sub>2.5</sub> nonattainment areas, unless the State demonstrates to the satisfaction of the EPA Administrator or EPA demonstrates that emissions of nitrogen oxides from sources in a specific area are not a significant contributor to that area's ambient PM<sub>2.5</sub> concentrations.
  - IV. Volatile organic compounds and ammonia are presumed not to be precursors to PM<sub>2.5</sub> in any PM<sub>2.5</sub> nonattainment area, unless the State demonstrates to the satisfaction of the EPA Administrator or EPA demonstrates that emissions of volatile organic compounds or ammonia from sources in a specific area are a significant contributor to that area's ambient PM<sub>2.5</sub> concentrations; or
- (IV) PM<sub>2.5</sub> emissions and PM<sub>10</sub> emissions shall include gaseous emissions from a source or activity which condense to form

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particulate matter at ambient temperatures. On or after January 1, 2011, such condensable particulate matter shall be accounted for in applicability determinations and in establishing emissions limitations for PM<sub>2.5</sub> and PM<sub>10</sub> in nonattainment major NSR permits. Compliance with emissions limitations for PM<sub>2.5</sub> and PM<sub>10</sub> issued prior to this date shall not be based on condensable particulate matter unless required by the terms and conditions of the permit or the (Tennessee) State Implementation Plan. Applicability determinations made prior to this date without accounting for condensable particulate matter shall not be considered in violation of this rule unless the State Implementation Plan required condensable particulate matter to be included.

- (i) “Reviewing authority” means the State air pollution control agency, local agency, other State agency, Indian tribe, or other agency authorized by the Administrator to carry out a permit program under this subparagraph and 40 CFR 51.166, or the Administrator in the case of EPA-implemented permit programs under 40 CFR 52.21.
- (ii) “Project” means a physical change in, or change in the method of operation of, an existing major stationary source.
- (iii) “Best available control technology” (BACT) means an emissions limitation (including a visible emissions standard) based on the maximum degree of reduction for each regulated NSR pollutant which would be emitted from any proposed major stationary source or major modification which the Technical Secretary, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant. In no event shall application of best available control technology result in emissions of any pollutant which would exceed the emissions allowed by any applicable standard under 40 CFR part 60 or 61. If the Technical Secretary determines that technological or economic limitations on the application of measurement methodology to a particular emissions unit would make the imposition of an emissions standard infeasible, a design, equipment, work practice, operational standard, or combination thereof, may be prescribed instead to satisfy the requirement for the application of BACT. Such standard shall, to the degree possible, set forth the emissions reduction achievable by implementation of such design, equipment, work practice or operation, and shall provide for compliance by means which achieve equivalent results. This definition does not apply to minor stationary sources and minor modifications proposing to construct in a nonattainment area. For these sources, the definition in subparagraph (2)(d) of this rule applies.
- (iii) “Prevention of Significant Deterioration (PSD) permit” means any permit that is issued under a major source preconstruction permit program that has been approved by the Administrator and incorporated into the SIP to implement the requirements of 40 CFR 51.166. Any permit issued under such a program is a major NSR permit.
- (iv) “Federal Land Manager” means, with respect to any lands in the United States, the Secretary of the department with authority over such lands.

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- (iv) Reserved.
  - (Ivi) “Electric utility steam generating unit” (EUSGU) means any steam electric generating unit that is constructed for the purpose of supplying more than one-third of its potential electric output capacity and more than 25 MW electrical output to any utility power distribution system for sale. Any steam supplied to a steam distribution system for the purpose of providing steam to a steam-electric generator that would produce electrical energy for sale is also considered in determining the electrical energy output capacity of the affected facility.
  - (Ivii) “Temporary clean coal technology demonstration project” means a clean coal technology demonstration project that is operated for a period of 5 years or less, and which complies with the State Implementation Plan for the State in which the project is located and other requirements necessary to attain and maintain the national ambient air quality standards during the project and after it is terminated.
  - (Iviii) “Clean coal technology” means any technology, including technologies applied at the precombustion, combustion, or post combustion stage, at a new or existing facility which will achieve significant reductions in air emissions of sulfur dioxide or oxides of nitrogen associated with the utilization of coal in the generation of electricity, or process steam which was not in widespread use as of November 15, 1990.
  - (Ilix) “Clean coal technology demonstration project” means a project using funds appropriated under the heading “Department of Energy-Clean Coal Technology,” up to a total amount of \$2,500,000,000 for commercial demonstration of clean coal technology, or similar projects funded through appropriations for the Environmental Protection Agency. The Federal contribution for a qualifying project shall be at least 20 percent of the total cost of the demonstration project.
2. No major stationary source or major modification to which the requirements of this subparagraph apply shall begin actual construction without a permit that states that the stationary source or modifications will meet the requirements of this paragraph.

The requirements of this subparagraph shall apply to any new stationary source or major modification that is major for a regulated NSR pollutant, or precursor to a regulated NSR pollutant as applicable, if the stationary source or modification would be constructed anywhere in an area designated nonattainment (as of the date of the permit issued in accordance with this subparagraph) for such pollutant pursuant to the Clean Air Act Title I Part A Section 107(d).

The requirements of this subparagraph shall apply to each nonattainment pollutant (and in some cases each precursor to the nonattainment pollutant) that the source will emit, or will have the potential to emit, in major amounts. In the case of a modification, the requirements shall apply to the significant net emissions increase of each nonattainment pollutant (and each precursor to the nonattainment pollutant, as applicable) for which the source is major.

- (i) All new stationary sources or modifications shall utilize “stack height procedures.”

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- (ii) All minor stationary sources, and minor modifications proposing to construct in a nonattainment area shall utilize best available control technology (BACT), as defined in subparagraph (2)(d) of this rule, for the nonattainment pollutant as specified by the Technical Secretary at the time of the completed permit application, but all major stationary sources and major modifications are required to install LAER in nonattainment areas for the nonattainment pollutant.
- (iii) Major stationary sources or major modifications shall meet the following criteria:
  - (I) A major stationary source or major modification shall meet each applicable emissions limitation under the State Implementation Plan and each applicable requirement for sources subject to the New Source Performance Standards, and the National Emission Standards for Hazardous Air Pollutants.
  - (II) At the time of construction permitting, a new major stationary source shall apply the lowest achievable emission rate for each contaminant for which the area is designated nonattainment that it would have the potential to emit in an amount sufficient to make the source or modification a major stationary source or modification. This provision applies to each new emissions unit at which emissions would occur.
  - (III) A major modification shall apply the lowest achievable emission rate for each air contaminant for which the area is designated nonattainment and for which it would result in a significant net emissions increase at the source. This requirement applies to each proposed emissions unit at which a net emissions increase in the air contaminant would occur as the result of a physical change or change in the method of operation in the unit.
  - (IV) For phased construction projects, the determination of lowest achievable emission rate shall be reviewed and modified as appropriate at the latest reasonable time which occurs no later than 18 months prior to commencement of construction of each independent phase of the project. At such time, the owner or operator of the applicable stationary source may be required to demonstrate the adequacy of any previous determination of the lowest achievable emission rate.
  - (V) The Technical Secretary shall, for each new major source and major modification, submit to the RACT/BACT/LAER Clearinghouse within 60 days of issuance of the permit, all information on the emissions prevention or control technology for the new major source or major modification.
- (iv) Reasonable Further Progress (RFP)
  - (I) Timing and exemptions:
    - I. By the time that the proposed source or modification is to commence operation, sufficient offsetting emissions reductions shall be in effect such that the total emissions from existing sources in the area, from new or modified sources which are not major stationary sources, and from the proposed source

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will be sufficiently less than total emissions from existing sources prior to the application for such permit to construct or modify so as to represent (when considered together with the plan provisions required under the Clean Air Act Title I Part D Subpart 1 Section 172 (as amended November 15, 1990)) reasonable further progress; or

- II. In the case of a new major stationary source or major modification which is located in a zone (within the nonattainment area) identified by the Administrator of EPA, in consultation with the Secretary of Housing and Urban Development, as a zone to which economic development should be targeted, the emissions of such air contaminant resulting from the proposed new or modified major stationary source will not cause or contribute to emissions levels which exceed the allowance permitted as contained in the State's approved Implementation Plan pursuant to the Clean Air Act Title I Part D Subpart 1 Section 172(c)(4) (as amended November 15, 1990).
- (II) For the purposes of satisfying the requirements of subitem (iv)(I). of this part, the determination of total emissions at both the time prior to the application for a permit subject to the requirements of this subpart and the time such permitted source or modification would commence operation, shall be made by the Technical Secretary in a manner consistent with the assumptions in the applicable implementation plan approved by the Administrator of EPA concerning baseline emissions for the demonstration of reasonable further progress and attainment of the ambient air quality standards for the particular air contaminant subject to review under this subpart.
- (v) Emissions Offsets. In meeting the emission offset requirements of this paragraph, the ratio of total actual emissions reductions to the emissions increase shall be at least 1:1 unless an alternative ratio is provided for the applicable nonattainment area in items (III), (IV) and (XIV) of this subpart.
- (I) Prior to the issuance of a permit under this subpart, legally enforceable emission offsets shall be obtained from the same source or other sources in the same non-attainment area, except that such emissions reduction may be obtained from a source in another non-attainment area if:
    - I. The other area has an equal or higher non-attainment classification than the area in which the source is located; and,
    - II. Emissions from such other area contribute to a violation of an air quality standard in the non-attainment area in which the proposed new or modified source would construct.
  - (II) By the time that the new or modified source commences operation, such reductions shall be in place such that the total tonnage of emissions of any applicable non-attainment air contaminant allowed from the proposed new source, or net emissions increase from the modification, shall be offset by an equal or greater reduction, as

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applicable, in the actual emissions of such air contaminant from the same or other sources.

- (III) In meeting the requirements of item (v)(II) of the subpart for ozone non-attainment areas that are subject to subpart 2, part D, title I of the Clean Air Act, the ratio of total actual emission reductions of Volatile Organic Compounds and/or Nitrogen Oxides to the net emissions increase of Volatile Organic Compounds and/or Nitrogen Oxides shall be as follows:
  - I. In any Marginal non-attainment area for ozone - at least 1.1 to 1;
  - II. In any Moderate non-attainment area for ozone - at least 1.15 to 1;
  - III. In any Serious non-attainment area for ozone - at least 1.2 to 1;
  - IV. In any Severe non-attainment area for ozone - at least 1.3 to 1;
  - V. In any Extreme non-attainment area for ozone - at least 1.5 to 1.
- (IV) Within an ozone transport region that is subject to subpart 2, part D, title I of the Clean Air Act, for any area designated for ozone attainment, unclassified, or Marginal non-attainment, the ratio of total actual emission reductions of Volatile Organic Compounds and/or Nitrogen Oxides to net emissions increase of Volatile Organic Compounds and/or Nitrogen Oxides shall be at least 1.15 to 1.
- (V)
  - I. Emissions reductions achieved by shutting down an existing emission unit or curtailing production or operating hours may be generally credited for offsets if they meet the requirements in sections I.A. and B. of this item.
    - A. Such reductions are surplus, permanent, quantifiable, and federally enforceable.
    - B. The shutdown or curtailment occurred after the last day of the base year for the SIP planning process. For purposes of this paragraph, the Technical Secretary may choose to consider a prior shutdown or curtailment to have occurred after the last day of the base year if the projected emissions inventory used to develop the attainment demonstration explicitly includes the emissions from such previously shutdown or curtailed emission units. However, in no event may credit be given for shutdowns that occurred before August 7, 1977.
  - II. Emissions reductions achieved by shutting down an existing emissions unit or curtailing production or operating hours and that do not meet the requirements in section I.B. of this item may be generally credited only if:

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- A. The shutdown or curtailment occurred on or after the date the construction permit application is filed; or
  - B. The applicant can establish that the proposed new emissions unit is a replacement for the shutdown or curtailed emissions unit, and the emissions reductions achieved by the shutdown or curtailment met the requirements of section I.A. of this item.
- (VI) With respect to a proposed increase in VOC emissions, no emissions credit shall be allowed for reductions in any organic compound specifically excluded from the definitions of "VOC" in this Division 1200-03.
- (VII) Credit for an emissions reduction may be claimed to the extent that the reduction has not been relied on in any permit already issued under regulations approved pursuant to 40 CFR Parts 51, 52, and 70, (July 1, 1993) or the State has not relied on it in demonstrating attainment or reasonable further progress. Incidental emissions reductions which are not otherwise required under the federal Clean Air Act (as amended November 15, 1990) may be credited as emissions reductions for such purposes if such emissions reductions meet the applicable requirements of this part.
- (VIII) Procedures relating to the permissible locations of offsetting emissions shall be followed which are at least as stringent as those set out in 40 CFR Part 51, Appendix S, Section IV.D. (July 1, 1993).
- (IX) Reserved.
- (X) Reserved.
- (XI) The total tonnage of increased emissions, in tons per year, resulting from a major modification that must be offset in accordance with section 173 of the Federal Clean Air Act shall be determined by summing the difference between the allowable emissions after the modification (as defined by subpart 1.(xi) of this subparagraph) and the actual emissions before the modification (as defined in subpart 1.(xiii) of this subparagraph) for each emissions unit.
- (XII) Where the emissions limit under this Division 1200-03 allows greater emissions than the potential to emit of the source, emissions offset credit will be allowed only for control below this potential.
- (XIII) For an existing fuel combustion source, credit shall be based on the allowable emissions under this Division 1200-03 for the type of fuel being burned at the time the application to construct is filed. If the existing source commits to switch to a cleaner fuel at some future date, emissions offset credit based on the allowable (or actual) emissions for the fuels involved is not acceptable, unless the permit is conditioned to require the use of a specified alternative control measure which would achieve the same degree of emissions reduction should the source switch back to a dirtier fuel at some later date. The Technical Secretary shall ensure that adequate long-term supplies of the new fuel are available before granting emissions offset credit for fuel switches.



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- (XIV) Within an ozone non-attainment area that is subject to subpart 1., part D, title I of the Clean Air Act (but is not subject to subpart 2., part D, title I of the Act, including 8-hour ozone non-attainment areas subject to 40 CFR 51.902(b)), the ratio of total actual emissions reductions of either volatile organic compound or nitrogen oxides to the emissions increase of either volatile organic compounds or nitrogen oxides shall be at least 1:1.
- (XV) In meeting the emissions offset requirements of this subpart for fine particulate matter (PM<sub>2.5</sub>), the emissions offsets obtained shall be for the same regulated NSR pollutant unless interprecursor trading is allowed in the approved State Implementation Plan (SIP) for the affected PM<sub>2.5</sub> nonattainment area. For those nonattainment areas in which interprecursor trading is allowed by the approved SIP, the offset requirements for direct PM<sub>2.5</sub> emissions or emissions of precursors of PM<sub>2.5</sub> may be satisfied by offsetting reductions in direct PM<sub>2.5</sub> emissions or emissions of any PM<sub>2.5</sub> precursor identified under item (b)1.(xlix)(III) of this paragraph if such offsets comply with the interprecursor trading hierarchy and ratio established in the approved SIP for the affected nonattainment area.
- (vi) In a nonattainment area, prior to the issuance of a permit to a new major stationary source or major modification an analysis of alternate sites, sizes, production processes, and environmental control techniques for the proposed source shall be made. A permit shall only be issued if the benefits of the proposed source significantly outweigh the environmental and social costs imposed on the public as a result of the sources location, construction, or modification in the nonattainment area. The Technical Secretary shall require the submittal of such information as he deems necessary for this analysis.
- (vii) The Technical Secretary shall not issue a permit to any major stationary source or major modification locating in or significantly impacting a nonattainment area unless all other sources owned or operated by the applicant (or any entity controlling, controlled by, or under common control with the applicant) anywhere in the State are in compliance or on an approved compliance schedule.
- (viii) If the nonattainment area is designated as attainment by the EPA Administrator between the date construction is approved under this subparagraph and before the new source start up date, the source has the option of applying for a new construction permit and relief from the requirements of this subparagraph.
- (I) Any permit issued under this part shall remain in effect, unless it expires under subpart (xi) of this part or is rescinded.
- (II) The Technical Secretary shall grant an application for rescission if the application shows that this part would not apply to the source or modification.
- (III) If the Technical Secretary rescinds a permit under this subparagraph, the public shall be given adequate notice of the rescission. Electronic notice of an announcement of permit

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rescission on the Department's website within 60 days of the rescission shall be considered adequate notice.

- (ix) At such time that a particular source or modification becomes a major stationary source or major modification solely by virtue of a relaxation in any "legally enforceable limitation" which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of subparagraph 1200-03-09-.01(5)(b) shall apply to the source or modification as though construction had not yet commenced on the source or modification.
- (x) Approval to construct shall not relieve any owner or operator of the responsibility to comply fully with applicable provisions of the plan and any other requirements under local, state or federal law.
- (xi) Approval to construct shall become invalid if construction is not commenced within 18 months after issuance of an approved construction permit, if construction is discontinued for a period of 18 months or more, or if construction is not completed within 18 months of the completion date specified on the construction permit application unless an extension has been granted from the Tennessee Air Pollution Control Board. Also, each phase of a phased construction project must meet the requirements stated above. An extension of time for a phased construction project may be requested for each phase or for the whole project. The above requirements do not apply to the time period between the construction of the approved phases of a phased construction project. The Tennessee Air Pollution Control Board may issue a variance granting an extension to complete construction of a source provided adequate justification is presented. Each extension shall not exceed 12 months in time.
- (xii) Except as otherwise provided in subparts 2.(xviii) and 2.(xix) of this subparagraph, and consistent with the definition of major modification contained in item 1.(v)(I) of this subparagraph, a project is a major modification for a regulated NSR pollutant if it causes two types of emissions increases—a significant emissions increase (as defined in subpart 1.(xxxix) of this subparagraph), and a significant net emissions increase (as defined in subparts 1.(vi) and 1.(x) of this subparagraph). The project is not a major modification if it does not cause a significant emissions increase. If the project causes a significant emissions increase, then the project is a major modification only if it also results in a significant net emissions increase.
- (xiii) The procedure for calculating (before beginning actual construction) whether a significant emissions increase (*i.e.*, the first step of the process) will occur depends upon the type of emissions units being modified, according to subparts 2.(xiv) and 2.(xvii) of this subparagraph. The procedure for calculating (before beginning actual construction) whether a significant net emissions increase will occur at the major stationary source (*i.e.*, the second step of the process) is contained in the definition in subpart 1.(vi) of this subparagraph. Regardless of any such preconstruction projections, a major modification results if the project causes a significant emissions increase and a significant net emissions increase.

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- (xiv) Actual-to-projected-actual applicability test for projects that only involve existing emissions units. A significant emissions increase of a regulated NSR pollutant is projected to occur if the sum of the difference between the projected actual emissions (as defined in subpart 1.(xl) of this subparagraph) and the baseline actual emissions (as defined in items 1.(xlvii)(I) and (II) of this subparagraph, as applicable), for each existing emissions unit, equals or exceeds the significant amount for that pollutant (as defined in subpart 1.(x) of this subparagraph).
  - (xv) Actual-to-potential test for projects that only involve construction of a new emissions unit(s). A significant emissions increase of a regulated NSR pollutant is projected to occur if the sum of the difference between the potential to emit (as defined in subpart 1.(iii) of this subparagraph) from each new emissions unit following completion of the project and the baseline actual emissions (as defined in item 1.(xlvii)(III) of this subparagraph) of these units before the project equals or exceeds the significant amount for that pollutant (as defined in subpart 1.(x) of this subparagraph).
  - (xvi) Reserved.
  - (xvii) Hybrid test for projects that involve multiple types of emissions units. A significant emissions increase of a regulated NSR pollutant is projected to occur if the sum of the emissions increases for each emissions unit, using the method specified in subparts 2.(xiv) through (xv) of this subparagraph as applicable with respect to each emissions unit, for each type of emissions unit equals or exceeds the significant amount for that pollutant (as defined in subpart 1.(x) of this subparagraph).
  - (xviii) Any major stationary source with a PAL for a regulated NSR pollutant shall comply with the requirements under part 10. of this subparagraph.
  - (xix) Reserved.
3. Public Participation
- (i) The Technical Secretary shall provide opportunity for public comment on information submitted by owners and operators. The public information must include the agency's analysis of the effect of construction or modification on ambient air quality, including the agency's proposed approval or disapproval. The opportunity for public comment shall include, as a minimum
    - (I) Availability for public inspection in at least one location in the area affected of the information submitted by the owner or operator and of the Technical Secretary's analysis of the effect on air quality;
    - (II) A 30-day period for submittal of public comment; and
    - (III) Electronic notice on the Department's website of the source information and analysis specified in item (I) of this subpart. Should newspaper publication of the notice be deemed necessary by the Technical Secretary, the applicant shall bear the cost of publishing such publication in a newspaper of general circulation in the area where the source is located. The electronic notice shall be available for the duration of the public comment period and any notice under

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this item shall include the notice of public comment, the draft permit, information on how to access the administrative record for the draft permit, and how to request and/or attend a public hearing on the draft permit.

- (ii) Where the 30-day comment period required in item II of subpart (i) would conflict with existing requirements for acting on requests for permission to construct or modify, the Technical Secretary may submit for approval a comment period which is consistent with such existing requirements.
  - (iii) The Technical Secretary shall provide a copy of the notice required by subpart (i) of this part to the Administrator through the appropriate Regional Office, and to all other State and local air pollution control agencies having jurisdiction in the region in which such new or modified installation will be located. The notice also must be sent to any other agency in the region having responsibility for implementing the procedures required under this part. For lead, a copy of the notice is required for all point sources. The definition of point source for lead is given in 40 CFR Part 51.100(k)(2). (July 1, 1993).
4. Emissions banking for an air contaminant for which an area is designated nonattainment must be conducted in accordance with the EPA Part III, Emissions Trading Policy Statement..., *Federal Register* / Vol. 51, No. 233 / Thursday, December 4, 1986.
  5. The following specific provisions apply to projects at existing emissions units at a major stationary source (other than projects at a source with a PAL) in circumstances where there is a reasonable possibility that a project that is not a part of a major modification may result in a significant emissions increase and the owner or operator elects to use the method specified in subitems 1.(xl)(I) through III. of this subparagraph for calculating projected actual emissions.
  6. The owner or operator of the source shall make the information required to be documented and maintained pursuant to part 5. of this subparagraph available for review upon a request for inspection by the Technical Secretary or the general public pursuant to the requirements contained in subpart .02(11)(e)1.(iii) of this chapter.
  7. Reserved.
  8. Reserved.
  9. Reserved.
  10. Actuals PALs.
    - (i) Applicability.
      - (I) The Technical Secretary may approve the use of an actuals PAL for any existing major stationary source (except as provided in item 10.(i)(II) of this subparagraph) if the PAL meets the requirements in subparts 10.(i) through (xv) of this subparagraph. The term "PAL" shall mean "actuals PAL" throughout part 10. of this subparagraph.

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- (II) The Technical Secretary shall not allow an actuals PAL for VOC or NOX for any major stationary source located in an extreme ozone nonattainment area.
  - (III) Any physical change in or change in the method of operation of a major stationary source that maintains its total source-wide emissions below the PAL level, meets the requirements in subparts 10.(i) through (xv) of this subparagraph, and complies with the PAL permit:
    - I. Is not a major modification for the PAL pollutant;
    - II. Does not have to be approved through the nonattainment major NSR program; and
    - III. Is not subject to the provisions in subpart 2.(ix) of this subparagraph (restrictions on relaxing enforceable emission limitations that the major stationary source used to avoid applicability of the nonattainment major NSR program).
  - (IV) Except as provided under subitem 10.(i)(III)III of this subparagraph, a major stationary source shall continue to comply with all applicable Federal or State requirements, emission limitations, and work practice requirements that were established prior to the effective date of the PAL.
- (ii) Definitions. When a term is not defined in these paragraphs, it shall have the meaning given in part 1. of this subparagraph or in the Federal Clean Air Act.
- (I) Actuals PAL for a major stationary source means a PAL based on the baseline actual emissions (as defined in subpart 1.(xlvii) of this subparagraph) of all emissions units (as defined in subpart 1.(vii) of this subparagraph) at the source, that emit or have the potential to emit the PAL pollutant.
  - (II) Allowable emissions means “allowable emissions” as defined in subpart 1.(xi) of this subparagraph, except as this definition is modified according to subitems 10.(ii)(II)I. through II. of this subparagraph.
    - I. The allowable emissions for any emissions unit shall be calculated considering any emission limitations that are enforceable as a practical matter on the emissions unit’s potential to emit.
    - II. An emissions unit’s potential to emit shall be determined using the definition in subpart 1.(iii) of this subparagraph, except that the words “or enforceable as a practical matter” should be added after “federally enforceable.”
  - (III) Small emissions unit means an emissions unit that emits or has the potential to emit the PAL pollutant in an amount less than the significant level for that PAL pollutant, as defined in subpart 1.(x) of this subparagraph or in the Federal Clean Air Act, whichever is lower.

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- (IV) Major emissions unit means:
    - I. Any emissions unit that emits or has the potential to emit 100 tons per year or more of the PAL pollutant in an attainment area; or
    - II. Any emissions unit that emits or has the potential to emit the PAL pollutant in an amount that is equal to or greater than the major source threshold for the PAL pollutant as defined by the Federal Clean Air Act for nonattainment areas.
  - (V) Plantwide applicability limitation (PAL) means an emission limitation expressed in tons per year, for a pollutant at a major stationary source, that is enforceable as a practical matter and established source-wide in accordance with subparts 10.(i) through (xv) of this subparagraph.
  - (VI) PAL effective date generally means the date of issuance of the PAL permit. However, the PAL effective date for an increased PAL is the date any emissions unit which is part of the PAL major modification becomes operational and begins to emit the PAL pollutant.
  - (VII) PAL effective period means the period beginning with the PAL effective date and ending 10 years later.
  - (VIII) PAL major modification means, notwithstanding subparts 1.(v) and 1.(vi) of this subparagraph (the definitions for major modification and net emissions increase), any physical change in or change in the method of operation of the PAL source that causes it to emit the PAL pollutant at a level equal to or greater than the PAL.
  - (IX) PAL permit means the major NSR permit, the minor NSR permit, or the State operating permit under a program that is approved into the plan, or the title V permit issued by the Technical Secretary that establishes a PAL for a major stationary source.
  - (X) PAL pollutant means the pollutant for which a PAL is established at a major stationary source.
  - (XI) Significant emissions unit means an emissions unit that emits or has the potential to emit a PAL pollutant in an amount that is equal to or greater than the significant level (as defined in subpart 1.(x) of this subparagraph or in the Federal Clean Air Act, whichever is lower) for that PAL pollutant, but less than the amount that would qualify the unit as a major emissions unit as defined in item 10.(ii)(IV) of this subparagraph.
- (iii) Permit application requirements. As part of a permit application requesting a PAL, the owner or operator of a major stationary source shall submit the following information to the Technical Secretary for approval:
    - (I) A list of all emissions units at the source designated as small, significant or major based on their potential to emit. In addition, the owner or operator of the source shall indicate which, if any, Federal

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or State applicable requirements, emission limitations or work practices apply to each unit.

- (II) Calculations of the baseline actual emissions (with supporting documentation). Baseline actual emissions are to include emissions associated not only with operation of the unit, but also emissions associated with startup, shutdown and malfunction.
  - (III) The calculation procedures that the major stationary source owner or operator proposes to use to convert the monitoring system data to monthly emissions and annual emissions based on a 12-month rolling total for each month as required by item 10.(xiii)(I) of this subparagraph.
- (iv) General requirements for establishing PALs.
- (I) The Technical Secretary may establish a PAL at a major stationary source, provided that at a minimum, the requirements in subitems 10.(iv)(I)l. through VII. of this subparagraph are met.
    - I. The PAL shall impose an annual emission limitation in tons per year, that is enforceable as a practical matter, for the entire major stationary source. For each month during the PAL effective period after the first 12 months of establishing a PAL, the major stationary source owner or operator shall show that the sum of the monthly emissions from each emissions unit under the PAL for the previous 12 consecutive months is less than the PAL (a 12-month average, rolled monthly). For each month during the first 11 months from the PAL effective date, the major stationary source owner or operator shall show that the sum of the preceding monthly emissions from the PAL effective date for each emissions unit under the PAL is less than the PAL.
    - II. The PAL shall be established in a PAL permit that meets the public participation requirements in subpart 10.(v) of this subparagraph.
    - III. The PAL permit shall contain all the requirements of subpart 10.(vii) of this subparagraph.
    - IV. The PAL shall include fugitive emissions, to the extent quantifiable, from all emissions units that emit or have the potential to emit the PAL pollutant at the major stationary source.
    - V. Each PAL shall regulate emissions of only one pollutant.
    - VI. Each PAL shall have a PAL effective period of 10 years.
    - VII. The owner or operator of the major stationary source with a PAL shall comply with the monitoring, recordkeeping, and reporting requirements provided in subparts 10.(xii) through (xiv) of this subparagraph for each emissions unit under the PAL through the PAL effective period.

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- (II) At no time (during or after the PAL effective period) are emissions reductions of a PAL pollutant, which occur during the PAL effective period, creditable as decreases for purposes of offsets under subpart 2.(v) of this subparagraph unless the level of the PAL is reduced by the amount of such emissions reductions and such reductions would be creditable in the absence of the PAL.
- (v) Public participation requirement for PALs. PALs for existing major stationary sources shall be established, renewed, or increased through a procedure that is consistent with 40 CFR 51.160 and 51.161, part 3. of this subparagraph, subparagraph (4)(I) of this rule, or 1200-03-09-.02(11)(f)8. This includes the requirement that the Technical Secretary provide the public with notice of the proposed approval of a PAL permit and at least a 30-day period for submittal of public comment. The Technical Secretary must address all material comments before taking final action on the permit.
- (vi) Setting the 10-year actuals PAL level.
  - (I) Except as provided in item 10.(vi)(II) of this subparagraph, the actuals PAL level for a major stationary source shall be established as the sum of the baseline actual emissions (as defined in subpart 1.(xlvii) of this subparagraph) of the PAL pollutant for each emissions unit at the source; plus an amount equal to the applicable significant level for the PAL pollutant under subpart 1.(x) of this subparagraph or under the Federal Clean Air Act, whichever is lower. When establishing the actuals PAL level, for a PAL pollutant, only one consecutive 24-month period must be used to determine the baseline actual emissions for all existing emissions units. Emissions associated with units that were permanently shut down after this 24-month period must be subtracted from the PAL level. The Technical Secretary shall specify a reduced PAL level(s) (in tons/yr) in the PAL permit to become effective on the future compliance date(s) of any applicable Federal or State regulatory requirement(s) that the Technical Secretary is aware of prior to issuance of the PAL permit. For instance, if the source owner or operator will be required to reduce emissions from industrial boilers in half from baseline emissions of 60 ppm NOX to a new rule limit of 30 ppm, then the permit shall contain a future effective PAL level that is equal to the current PAL level reduced by half of the original baseline emissions of such unit(s).
  - (II) For newly constructed units (which do not include modifications to existing units) on which actual construction began after the 24-month period, in lieu of adding the baseline actual emissions as specified in item 10.(vi)(I) of this subparagraph, the emissions must be added to the PAL level in an amount equal to the potential to emit of the units.
- (vii) Contents of the PAL permit.
  - (I) The PAL pollutant and the applicable source-wide emission limitation in tons per year.
  - (II) The PAL permit effective date and the expiration date of the PAL (PAL effective period).



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- (III) Specification in the PAL permit that if a major stationary source owner or operator applies to renew a PAL in accordance with subpart 10.(x) of this subparagraph before the end of the PAL effective period, then the PAL shall not expire at the end of the PAL effective period. It shall remain in effect until a revised PAL permit is issued by the Technical Secretary.
  - (IV) A requirement that emission calculations for compliance purposes include emissions from startups, shutdowns and malfunctions.
  - (V) A requirement that, once the PAL expires, the major stationary source is subject to the requirements of subpart 10.(ix) of this subparagraph.
  - (VI) The calculation procedures that the major stationary source owner or operator shall use to convert the monitoring system data to monthly emissions and annual emissions based on a 12-month rolling total for each month as required by item 10.(xiii)(I) of this subparagraph.
  - (VII) A requirement that the major stationary source owner or operator monitor all emissions units in accordance with the provisions under subpart 10.(xii) of this subparagraph.
  - (VIII) A requirement to retain the records required under subpart 10.(xiii) of this subparagraph on site. Such records may be retained in an electronic format.
  - (IX) A requirement to submit the reports required under subpart 10.(xiv) of this subparagraph by the required deadlines.
  - (X) Any other requirements that the Technical Secretary deems necessary to implement and enforce the PAL.
- (viii) PAL effective period and reopening of the PAL permit.
- (I) PAL effective period. The Technical Secretary shall specify a PAL effective period of 10 years.
  - (II) Reopening of the PAL permit.
    - I. During the PAL effective period, the Technical Secretary shall reopen the PAL permit to:
      - A. Correct typographical/calculation errors made in setting the PAL or reflect a more accurate determination of emissions used to establish the PAL.
      - B. Reduce the PAL if the owner or operator of the major stationary source creates creditable emissions reductions for use as offsets under subpart 2.(v) of this subparagraph.
      - C. Revise the PAL to reflect an increase in the PAL as provided under subpart 10.(xi) of this subparagraph.

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- II. The Technical Secretary may reopen the PAL permit for the following:
    - A. Reduce the PAL to reflect newly applicable Federal requirements (for example, NSPS) with compliance dates after the PAL effective date.
    - B. Reduce the PAL consistent with any other requirement, that is enforceable as a practical matter, and that the State may impose on the major stationary source under the plan.
    - C. Reduce the PAL if the Technical Secretary determines that a reduction is necessary to avoid causing or contributing to a NAAQS or PSD increment violation, or to an adverse impact on an air quality related value that has been identified for a Federal Class I area by a Federal Land Manager and for which information is available to the general public.
  - III. Except for the permit reopening in section 10.(viii)(II)I.A. of this subparagraph for the correction of typographical/calculation errors that do not increase the PAL level, all other reopenings shall be carried out in accordance with the public participation requirements of subpart 10.(v) of this subparagraph.
- (ix) Expiration of a PAL. Any PAL which is not renewed in accordance with the procedures in subpart 10.(x) of this subparagraph shall expire at the end of the PAL effective period, and the requirements in items 10.(ix)(I) through (V) of this subparagraph shall apply.
- (I) Each emissions unit (or each group of emissions units) that existed under the PAL shall comply with an allowable emission limitation under a revised permit established according to the procedures in subitems 10.(ix)(I)I. through II. of this subparagraph.
    - I. Within the time frame specified for PAL renewals in item 10.(x)(II) of this subparagraph, the major stationary source shall submit a proposed allowable emission limitation for each emissions unit (or each group of emissions units, if such a distribution is more appropriate as decided by the Technical Secretary) by distributing the PAL allowable emissions for the major stationary source among each of the emissions units that existed under the PAL. If the PAL had not yet been adjusted for an applicable requirement that became effective during the PAL effective period, as required under item 10.(x)(V) of this subparagraph, such distribution shall be made as if the PAL had been adjusted.
    - II. The Technical Secretary shall decide whether and how the PAL allowable emissions will be distributed and issue a revised permit incorporating allowable limits for each emissions unit, or each group of emissions units, as the Technical Secretary determines is appropriate.

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- (II) Each emissions unit(s) shall comply with the allowable emission limitation on a 12-month rolling basis. The Technical Secretary may approve the use of monitoring systems (source testing, emission factors, etc.) other than CEMS, CERMS, PEMS or CPMS to demonstrate compliance with the allowable emission limitation.
  - (III) Until the Technical Secretary issues the revised permit incorporating allowable limits for each emissions unit, or each group of emissions units, as required under subitem 10.(ix)(I)I. of this subparagraph, the source shall continue to comply with a source-wide, multi-unit emissions cap equivalent to the level of the PAL emission limitation.
  - (IV) Any physical change or change in the method of operation at the major stationary source will be subject to the nonattainment major NSR requirements if such change meets the definition of major modification in subpart 1.(v) of this subparagraph.
  - (V) The major stationary source owner or operator shall continue to comply with any State or Federal applicable requirements (BACT, RACT, NSPS, etc.) that may have applied either during the PAL effective period or prior to the PAL effective period except for those emission limitations that had been established pursuant to subpart 2.(ix) of this subparagraph, but were eliminated by the PAL in accordance with the provisions in subitem 10.(i)(III)III. of this subparagraph.
- (x) Renewal of a PAL.
- (I) The Technical Secretary shall follow the procedures specified in subpart 10.(v) of this subparagraph in approving any request to renew a PAL for a major stationary source, and shall provide both the proposed PAL level and a written rationale for the proposed PAL level to the public for review and comment. During such public review, any person may propose a PAL level for the source for consideration by the Technical Secretary.
  - (II) Application deadline. A major stationary source owner or operator shall submit a timely application to the Technical Secretary to request renewal of a PAL. A timely application is one that is submitted at least 6 months prior to, but not earlier than 18 months from, the date of permit expiration. This deadline for application submittal is to ensure that the permit will not expire before the permit is renewed. If the owner or operator of a major stationary source submits a complete application to renew the PAL within this time period, then the PAL shall continue to be effective until the revised permit with the renewed PAL is issued.
  - (III) Application requirements. The application to renew a PAL permit shall contain the information required in subitems 10.(x)(III)I. through IV. of this subparagraph.
    - I. The information required in items 10.(iii)(I) through (III) of this subparagraph.
    - II. A proposed PAL level.

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- III. The sum of the potential to emit of all emissions units under the PAL (with supporting documentation).
  - IV. Any other information the owner or operator wishes the Technical Secretary to consider in determining the appropriate level for renewing the PAL.
- (IV) PAL adjustment. In determining whether and how to adjust the PAL, the Technical Secretary shall consider the options outlined in subitems 10.(x)(IV)I. and II. of this subparagraph. However, in no case may any such adjustment fail to comply with subitem 10.(x)(IV)III. of this subparagraph.
- I. If the emissions level calculated in accordance with subpart 10.(vi) of this subparagraph is equal to or greater than 80 percent of the PAL level, the Technical Secretary may renew the PAL at the same level without considering the factors set forth in subitem 10.(x)(IV)II. of this subparagraph; or
  - II. The Technical Secretary may set the PAL at a level that it determines to be more representative of the source's baseline actual emissions, or that it determines to be appropriate considering air quality needs, advances in control technology, anticipated economic growth in the area, desire to reward or encourage the source's voluntary emissions reductions, or other factors as specifically identified by the Technical Secretary in its written rationale.
  - III. Notwithstanding subitems 10.(x)(IV)I. and II. of this subparagraph,
    - A. If the potential to emit of the major stationary source is less than the PAL, the Technical Secretary shall adjust the PAL to a level no greater than the potential to emit of the source; and
    - B. The Technical Secretary shall not approve a renewed PAL level higher than the current PAL, unless the major stationary source has complied with the provisions of subpart 10.(xi) of this subparagraph (increasing a PAL).
- (V) If the compliance date for a State or Federal requirement that applies to the PAL source occurs during the PAL effective period, and if the Technical Secretary has not already adjusted for such requirement, the PAL shall be adjusted at the time of PAL permit renewal or title V permit renewal, whichever occurs first.
- (xi) Increasing a PAL during the PAL effective period.
- (I) The Technical Secretary may increase a PAL emission limitation only if the major stationary source complies with the provisions in subitems 10.(xi)(I)I. through IV. of this subparagraph.
    - I. The owner or operator of the major stationary source shall submit a complete application to request an increase in the PAL limit for a PAL major modification. Such application shall

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identify the emissions unit(s) contributing to the increase in emissions so as to cause the major stationary source's emissions to equal or exceed its PAL.

- II. As part of this application, the major stationary source owner or operator shall demonstrate that the sum of the baseline actual emissions of the small emissions units, plus the sum of the baseline actual emissions of the significant and major emissions units assuming application of BACT equivalent controls, plus the sum of the allowable emissions of the new or modified emissions unit(s) exceeds the PAL. The level of control that would result from BACT equivalent controls on each significant or major emissions unit shall be determined by conducting a new BACT analysis at the time the application is submitted, unless the emissions unit is currently required to comply with a BACT or LAER requirement that was established within the preceding 10 years. In such a case, the assumed control level for that emissions unit shall be equal to the level of BACT or LAER with which that emissions unit must currently comply.
  - III. The owner or operator obtains a major NSR permit for all emissions unit(s) identified in subitem 10.(xi)(l)l. of this subparagraph, regardless of the magnitude of the emissions increase resulting from them (that is, no significant levels apply). These emissions unit(s) shall comply with any emissions requirements resulting from the nonattainment major NSR program process (for example, LAER), even though they have also become subject to the PAL or continue to be subject to the PAL.
  - IV. The PAL permit shall require that the increased PAL level shall be effective on the day any emissions unit that is part of the PAL major modification becomes operational and begins to emit the PAL pollutant.
    - (II) The Technical Secretary shall calculate the new PAL as the sum of the allowable emissions for each modified or new emissions unit, plus the sum of the baseline actual emissions of the significant and major emissions units (assuming application of BACT equivalent controls as determined in accordance with subitem 10.(xi)(l)l., plus the sum of the baseline actual emissions of the small emissions units.
    - (III) The PAL permit shall be revised to reflect the increased PAL level pursuant to the public notice requirements of subpart 10.(v) of this subparagraph.
- (xii) Monitoring requirements for PALs
- (I) General requirements.
    - I. Each PAL permit must contain enforceable requirements for the monitoring system that accurately determines plantwide emissions of the PAL pollutant in terms of mass per unit of time. Any monitoring system authorized for use in the PAL

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permit must be based on sound science and meet generally acceptable scientific procedures for data quality and manipulation. Additionally, the information generated by such system must meet minimum legal requirements for admissibility in a judicial proceeding to enforce the PAL permit.

- II. The PAL monitoring system must employ one or more of the four general monitoring approaches meeting the minimum requirements set forth in subitems 10.(xii)(II)I. through IV. of this subparagraph and must be approved by the Technical Secretary.
  - III. Notwithstanding subitem 10.(xii)(I)II. of this subparagraph, you may also employ an alternative monitoring approach that meets subitem 10.(xii)(I)I. of this subparagraph if approved by the Technical Secretary.
  - IV. Failure to use a monitoring system that meets the requirements of this section renders the PAL invalid.
- (II) Minimum Performance Requirements for Approved Monitoring Approaches. The following are acceptable general monitoring approaches when conducted in accordance with the minimum requirements in items 10.(xii)(III) through (IX) of this subparagraph:
- I. Mass balance calculations for activities using coatings or solvents;
  - II. CEMS;
  - III. CPMS or PEMS; and
  - IV. Emission Factors.
- (III) Mass Balance Calculations. An owner or operator using mass balance calculations to monitor PAL pollutant emissions from activities using coating or solvents shall meet the following requirements:
- I. Provide a demonstrated means of validating the published content of the PAL pollutant that is contained in or created by all materials used in or at the emissions unit;
  - II. Assume that the emissions unit emits all of the PAL pollutant that is contained in or created by any raw material or fuel used in or at the emissions unit, if it cannot otherwise be accounted for in the process; and
  - III. Where the vendor of a material or fuel, which is used in or at the emissions unit, publishes a range of pollutant content from such material, the owner or operator must use the highest value of the range to calculate the PAL pollutant emissions unless the Technical Secretary determines there is site-specific data or a site-specific monitoring program to support another content within the range.

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- (IV) CEMS. An owner or operator using CEMS to monitor PAL pollutant emissions shall meet the following requirements:
  - I. CEMS must comply with applicable Performance Specifications found in 40 CFR part 60, appendix B; and
  - II. CEMS must sample, analyze and record data at least every 15 minutes while the emissions unit is operating.
- (V) CPMS or PEMS. An owner or operator using CPMS or PEMS to monitor PAL pollutant emissions shall meet the following requirements:
  - I. The CPMS or the PEMS must be based on current site-specific data demonstrating a correlation between the monitored parameter(s) and the PAL pollutant emissions across the range of operation of the emissions unit; and
  - II. Each CPMS or PEMS must sample, analyze, and record data at least every 15 minutes, or at another less frequent interval approved by the Technical Secretary, while the emissions unit is operating.
- (VI) Emission factors. An owner or operator using emission factors to monitor PAL pollutant emissions shall meet the following requirements:
  - I. All emission factors shall be adjusted, if appropriate, to account for the degree of uncertainty or limitations in the factors' development;
  - II. The emissions unit shall operate within the designated range of use for the emission factor, if applicable; and
  - III. If technically practicable, the owner or operator of a significant emissions unit that relies on an emission factor to calculate PAL pollutant emissions shall conduct validation testing to determine a site-specific emission factor within 6 months of PAL permit issuance, unless the Technical Secretary determines that testing is not required.
- (VII) A source owner or operator must record and report maximum potential emissions without considering enforceable emission limitations or operational restrictions for an emissions unit during any period of time that there is no monitoring data, unless another method for determining emissions during such periods is specified in the PAL permit.
- (VIII) Notwithstanding the requirements in items 10.(xii)(III) through (VII) of this subparagraph, where an owner or operator of an emissions unit cannot demonstrate a correlation between the monitored parameter(s) and the PAL pollutant emissions rate at all operating points of the emissions unit, the Technical Secretary shall, at the time of permit issuance:

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- I. Establish default value(s) for determining compliance with the PAL based on the highest potential emissions reasonably estimated at such operating point(s); or
  - II. Determine that operation of the emissions unit during operating conditions when there is no correlation between monitored parameter(s) and the PAL pollutant emissions is a violation of the PAL.
- (IX) Re-validation. All data used to establish the PAL pollutant must be re-validated through performance testing or other scientifically valid means approved by the Technical Secretary. Such testing must occur at least once every 5 years after issuance of the PAL.
- (xiii) Recordkeeping requirements.
- (I) The PAL permit shall require an owner or operator to retain a copy of all records necessary to determine compliance with any requirement of part 10. of this subparagraph and of the PAL, including a determination of each emissions unit's 12-month rolling total emissions, for 5 years from the date of such record.
  - (II) The PAL permit shall require an owner or operator to retain a copy of the following records for the duration of the PAL effective period plus 5 years:
    - I. A copy of the PAL permit application and any applications for revisions to the PAL; and
    - II. Each annual certification of compliance pursuant to title V and the data relied on in certifying the compliance.
- (xiv) Reporting and notification requirements. The owner or operator shall submit semi-annual monitoring reports and prompt deviation reports to the Technical Secretary in accordance with the applicable title V operating permit program. The reports shall meet the requirements in items 10.(xiv)(I) through (III).
- (I) Semi-Annual Report. The semi-annual report shall be submitted to the Technical Secretary within 30 days of the end of each reporting period. This report shall contain the information required in subitems 10.(xiv)(I)I. through VII. of this subparagraph.
    - I. The identification of owner and operator and the permit number.
    - II. Total annual emissions (tons/year) based on a 12-month rolling total for each month in the reporting period recorded pursuant to item 10.(xiii)(I) of this subparagraph.
    - III. All data relied upon, including, but not limited to, any Quality Assurance or Quality Control data, in calculating the monthly and annual PAL pollutant emissions.
    - IV. A list of any emissions units modified or added to the major stationary source during the preceding 6-month period.



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- V. The number, duration, and cause of any deviations or monitoring malfunctions (other than the time associated with zero and span calibration checks), and any corrective action taken.
  - VI. A notification of a shutdown of any monitoring system, whether the shutdown was permanent or temporary, the reason for the shutdown, the anticipated date that the monitoring system will be fully operational or replaced with another monitoring system, and whether the emissions unit monitored by the monitoring system continued to operate, and the calculation of the emissions of the pollutant or the number determined by method included in the permit, as provided by item 10.(xii)(VII) of this subparagraph.
  - VII. A signed statement by the responsible official (as defined by the applicable title V operating permit program) certifying the truth, accuracy, and completeness of the information provided in the report.
- (II) Deviation report. The major stationary source owner or operator shall promptly submit reports of any deviations or exceedance of the PAL requirements, including periods where no monitoring is available. A report submitted pursuant to item .02(11)(e)1.(iii)(III) of this chapter shall satisfy this reporting requirement. The deviation reports shall be submitted within the time limits prescribed by item .02(11)(e)1.(iii)(III) of this chapter. The reports shall contain the following information:
- I. The identification of owner and operator and the permit number;
  - II. The PAL requirement that experienced the deviation or that was exceeded;
  - III. Emissions resulting from the deviation or the exceedance; and
  - IV. A signed statement by the responsible official (as defined by the applicable title V operating permit program) certifying the truth, accuracy, and completeness of the information provided in the report.
- (III) Re-validation results. The owner or operator shall submit to the Technical Secretary the results of any re-validation test or method within 3 months after completion of such test or method.
- (xv) Transition requirements.
- (I) The Technical Secretary may not issue a PAL that does not comply with the requirements in subparts 10.(i) through (xv) of this subparagraph after the Administrator has approved regulations incorporating these requirements into the SIP.
  - (II) The Technical Secretary may supersede any PAL which was established prior to the date of approval of the plan by the

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Administrator with a PAL that complies with the requirements of subparts 10.(i) through (xv) of this subparagraph.

11. If any provision of this section, or the application of such provision to any person or circumstance, is held invalid, the remainder of this section, or the application of such provision to persons or circumstances other than those as to which it is held invalid, shall not be affected thereby.
  12. The requirements of this subparagraph applicable to major stationary sources and major modifications of PM<sub>10</sub> shall also apply to major stationary sources and major modifications of PM<sub>10</sub> precursors, except where the Administrator of the U.S. EPA determines that such sources do not contribute significantly to PM<sub>10</sub> levels that exceed the PM<sub>10</sub> ambient standards in the area.
- (6) Construction permits issued under this rule are based on the control of air contaminants only and do not in any way affect the applicant's obligation to obtain necessary permits from other governmental agencies.
  - (7) The applicant for a construction permit (or its equivalent by Board order) shall pay the cost of publication of any notices required by state or federal law or regulations to effectuate the rights applied for.
  - (8) Visibility Protection
    - (a) Definitions - Unless specifically defined in this part, all terms shall have the meaning given them in Chapter 1200-03-02, paragraph 1200-03-09-.01(4) and Chapter 1200-03-23.
      1. "Visibility protection area" means any of the mandatory Federal Class I areas listed below. These areas are those mandatory Federal Class I areas where visibility values may be impacted by sources in Tennessee:
        - (i) Great Smoky Mountains National Park (NP), TN-NC.
        - (ii) Joyce Kilmer-Slickrock National Wilderness Area (NWA), TN-NC.
        - (iii) Cohutta National Wilderness Area, TN-GA.
        - (iv) Linville Gorge National Wilderness Area, NC.
        - (v) Shining Rock National Wilderness Area, NC.
        - (vi) Sipsey National Wilderness Area, AL.
        - (vii) Mammoth Cave National Park, KY.
        - (viii) Mingo National Wilderness Area, MO.
      2. Reserved.
      3. Class II areas in Tennessee are those areas not already designated as mandatory Federal Class I areas. This corresponds to all areas of the State which are not part of Cohutta NWA or Great Smoky Mountains N.P., or Joyce Kilmer-Slickrock National Wilderness Area (NWA).

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(b) Review of major stationary sources and major modifications - source applicability and exemptions.

1. No stationary source or modification to which the requirements of this part apply shall begin actual construction without a permit which states that the stationary source or modification would meet the applicable requirements.
2. The requirements of this part shall apply to construction of any new major stationary source or major modification that would be constructed in an area classified as nonattainment and potentially have an impact on visibility in any visibility protection area.
3. The requirements of this part shall apply to any major stationary source and any major modification with respect to each air contaminant that it would emit, except as this part otherwise provides.
4. The requirements of this part shall not apply to a particular major stationary source or major modification, if:
  - (i) The source or modification would be a nonprofit health or nonprofit educational institution, or a major modification would occur at such an institution, and the governor of the State in which the source or modification would be located requests that it be exempt from those requirements; or
  - (ii) The source or modification that would be a major stationary source or major modification only if fugitive emissions, to the extent quantifiable, are considered in calculating the potential to emit of the stationary source or modification and the source does not belong to any of the following categories:
    - (I) Coal cleaning plants (with thermal dryers);
    - (II) Kraft pulp mills;
    - (III) Portland cement plants;
    - (IV) Primary zinc smelters;
    - (V) Iron and steel mills;
    - (VI) Primary aluminum ore reduction plants;
    - (VII) Primary copper smelters;
    - (VIII) Municipal incinerators capable of charging more than 250 tons of refuse per day;
    - (IX) Hydrofluoric, sulfuric, or nitric acid plants;
    - (X) Petroleum refineries;
    - (XI) Lime plants;
    - (XII) Phosphate rock processing plants;

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- (XIII) Coke oven batteries;
  - (XIV) Sulfur recovery plants;
  - (XV) Carbon black plants (furnace process);
  - (XVI) Primary lead smelters;
  - (XVII) Fuel conversion plants;
  - (XVIII) Sintering plants;
  - (XIX) Secondary metal production plants;
  - (XX) Chemical process plants;
  - (XXI) Fossil-fuel boilers (or combination thereof) totaling more than 250 million British thermal units per hour heat input;
  - (XXII) Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels;
  - (XXIII) Taconite ore processing plants;
  - (XXIV) Glass fiber processing plants;
  - (XXV) Charcoal production plants;
  - (XXVI) Fossil fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input;
  - (XXVII) Any other stationary source category that is regulated under Chapter 1200-03-16, New Source Performance Standards (as of August 7, 1980), Chapter 1200-03-11, Hazardous Air Contaminants (as of August 7, 1980), Chapter 1200-03-31, Case-by-Case Determinations of Hazardous Air Pollutant Control Requirements (as of September 18, 1994), Chapter 0400-30-38, Emission Standards for Hazardous Air Pollutants (as of the most recent effective date of this rule), or 40 C.F.R. Part 60 and 61 (as of July 1, 1993).
- (iii) The source is a portable stationary source which has previously received a permit under this part; and
- (I) The owner or operator proposes to relocate the source and emissions of the source at the new location would be temporary (a two year period); and
  - (II) The emissions from the source would not exceed its allowable emissions; and
  - (III) The emissions from the source would impact no visibility protection area and no area where an applicable increment is known to be violated; and
  - (IV) Reasonable notice is given to the Technical Secretary prior to the relocation identifying the proposed new location and the probable

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duration of operation at the new location. Such notice shall be given to the Technical Secretary not less than 10 days in advance of the proposed relocation unless a different time duration is previously approved by the Technical Secretary.

5. The requirements of this part shall not apply to a major stationary source or major modification with respect to a particular pollutant if the owner or operator demonstrates that, as to that pollutant, the source or modification is located in an area designated as attainment.
  6. The requirements of this part shall not apply to a major stationary source or major modification with respect to a particular pollutant, if the allowable emissions of that pollutant from the source, or the net emissions increase of that pollutant from the modification:
    - (i) Would impact no visibility protection area and no area where an applicable increment is known to be violated, and
    - (ii) Would be temporary.
- (c) Visibility impact analyses.
- The owner or operator of a source shall provide an analysis of the impairment to visibility that would occur as a result of the source or modification and general commercial, residential, industrial and other growth associated with the source or modification.
- (d) Federal land manager notification.
1. The Federal Land Manager (FLM) and the Federal official charged with direct responsibility for management of Federal Class I areas have an affirmative responsibility to protect the air quality related values (including visibility) of such lands and to consider, in consultation with the Technical Secretary whether a proposed source or modification will have an adverse impact on such values.
  2. The Technical Secretary shall provide written notification to all affected Federal Land Managers of any permit application for any proposed new major stationary source or major modification that may affect visibility in any visibility protection area. The Technical Secretary shall also provide such notification to the Federal official charged with direct responsibility for management of any lands within any such area. Such notification shall include a copy of all information relevant to the permit application and shall be given within 30 days of receipt and at least 60 days prior to any public hearing on the application for a permit to construct. Such notification shall include an analysis of the proposed source's anticipated impacts on visibility in any visibility protection area. The Technical Secretary shall also notify all affected FLM's within 30 days of receipt of any advance notification of any such permit application.
  3. The Technical Secretary shall consider any analysis performed by the Federal Land Manager provided within 30 days of the notification and analysis required by part 2. of this subparagraph, that such proposed new major stationary source or major modification may have an adverse impact on visibility in any visibility protection area. Where the Technical Secretary finds that such an analysis does not demonstrate to the satisfaction of the Technical Secretary that an adverse impact on visibility will result in the visibility protection area, the Technical

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Secretary must, in the notice of public hearing, either explain his decision or give notice as to where the explanation can be obtained.

(e) National visibility goal.

The Technical Secretary shall only issue permits to those sources whose emissions will be consistent with making reasonable further progress toward the national goal of preventing any future, and remedying any existing, impairment of visibility in visibility protection areas in which impairment results from man-made air pollution. In making the decision to issue a permit the Technical Secretary may take into account the costs of compliance, the time necessary for compliance, the energy and non-air quality environmental impacts of compliance, and the useful life of the source.

(f) Monitoring.

The Technical Secretary may require monitoring of visibility in any visibility protection area near the proposed new stationary source or major modification for such purposes and by such means as the Technical Secretary deems necessary and appropriate.

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-201-101, et seq. **Administrative History:** Original rule certified June 4, 1974. Amendment filed and effective February 9, 1977. Amendment filed and effective April 12, 1978. Amendment filed and effective June 16, 1978. Amendment filed and effective March 21, 1979. Amendment filed and effective June 21, 1979. Amendment filed and effective November 16, 1979. Emergency rule effective June 3, 1981 through October 1, 1981. Revised effective July 31, 1981. Amendment filed and effective October 2, 1981. Amendment filed and effective January 22, 1982. Amendment filed and effective March 2, 1983. Amendment filed and effective August 22, 1983. Amendment filed September 22, 1988; effective November 6, 1988. Amendment filed April 19, 1990; effective June 2, 1990. Amendment filed May 17, 1990; effective July 1, 1990. Amendment filed May 12, 1993; effective June 26, 1993. Amendment filed September 7, 1993; effective November 21, 1993. Amendment filed April 18, 1994; effective July 2, 1994. Amendment filed June 2, 1994; effective August 15, 1994. Amendment filed March 29, 1995; effective June 14, 1995. Amendment filed June 3, 1996; effective August 14, 1996. Amendment filed June 7, 1996, effective August 18, 1996. Amendment filed October 14, 1996; effective December 28, 1996. Amendment filed November 12, 1998; effective January 26, 1999. Amendment filed June 8, 1999; effective August 22, 1999. Amendment filed December 30, 1999; effective March 14, 2000. Repeal and new rule filed December 1, 2005; effective February 14, 2006. Amendment filed February 24, 2009; effective May 10, 2009. Amendment filed February 24, 2009; effective May 10, 2009. Amendments filed February 24, 2009; effective May 10, 2009. Amendment filed May 12, 2010; effective August 10, 2010. Amendments filed November 10, 2010; effective February 8, 2011. Amendments filed March 29, 2011; effective June 27, 2011. Amendment filed August 29, 2011; effective November 27, 2011. Amendment filed November 5, 2012; effective February 3, 2013. Amendments filed January 24, 2013; effective April 24, 2013. Amendment filed April 1, 2015; effective June 30, 2015. Amendment filed September 11, 2015; effective December 10, 2015. Amendments filed January 5, 2017; effective April 5, 2017. Amendments filed May 17, 2017; effective August 15, 2017. Amendments filed October 23, 2020; effective January 21, 2021. Amendments filed January 22, 2021; effective April 22, 2021. Amendments filed September 29, 2022; effective December 28, 2022.

**1200-03-09-.02 OPERATING PERMITS.**

- (1) Any person planning to operate an air contaminant source constructed or modified in accordance with a construction permit issued by the Technical Secretary in Rule 1200-03-09-.01 shall apply for and receive from the Technical Secretary an operating permit or, if applicable, submit a notice of intent and obtain a notice of coverage or authorization after initial start-up of the air contaminant source. Ninety (90) days shall be allowed for this, provided paragraph (3) of this rule is complied with. This time period is extended from ninety (90) to one hundred twenty (120) days if stack sampling has been required as a condition on the construction permit, which is further extended to sixty (60) days after the stack sampling

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report is required on the construction permit if a certain time is specified, provided the stack sampling report is filed with the Division within sixty (60) days of initial start-up or the time specified on the construction permit and paragraph (3) of this rule is complied with, except as otherwise allowed in paragraph (11) of this rule.

- (2) No person shall operate an air contaminant source in Tennessee without first obtaining from the Technical Secretary an operating permit or, if applicable, submitting a notice of intent and obtaining a notice of coverage or authorization, except as specifically exempted in Rule 1200-03-09-.04. New sources operating with a valid construction permit may operate with the construction permit for the time period specified in paragraph (1) of this rule, except as otherwise allowed in paragraph (11) of this rule.
- (3) Application for an operating permit shall be made on forms available from the Technical Secretary and signed by the applicant. Such application for an operating permit shall be filed with the Technical Secretary.
  - (a) Not less than sixty (60) days prior to the expiration of an existing operating permit.
  - (b)
    1. Not more than thirty (30) days after initial start-up of an air contaminant source constructed or modified in accordance with a construction permit issued by the Technical Secretary.
    2. If stack sampling or other test data has been required as a condition on the construction permit, this time period is extended to the time specified on the construction permit for submittal of the test report(s). In no case shall this period exceed the period allowed in the applicable regulation.
- (4) Sources that do not comply with the requirements of Division 1200-03 or any permit issued thereunder shall have their operating permit applications processed in the following manner:
  - (a) Sources subject to the requirements of paragraph 1200-03-09-.02(11) shall be subject to a compliance schedule in their permit in accordance with the provisions of that paragraph.
  - (b) Sources that are not subject to the requirements of paragraph 1200-03-09-.02(11) shall be issued temporary operating permits containing a schedule of corrective action for returning to compliance that is acceptable to the Technical Secretary. The schedule shall require the permittee to file a written report or their progress toward compliance with the Technical Secretary no later than 10 days after the passage of each increment in the schedule.
- (5) Any person in possession of an operating permit shall maintain said operating permit readily available for inspection by the Technical Secretary or his designated representative on the operating premises. A person required by these regulations to have one or more operating permits shall keep at least one operating permit prominently and conspicuously displayed on the operating premises.
- (6) Operation of each air contaminant source shall be in accordance with the provisions and stipulations set forth in the operating permit, all provisions of these regulations, and all provisions of the Tennessee Air Quality Act. However, some excursions, as defined under part 1200-03-09-.02(11)(b)31., or as defined in the operating permit, which occur during periodic monitoring for compliance assurance at an air contaminant source subject to paragraph 1200-03-09-.02(11), may be excused by the Technical Secretary, and this authority is not extended to excursions that demonstrate noncompliance with an applicable emission limitation.

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- (7) The owner or operator of any air contaminant source to which any of the following changes are made, but would not be a modification requiring a construction permit, must notify the Technical Secretary thirty (30) days before the change is commenced. These changes are:
  - (a) Change in air pollution control equipment,
  - (b) Change in stack height or diameter,
  - (c) Change in exit velocity (of more than twenty five percent (25%) or exit temperature of more than fifteen percent (15%) (absolute temperature basis).
- (8) Any stack sampling report required on a construction permit is part of the operating permit application. Any stack sampling report required on an operating permit is a part of the application for renewal of that operating permit.
- (9) The owner or operator of any air contaminant source subject to an order or variance issued so as to allow the source by its terms to operate while exceeding an emission standard, shall pay the cost of publication of any notices (including, but not limited to, a copy of the order) required by state or federal law or regulations to effectuate the right of continued operation.
- (10) Those sources possessing a valid permit on the date Chapter 1200-03-19 becomes effective and subject to a specified compliance schedule in Chapter 1200-03-19 must comply with all the requirements contained in the permit and the requirements of Rule 1200-03-09-.02. All permits shall expire on the date the emission standard specified in Chapter 1200-03-19 becomes effective. If a source possessing a valid operating permit and subject to a specified compliance schedule contained in Chapter 1200-03-19 fails to comply with the specified schedule, such permit will be revoked upon notification that the source has not complied with the schedule and opportunity for hearing by the Technical Secretary.
- (11) Major Stationary Source Operating Permits
  - (a) Statement of Purpose and General Intent

The requirements of paragraph 1200-03-09-.02(11) are promulgated in order to fulfill the requirements of Title V of the federal Clean Air Act (42 U.S.C. 7661a - 7661e) and the federal regulations promulgated thereunder at 40 C.F.R. Part 70. (FR Vol. 57, No. 140, Tuesday, July 21, 1992 p.32295-32312). The federal law and regulations require unique approaches pertaining to federal involvement in the permitting activities specified in this paragraph. The federal government, acting by and through the United States Environmental Protection Agency (EPA), is a key party in the review, issuance, and revisions of permits issued under the provisions of this paragraph. It is the intent of the Board to comply with these federal requirements to the full extent allowed under the laws of the State of Tennessee. In the event that the federal law or regulations should require something that the Board has not yet promulgated as a rule, the permit applicant and the Technical Secretary may mutually agree to be governed by whatever emission limitations and/or procedural requirements that the federal rules require and that shall become a binding condition of the applicant's permit to operate. In addition, sources that are subject to this paragraph 1200-03-09-.02(11) may opt out of being subject to the provisions of paragraph 1200-03-09-.02(11) by limiting their potential to emit such that they are below the applicability threshold. In order to exercise this option, the source must agree to be bound by a permit which specifies the more restrictive limit and to be subject to detailed monitoring, reporting and recordkeeping requirements that prove the source is abiding by its more restrictive emission and/or production limits. The permit shall have a term not to exceed 10 years and shall be subjected to the opportunity for comment and hearing by EPA, affected states and the public consistent with the provisions of this paragraph. The permit shall contain a



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statement of basis comparing the source's potential to emit with the synthetic limit to emit and the procedures to be followed that will insure that the more restrictive limit is not exceeded. If the source later decides to increase its potential to emit, the new source review permit procedures of rule 1200-03-09-.01 shall apply.

1. Initial Start-Up of the Major Stationary Source Operating Permit Program

Consistent with the provisions of subparagraph 1200-03-09-.02(11)(d), all operating permits in the possession of sources subject to the requirements of paragraph 1200-03-09-.02(11) are subject to permit revocation proceedings if the source does not file a timely, complete major source operating permit application within 120 days after the Technical Secretary files his written notification to the source that their major stationary source operating permit applications are due, regardless of the expiration date on the permit. Anything in this paragraph 1200-03-09-.02(11) to the contrary notwithstanding, the current permit(s) in the possession of the source shall be effective until superseded by the issuance of major source operating permits under the provisions of this paragraph 1200-03-09-.02(11), except that if a complete application or additional information requested by the Technical Secretary is not timely filed, then (i) the effectiveness of the current operating permits shall be suspended until such application or information is filed, and (ii), the current operating permits shall be subject to revocation proceedings at the discretion of the Technical Secretary. The preceding sentence shall also apply to renewals of major source operating permits. In addition, any operating permit application that does not seek to amend an existing operating permit without first undergoing construction permit review being processed by the Technical Secretary for such a source will be canceled upon such notification and the source shall abide by the terms of their most recent permit until it is superseded by the major source operating permit.

2. Once an operating permit has been issued to a source pursuant to the provisions of paragraph 1200-03-09-.02(11), the permit, its shield, (if one was granted) and its respective conditions will be extended and effective after its expiration date provided that the source has submitted a timely, complete renewal application to the Technical Secretary consistent with the provisions of item 1200-03-09-.02(11)(d)1.(i)(III) and section 1200-03-09-.02(11)(d)1.(ii)(I)III. The extension shall cease upon final permit action by the Technical Secretary. If the Technical Secretary's final permit action is contested, the provisions of T.C.A. 4-5-320(b) shall rule as to the continued validity of the previous permit.

3. Judicial review of a permit issued pursuant to paragraph 1200-03-09-.02(11)

A person aggrieved by an action of the Technical Secretary on a permit processed pursuant to paragraph 1200-03-09-.02(11) may initially seek administrative review of the permit before the Board and later, judicial review in Chancery Court by following the procedures detailed below:

- (i) The person seeking administrative/judicial review shall be:
  - (I) The applicant for the permit request under dispute; or
  - (II) A person who participated in the public participation process provided pursuant to part 1200-03-09-.02(11)(f)8.; or
  - (III) Any other person who can obtain judicial review of the permit under State law.

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- (ii) The Technical Secretary's failure to take timely final action on an application filed under the provisions of paragraph 1200-03-09-.02(11) is grounds for seeking administrative/judicial review. Timely, final action shall be determined according to the schedules for action established in paragraph 1200-03-09-.02(11).
- (iii) The procedures specified in part 1200-03-09-.02(11)(a)3. are the exclusive means for obtaining administrative/judicial review of the terms and conditions of permits issued pursuant to paragraph 1200-03-09-.02(11). Petitions for administrative review of a permit term or action of the Technical Secretary on a permit shall be filed by a person identified in subpart 1200-03-09-.02(11)(a)3.(i) in accordance with the procedures specified in Rule 1200-03-09-.05. A person aggrieved by the final action of the Board on their petition may seek judicial review within 60 days of the entry of the Board's final action consistent with the provisions of T.C.A. § 4-5-322. A person conforming to the criteria of subpart 1200-03-09-.02(11)(a)3.(i) may petition for administrative/judicial review later than the deadlines of Rule 1200-03-09-.05 or T.C.A. § 4-5-322 only if the petition is based solely on grounds arising after the deadlines for administrative/judicial review. Petitions in this category must be filed within sixty days after the occurrence of the new grounds for administrative review. Petitions for review of the Technical Secretary's failure to take a final permit action may be filed at any time prior to his issuance or denial of the permit, but only after the permit processing deadlines of paragraph 1200-03-09-.02(11) have not been met by the Technical Secretary.

#### 4. Operational Flexibility

The owner or operator of a source subject to paragraph 1200-03-09-.02(11) may make certain changes at their facility that are contrary to or not addressed by the permit as provided in part 1200-03-09-.02(11)(a)4.

- (i) The following changes can be made by the permittee without requiring a permit revision, if the changes are not modifications under Title I of the federal Act or Division 1200-03 and the changes do not exceed the emissions allowable under the permit (whether expressed therein as a rate of emissions or in the terms of total emissions): Provided, that the facility provides the Administrator and Technical Secretary with written notification as required below in advance of the proposed changes, which shall be a minimum of 7 days. The Technical Secretary may waive the 7 day advance notice in instances where the source demonstrates in writing that an emergency necessitates the change. Emergency shall be demonstrated by the criteria of part 1200-03-09-.02(11)(e)7. and in no way shall it include changes solely to take advantages of an unforeseen business opportunity. The source, Technical Secretary and EPA shall attach each such notice to their copy of the relevant permit:
  - (l) The source may make a Section 502(b)(10) change if their written notification:
    - I. Contains a brief description of the change within the permitted facility;
    - II. Specifies the date on which the change will occur;
    - III. Declares any change in emissions; and

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- IV. Declares any permit term or condition that is no longer applicable as a result of the change.
  - A. The permit shield provisions of part 1200-03-09-.02(11)(e)6. shall not apply to Section 502(b)(10) changes.
- (II) Reserved.
- (III) The source may trade emissions increases and decreases at their facility solely for the purpose of complying with a federally enforceable emissions cap. In order to exercise such an option, the permit applicant must ask the Technical Secretary to issue such a permit. The permit must contain all terms required under part 1200-03-09-.02(11)(e)1. and part 1200-03-09-.02(11)(e)3. to determine compliance, allowing for the trading of such emissions increases and decreases with the emissions cap specified in the permit, independent of otherwise applicable requirements.
  - I. The applicant for a permit under item 1200-03-09-.02(11)(a)4.(i)(III) shall include in its application, proposed replicable procedures and permit terms that ensure the emission trades are quantifiable and enforceable. The Technical Secretary shall not be required to include in the emissions trading provisions any emissions units for which emissions are not quantifiable or for which there are no replicable procedures to enforce the emissions trades.
  - II. The permit shall require compliance with all applicable requirements.
  - III. The written notification required under subpart 1200-03-09-.02(11)(a)4.(i) shall state:
    - A. When the change will occur;
    - B. Describe the changes in emissions that will result; and
    - C. How these increases and decreases will comply with the terms and conditions of the permit.
  - IV. The permit shield described in part 1200-03-09-.02(11)(e)6. may be extended to the terms and conditions which allow such increases and decreases in emissions.
- (ii) The source may make operational flexibility changes that are not addressed or prohibited by the permit without a permit revision subject to the following requirements:
  - (I) The change cannot be subject to a requirement of Title IV of the Federal Act or Chapter 1200-03-30.
  - (II) The change cannot be a modification under any provision of Title I of the federal Act or Division 1200-03.

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- (III) Each change shall meet all applicable requirements and shall not violate any existing permit term or condition.
- (IV) The source must provide contemporaneous written notice to the Technical Secretary and EPA of each such change, except for changes that are below the threshold of insignificant activities and emission levels that are specified in Rule 1200-03-09-.04.
- (V) Each change shall be described in the notice including the date, any change in emissions, pollutants emitted, and any applicable requirements that would apply as a result of the change.
- (VI) The change shall not qualify for a permit shield under the provisions of part 1200-03-09-.02(11)(e)6.
- (VII) The permittee shall keep a record describing the changes made at the source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under the permit, and the emissions resulting from those changes. The records shall be retained until the changes are incorporated into subsequently issued permits.

5. Opt-In Opportunity

Any source that is not subject to the provisions of paragraph 1200-03-09-.02(11) may opt into being subject to paragraph 1200-03-09-.02(11) by filing a written request to be so bound with the Technical Secretary. Upon execution of a mutual, signed letter of agreement binding the person to the provisions of paragraph 1200-03-09-.02(11), the Technical Secretary shall issue a major stationary source operating permit to the source that subjects them to all of the requirements of paragraph 1200-03-09-.02(11).

- (b) Definitions - The following terms are defined as they uniquely apply to this paragraph. All other terms shall have the meaning given to them in Chapter 1200-03-02, Chapter 0400-30-38, Chapter 1200-03-30, Chapter 1200-03-31, Chapter 1200-03-32, and Chapter 1200-03-20.

-NOTICE-

THE READER IS CAUTIONED THAT ADDITIONAL DEFINITIONS HAVE BEEN ADDED TO SUBPARAGRAPH 1200-03-09-.02(11)(B) DURING RULEMAKING. AS A RESULT, NOT ALL DEFINITIONS ARE ALPHABETIZED.

- 1. "Federal Act" means the Clean Air Act, as amended, 42 U.S.C. §§ 7401, et. seq. as amended by Public Law No. 101-549 (November 15, 1990)
- 2. "Affected source" shall have the meaning given to it in the federal regulations promulgated under title IV of the Federal Act and Chapter 1200-03-30.
- 3. "Affected States" may be Illinois, Kentucky, Virginia, North Carolina, South Carolina, Georgia, Alabama, Mississippi, West Virginia, Arkansas or Missouri if either of the following criteria are met:
  - (i) The State's air quality may be affected by the issuance of a permit pursuant to the provisions of paragraph 1200-03-09-.02(11); or

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- (ii) The State noted above is within 50 miles of the source's site or proposed site.
4. "Affected unit" shall have the meaning given it in the regulations promulgated under title IV of the Federal Act and Chapter 1200-03-30.
5. "Applicable requirement" means all of the following as they apply to emissions units in a source subject to paragraph 1200-03-09-.02(11) (including requirements that have been promulgated or approved by EPA through rulemaking at the time of issuance but have future-effective compliance dates):
- (i) Any standard or other requirement provided for in the Tennessee implementation plan approved or promulgated by EPA through rulemaking under title I of the Federal Act that implements the relevant requirements of the Federal Act, including any revisions to that plan promulgated in, 40 C.F.R. part 52, but not including any standard or other requirement provided for in the Tennessee implementation plan that does not implement relevant requirements of the Federal Act;
  - (ii) Any terms or conditions of any preconstruction permits issued pursuant to regulations approved or promulgated through rulemaking under title I, including parts C or D, of the Federal Act, but not any terms or conditions that do not implement relevant requirements of the Federal Act;
  - (iii) Any standard or other requirement under Section 111 of the Federal Act, including section 111(d);
  - (iv) Any standard or other requirement under section 112 of the Federal Act, including any requirement concerning accident prevention under section 112(r)(7) of the Federal Act;
  - (v) Any standard or other requirements of the acid rain program under title IV of the Federal Act or the Federal regulations promulgated thereunder;
  - (vi) Any requirements established pursuant to section 504(b) or section 114(a)(3) of the Federal Act;
  - (vii) Any standard or other requirement governing solid waste incineration, under section 129 of the Federal Act;
  - (viii) Any standard or other requirement for consumer and commercial products, under section 183(e) of the Federal Act;
  - (ix) Any standard or other requirement for tank vessels, under section 183(f) of the Federal Act;
  - (x) Any standard or other requirement of the program to control air pollution from outer continental shelf sources, under section 328 of the Federal Act;
  - (xi) Any standard or other requirement of the regulations promulgated to protect stratospheric ozone under title VI of the Federal Act, unless the Administrator has determined that such requirements need not be contained in a title V permit; and
  - (xii) Any national ambient air quality standard or increment or visibility requirement under part C of title I of the Federal Act, but only as it would

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apply to temporary sources permitted pursuant to section 504(e) of the Federal Act.

6. "Designated representative" shall have the meaning given to it in section 402(26) of the Federal Act, the Federal regulations promulgated thereunder and Chapter 1200-03-30.
7. "Draft permit" means the version of a permit for which the Technical Secretary offers public participation under part 1200-03-09-.02(11)(f)8. or affected State review under subparagraph 1200-03-09-.02(11)(g).
8. "Emissions allowable under the permit" means a federally enforceable permit term or condition determined at issuance to be required by an applicable requirement that establishes an emission limit (including a work practice standard) or a federally enforceable emissions cap that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject.
9. "Emissions unit" means any part or activity of a stationary source that emits or has the potential to emit any regulated air pollutant or any pollutant listed under section 112(b) of the Federal Act. This term is not meant to alter or affect the definition of the term "unit" for purposes of title IV of the Federal Act or Chapter 1200-03-30.
10. "EPA" or the "Administrator" means the Administrator of the EPA or his designee.
11. "Final permit" means the version of a permit issued by the Technical Secretary that has completed all review procedures required by subparagraph 1200-03-09-.02(11)(f) and subparagraph 1200-03-09-.02(11)(g).
12. "Fugitive emissions" are those emissions which could not reasonably pass through a stack, chimney, vent, or other functionally-equivalent opening.
13. "General permit" means a permit issued pursuant to paragraph 1200-03-09-.02(11) that meets the requirements of part 1200-03-09-.02(11)(e)4.
14. "Major source" means any stationary source (or any group of stationary sources that are located on one or more contiguous or adjacent properties, and are under common control of the same person [or persons under common control]) belonging to a single major industrial grouping and that are described in subparts (i), (ii), (iii) or (iv) of this definition. For the purposes of defining "major source," a stationary source or group of stationary sources shall be considered part of a single industrial grouping if all of the pollutant emitting activities at such source or group of sources on contiguous or adjacent properties belong to the same Major Group (i.e., all have the same two-digit code) as described in the Standard Industrial Classification Manual, 1987.
  - (i) A major source under section 112 of the Federal Act, which is defined as:
    - (I) For pollutants other than radionuclides, any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit, in the aggregate, 10 tons per year (tpy) or more of any hazardous air pollutant which has been listed pursuant to section 112(b) of the Federal Act, 25 tpy or more of any combination of such hazardous air pollutants, or such lesser quantity as the Administrator may

(Rule 1200-03-09-.02, continued)

establish by rule. Notwithstanding the preceding sentence, emissions from any oil or gas exploration or production well (with its associated equipment) and emissions from any pipeline compressor or pump station shall not be aggregated with emissions from other similar units, whether or not such units are in a contiguous area or under common control, to determine whether such units or stations are major sources; or

- (II) For radionuclides, "major source" shall have the meaning specified by the Administrator by rule.
- (ii) A major stationary source of air pollutants, as defined in section 302 of the Federal Act, that directly emits or has the potential to emit, 100 tpy or more of any air pollutant subject to regulation (including any major source of fugitive emissions of any such pollutant, as determined by rule by the Administrator). The fugitive emissions of a stationary source shall not be considered in determining whether it is a major stationary source for the purposes of section 302(j) of the Federal Act, unless the source belongs to one of the following categories of stationary sources:
  - (I) Coal cleaning plants (with thermal dryers);
  - (II) Kraft pulp mills;
  - (III) Portland cement plants;
  - (IV) Primary zinc smelters;
  - (V) Iron and steel mills;
  - (VI) Primary aluminum ore reduction plants;
  - (VII) Primary copper smelters;
  - (VIII) Municipal incinerators capable of charging more than 250 tons of refuse per day;
  - (IX) Hydrofluoric, sulfuric, or nitric acid plants;
  - (X) Petroleum refineries;
  - (XI) Lime plants;
  - (XII) Phosphate rock processing plants;
  - (XIII) Coke oven batteries;
  - (XIV) Sulfur recovery plants;
  - (XV) Carbon black plants (furnace process);
  - (XVI) Primary lead smelters;
  - (XVII) Fuel conversion plants;
  - (XVIII) Sintering plants;

(Rule 1200-03-09-.02, continued)

- (XIX) Secondary metal production plants;
  - (XX) Chemical process plants;
  - (XXI) Fossil-fuel boilers (or combination thereof) totaling more than 250 million British thermal units per hour heat input;
  - (XXII) Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels;
  - (XXIII) Taconite ore processing plants;
  - (XXIV) Glass fiber processing plants;
  - (XXV) Charcoal production plants;
  - (XXVI) Fossil-fuel-fired steam electric plants or more than 250 million British thermal units per hour heat input; or
  - (XXVII) All other stationary source categories regulated by a standard promulgated under section 111 or 112 of the Act, but only with respect to those air pollutants that have been regulated for that category;
- (iii) A major stationary source as defined in part D of title I of the Federal Act, including:
- (I) For ozone nonattainment areas, sources with the potential to emit 100 tpy or more of volatile organic compounds or oxides of nitrogen in areas classified as "marginal" or "moderate," 50 tpy or more in areas classified as "serious," 25 tpy or more in areas classified as "severe," and 10 tpy or more in areas classified as "extreme"; except that the references in this paragraph to 100, 50, 25, and 10 tpy of nitrogen oxides shall not apply with respect to any source for which the Administrator has made a finding, under section 182(f)(1) or (2) of the Federal Act, that requirements under section 182(f) of the Federal Act do not apply;
  - (II) For ozone transport regions established pursuant to section 184 of the Federal Act, sources with the potential to emit 50 tpy or more of volatile organic compounds;
  - (III) For carbon monoxide nonattainment areas (1) that are classified as "serious," and (2) in which stationary sources contribute significantly to carbon monoxide levels as determined under rules issued by the Administrator, sources with the potential to emit 50 tpy or more of carbon monoxide; and
  - (IV) For particulate matter (PM-10) nonattainment areas classified as "serious," sources with the potential to emit 70 tpy or more of PM-10.
- (iv) For purposes of these regulations, a research and development facility may be treated as a separate source from other stationary sources that are located on a contiguous or adjacent property and are under common control. However, all activities claimed by an applicant to be research and



(Rule 1200-03-09-.02, continued)

development at the contiguous or adjacent property shall have their emissions aggregated as a single source for the purposes of determining whether or not the research and development activities constitute a major source.

15. "Permit modification" means a revision to a permit issued pursuant to paragraph 1200-03-09-.02(11) that meets the requirements of part 1200-03-09-.02(11)(f)5.
16. "Permit revision" means any permit modification or administrative permit amendment.
17. "Potential to emit" means the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation is enforceable by the Administrator. This term does not alter or affect the use of this term for any other purposes under the Federal Act, or the term "capacity factor" as used in title IV of the Federal Act or the Federal regulations promulgated thereunder or Chapter 1200-03-30.
18. "Proposed permit" means the version of a permit that the Technical Secretary proposes to issue and forwards to the Administrator for review in compliance with subparagraph 1200-03-09-.02(11)(g).
19. "Regulated air pollutant" means the following:
  - (i) Nitrogen oxides or any volatile organic compounds;
  - (ii) Any pollutant for which a national ambient air quality standard has been promulgated;
  - (iii) Any pollutant that is subjected to any standard promulgated under section 111 of the Federal Act;
  - (iv) Any Class I or II substance subject to a standard promulgated under or established by title VI of the Federal Act; or
  - (v) Any pollutant subject to a standard promulgated under section 112 or other requirements established under section 112 of the Federal Act, including sections 112(g), (j), and (r) of the Act, including the following:
    - (I) Any pollutant subject to requirements under section 112(j) of the Federal Act. If the Administrator fails to promulgate a standard by the date established pursuant to section 112(e) of the Federal Act, any pollutant for which a subject source would be major shall be considered to be regulated on the date 18 months after the applicable date established pursuant to section 112(e) of the Federal Act; and
    - (II) Any pollutant for which the requirements of section 112(g)(2) of the Federal Act have been met, but only with respect to the individual source subject to section 112(g)(2) requirement.

(Rule 1200-03-09-.02, continued)

20. "Renewal" means the process by which a permit is reissued at the end of its term.
21. "Responsible official" means one of the following:
  - (i) For a corporation: a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:
    - (I) The facilities employ more than 250 persons or have gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars); or
    - (II) The delegation of authority to such representative is approved in advance by the Technical Secretary;
  - (ii) For a partnership or sole proprietorship: a general partner or the proprietor, respectively;
  - (iii) For a municipality, State, Federal, or other public agency: either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of EPA); or
  - (iv) For affected sources:
    - (I) The designated representative in so far as actions, standards, requirements, or prohibitions under title IV of the Federal Act or the regulations promulgated thereunder are concerned; and
    - (II) The designated representative for any other purposes under paragraph 1200-03-09-.02(11). However, a person other than the designated representative may serve as the responsible official for non title IV activities.
22. "Section 502(b)(10) changes" are changes that contravene an express permit term. Such changes do not include changes that would violate applicable requirements or contravene federally enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.
23. "Stationary source" means any building, structure, facility, or installation that emits or may emit any regulated air pollutant or any pollutant listed under section 112(b) of the Federal Act.
24. "Research and Development Facility" means any stationary source whose primary purpose is to conduct research and development into new processes and products, where such source is operated under the close supervision of technically trained personnel and is not engaged in the manufacture of products for commercial sale in commerce, except in a de minimis manner.

(Rule 1200-03-09-.02, continued)

25. "Final Permit Action" means the action by the Technical Secretary to grant or deny an application, petition or objection submitted under the provisions of paragraph 1200-03-09-.02(11) pursuant to the following classifications:
- (i) An initial operating permit application
  - (ii) A renewal operating permit application
  - (iii) A modification - administrative amendment, minor modification, group processed minor modification or significant modification.
  - (iv) A reopening for cause as determined by the Technical Secretary
  - (v) A reopening of a permit in response to EPA's request - on their own or in response to a citizen's petition.

If the Technical Secretary's actions are contested and brought to the Board for a hearing on the matter, "final permit action", means any of the above actions taken by the Board.

26. "Final Permit" means the permit arising from any final permit action.
27. "Federally enforceable" means any emission standard and/or procedural requirement that can be enforced against an air contaminant source by EPA or citizens under authority granted them by the Federal Act.
28. "Title I Modification" or "modification under any provision of Title I of the federal Act" means any modification under Section 111 and Section 112 of the Federal Act and any physical change or change in method of operations that is subject to the preconstruction regulations promulgated under Parts C and D of the Federal Act.
29. "Timely" when used with respect to a submittal, means that the application was delivered to the Technical Secretary or deposited in the United States mail (evidenced by postmark) or recognized delivery service (evidenced by receipt) addressed to the Technical Secretary on or before the date it is due. However, the definition of "timely" with respect to timelines for action placed upon the Technical Secretary and/or Division shall not commence until receipt of the submittal in the office of the Technical Secretary.
30. "Exceedance" shall mean a condition that is detected by monitoring that provides data in terms of an emission limitation or standard and that indicates that emissions (or opacity) are greater than the applicable emission limitation or standard (or less than the applicable standard in the case of a percent reduction requirement) consistent with any averaging period specified for averaging the results of the monitoring.
31. "Excursion" shall mean a departure from an indicator range established for monitoring under this paragraph, consistent with any averaging period specified for averaging the results of the monitoring.
32. "Subject to regulation" means, for any air pollutant, that the pollutant is subject to either a provision in the Clean Air Act, or a nationally-applicable regulation codified by the Administrator in subchapter C of Chapter I of Title 40 of the Code of Federal Regulations, that requires actual control of the quantity of emissions of that pollutant, and that such a control requirement has taken effect and is

(Rule 1200-03-09-.02, continued)

operative to control, limit or restrict the quantity of emissions of that pollutant released from the regulated activity. Except that:

- (i) Greenhouse gases (GHGs), the air pollutant defined in 40 CFR 86.1818–12(a) as the aggregate group of six greenhouse gases: carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, shall not be subject to regulation unless, as of July 1, 2011, the GHG emissions are at a stationary source emitting or having the potential to emit 100,000 tpy CO<sub>2</sub>equivalent emissions.
- (ii) The term tpy CO<sub>2</sub>equivalent emissions (CO<sub>2</sub>e) shall represent an amount of GHGs emitted, and shall be computed by multiplying the mass amount of emissions (tpy), for each of the six greenhouse gases in the pollutant GHGs, by the gas's associated global warming potential published at Table A–1 to subpart A of 40 CFR 98 - Global Warming Potentials, and summing the resultant value for each to compute a tpy CO<sub>2</sub>e.
- (iii) In the event that the U.S. Court of Appeals for the D.C. Circuit or the U.S. Supreme Court issues an order which would render GHG emissions not subject to regulation under the Prevention of Significant Deterioration, New Source Review provisions and/or the Title V operating permit program of the Federal Act, then GHGs shall not be subject to regulation, nor shall GHG emissions be required to be included in any construction or operating permit under this regulation 1200-03, as of the effective date of the Federal Register notice of vacatur.
- (iv) In the event that there is a change to Federal law that supersedes regulation of GHGs under the Prevention of Significant Deterioration, New Source Review provisions and/or the Title V operating permit program of the Federal Act, then GHGs shall not be subject to regulation, nor shall GHG emissions be required to be included in any construction or operating permit under this regulation 1200-03, as of the effective date of the change in Federal law.

(c) Applicability -

1. The following air contaminant sources are subject to the requirements of paragraph 1200-03-09-.02(11):
  - (i) Any major source;
  - (ii) Any source, including an area source, subject to a standard, limitation, or other requirement under section 111 of the Federal Act, part 1200-03-07-.07(4), part 1200-03-07-.07(5) or Chapter 1200-03-16;
  - (iii) Any source, including an area source, subject to a standard or other requirement under section 112 of the Federal Clean Air Act, Chapter 0400-30-38, or Chapter 1200-03-31 except that a source is not required to obtain a permit solely because it is subject to regulations or requirements under section 112(r) of the Federal Clean Air Act or Chapter 1200-03-32;
  - (iv) Any affected source; and
  - (v) Any source in a source category designated by the Administrator or Technical Secretary pursuant to the federal 40 C.F.R. Part 70 rules (FR

(Rule 1200-03-09-.02, continued)

Vol 57, No. 140, Tuesday, July 21, 1992 p 32295-32312) or this paragraph respectively.

2. The following air contaminant sources are exempt from the requirements of paragraph 1200-03-09-.02(11):
  - (i) All non-major sources including those subject to Section 112 of the Federal Clean Air Act, Chapter 0400-30-38, Chapter 1200-03-31, section 111 of the Federal Clean Air Act, or Chapter 1200-03-16. If the Administrator promulgates future regulations which prohibit the exemption of a non-major source from the requirements of this paragraph, such source will be so permitted by the Technical Secretary. Upon the Administrator's written notification to the Technical Secretary that such sources must be permitted according to the provisions of this paragraph, the Technical Secretary shall notify the sources that the applications are due within 180 days of his written notice. The Technical Secretary shall have up to 90 days to accomplish the notification commencing upon his notification from the Administrator.
  - (ii) An affected source does not qualify for exemption from the provisions of paragraph 1200-03-09-.02(11) even if it is a non-major source.
  - (iii) A solid waste incinerator unit that is required to obtain a permit pursuant to section 129(e) of the Federal Act does not qualify for exemption from the provisions of paragraph 1200-03-09-.02(11) even if it is a non-major source.
  - (iv) All sources and source categories that would be required to obtain a permit solely because they are subject to 40 C.F.R. part 60, Subpart AAA - Standards of Performance for New Residential Wood Heaters are exempt from the provision of paragraph 1200-03-09-.02(11).
  - (v) All sources and source categories that would be required to obtain a permit solely because they are subject to 40 C.F.R. part 61, Subpart M - National Emissions Standard for Hazardous Air Pollutants for Asbestos, section 61.145, Standard for Demolition and Renovation are exempt from the provision of paragraph 1200-03-09-.02(11).
3. Sources subject to paragraph 1200-03-09-.02(11) shall have all applicable requirements specified in their permit for all relevant emission units in the major source except those emission units which are exempted from permitting in rule 1200-03-09-.04.
4. Sources subject to paragraph 1200-03-09-.02(11) must declare their fugitive emissions in their permit application and the Technical Secretary must regulate the fugitive emissions as terms of their permit.
5. Unless specifically exempted elsewhere in this paragraph 1200-03-09-.02(11), research and development facilities shall be considered as a separate and discrete stationary source in determining whether such facilities constitute a major source subject to the operating permit requirements. Except where research and development facilities by themselves constitute a major source, such facilities shall be exempt from the permit requirements of paragraph 1200-03-09-.02(11), but not from any other permitting requirements of Chapter 1200-03-09.

(Rule 1200-03-09-.02, continued)

(d) Permit Applications -

1. The owner or operator of a source subject to paragraph 1200-03-09-.02(11) has a duty to submit a timely and complete permit application in accordance with this part. The timelines for application under the provision of paragraph 1200-03-09-.02(11) supersede the application deadlines specified in paragraphs 1200-03-09-.02(1), (3) and (10).

(i) Timely application.

- (I) A timely initial application for a source subject to the provisions of paragraph 1200-03-09-.02(11) is one that is submitted within 120 days of the Technical Secretary's written notification to the source that such application must be filed or as stipulated on their construction permit. The Technical Secretary will not require an application to be filed, either by written notification or imposition of a construction permit condition until the Administrator approves the Governor's Part 70 program submittal, filed in accordance with 40 C.F.R. Part 70.4. Application notices shall be served over a period of time in accordance with the Board's approved schedule. The Technical Secretary shall submit a proposed schedule for Board approval and incorporation into the State Major Source Fee Workload Analysis as a Board Order no later than March 1, 1994.
- (II) Sources subject to the provisions of paragraph 1200-03-09-.01(4), paragraph 1200-03-09-.01(5) and/or rule 1200-03-31-.05 apply for an operating permit according to the schedule prescribed on their construction permit. The Technical Secretary shall allow sufficient time to prepare the application, but in no case shall the time allotted to file an application exceed 360 days commencing upon startup of the constructed source.
- (III) A timely renewal application for a source subject to the provisions of paragraph 1200-03-09-.02(11) is one that is submitted at least 180 days, but no more than 270 days prior to the expiration of an existing major source operating permit.
- (IV) Applications for initial phase II acid rain permits shall be submitted to the Technical Secretary by January 1, 1996 for sulfur dioxide, and by January 1, 1998 for nitrogen oxides.
- (V) Construction occurring under the provisions of rule 1200-03-09-.01 at a source already in possession of a major source operating permit issued pursuant to the provisions of paragraph 1200-03-09-.02(11) shall be governed by the following:
  - I. Sources shall designate in their construction permit application the route that they desire to follow for the purposes of incorporating the newly constructed sources into their existing operating permit. The Technical Secretary shall use that information to prepare the operating permit application submittal deadlines in their construction permit.
  - II. Sources desiring the permit shield shall choose the administrative amendment route of subpart 1200-03-09-

(Rule 1200-03-09-.02, continued)

.02(11)(f)4.(iv) or the significant modification route of subpart 1200-03-09-.02(11)(f)5.(iv).

- III. Sources desiring expediency instead of the permit shield shall choose the minor permit modification procedure route of subpart 1200-03-09-.02(f)5.(ii) or group processing of minor modifications under the provisions of subpart 1200-03-09-.02(11)(f)5.(iii) as applicable to the magnitude of their construction.
- (VI) Existing sources making the transition from an existing operating permit to an initial major source operating permit consistent with the provisions of part 1200-03-09-.02(11)(a)1. shall continue to construct under the provision of rule 1200-03-09-.01 and supplement their major source operating permit application in accordance with the provisions of part 1200-03-09-.02(11)(d)2.
- (VII) Existing sources that were not initially subject to the provisions of paragraph 1200-03-09-.02(11), but later became subject through a change in operations such that their potential to emit crosses the applicability threshold of paragraph 1200-03-09-.02(11), shall file their major source operating permit application within 360 days of their start up of such operations that caused them to cross the major source operating permit applicability provisions of paragraph 1200-03-09-.02(11).
- (ii) Complete Application
  - (I) The owner or operator of a source that is subject to the provisions of paragraph 1200-03-09-.02(11) shall file a complete application for a major source operating permit. Applications shall be made on forms approved by the Board and available from the Technical Secretary. The applications shall be evaluated for completeness by using the Board's approved checklist. The checklist list shall be made available to applicants to assist them in preparing a complete application. "Insignificant Activities" designated as those activities or emission/production thresholds listed at rule 1200-03-09-.04 and their listing, if required under rule 1200-03-09-.04, in the permit application shall be governed by the Board's approved forms, instruction sheets and check lists. In addition to the information requested on the application forms, the applicant shall provide sufficient information to determine which applicable requirements will apply to the source and whether or not the source is in compliance with the applicable requirements. The application must be signed and dated by a responsible official attesting to its accuracy in accordance with part 1200-03-09-.02(11)(d)4.
    - I. The application shall be dated and stamped as to its date of receipt in the Office of the Technical Secretary.
    - II. Sixty (60) days will be allotted to the Technical Secretary from his receipt of the application for the purpose of determining whether or not the application is complete according to the Board-approved completeness checklist. This timeline is not applicable to minor modifications conducted under the provisions of subparts 1200-09-.02(11)(f)5.(ii) & (iii).

(Rule 1200-03-09-.02, continued)

- III. The applicant must file an application for the entire source upon initial application and for renewal applications. Applications for a permit revision need only address the portions of the source impacted by the revision.
- IV. The Technical Secretary shall have up to 60 days from his receipt of the application to review an application for completeness. At the conclusion of that period, the Technical Secretary shall notify the applicant of his findings in writing. In the absence of his timely notification that an application is incomplete, an application will be considered to be complete. Such status is limited to only provide enforcement immunity for the applicant for failing to have filed a complete application and to place them in an application shield status. Should the Technical Secretary find that additional information is necessary to properly evaluate the application, the applicant must provide the additional information in accordance with the Technical Secretary's written request which will set a reasonable deadline to provide the information. The source may operate under the authority of their most recent permit consistent with the application shield provisions of part 1200-03-09-.02(11)(f)2., provided that the application is determined or deemed to be complete and further provided that the applicant submits any requested additional information by the deadline specified by the Technical Secretary. However, the source shall abide by the terms of its most recently issued permit until final action is taken upon their application.

(iii) Confidential Information:

A source which claims that its information is confidential is subject to a review of confidentiality. If the Technical Secretary determines that the information should not be protected as confidential, he shall notify the source in writing and hold the information in protected status until such time that the Board can resolve the dispute via a contested case hearing. During this time of dispute, the applicant will be required to make a direct submittal of the information to the Administrator if the EPA desires to review the disputed information being used to prepare the permit. The following information shall not be considered confidential:

- (I) The composition and quantity of air contaminants emitted from the facility.
  - (II) The applicable requirements that a source must fulfill and the source's compliance status with each applicable requirement.
  - (III) The business name, address, and location of the source and the name of the source's responsible official.
  - (IV) Any other information which the Board may determine through a hearing of the matter.
2. The owner or operator of a source subject to paragraph 1200-03-09-.02(11) has a duty to supplement or correct their application upon discovery that their application was incorrect or failed otherwise to address any facts relevant to



(Rule 1200-03-09-.02, continued)

permitting at the source. The applicant must also provide additional information as necessary to address any requirements that become applicable to the source after the date that it has filed a complete application but prior to the release of a draft permit.

3. The Board has approved and mandated the use of permit applications, instruction sheets and a completeness checklist which should facilitate the applicant's duty to provide all of the information required by 40 C.F.R. Part 70.5(c) and (d). Those requirements are printed on the completeness checklist and that information is the primary basis by which an application shall be judged for completeness. Application must be made using the forms available from the Technical Secretary. The Technical Secretary may request a refilling of applications that are illegible, vague or ambiguous. In such cases, the timelines for action on the application will restart when the clarified application is received.
4. Any application form, report, or compliance certification submitted pursuant to the requirements of paragraph 1200-03-09-.02(11) shall contain certification by a responsible official of truth, accuracy and completeness. This certification and any other certification required under paragraph 1200-03-09-.02(11) shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

(e) Permit Content -

1. The applicant shall propose the number of permits that they want and the Technical Secretary shall determine the number of permits that a facility is to receive. In determining the number of permits, consideration shall be given to the ease of evaluating compliance at a complex facility. To the extent possible, a complex facility should be divided into major operating divisions with one permit per division. Each permit issued by the Technical Secretary pursuant to the provisions of paragraph 1200-03-09-.02(11) shall include the following elements:
  - (i) Emission limitations and standards, including those operational requirements and limitations that assure compliance with all applicable requirements at the time of permit issuance.
    - (I) The permit shall specify and reference the origin of and authority for each term or condition, and identify any difference in form as compared to the applicable requirement upon which the term or condition is based.
    - (II) The permit shall state that, where an applicable requirement of the Federal Act is more stringent than the Federal regulations promulgated under title IV of the Federal Act, both provisions shall be incorporated into the permit and shall be enforceable by the Administrator.
    - (III) Sources that qualify and choose an alternate emission standard pursuant to the provisions of Chapter 1200-03-21 shall be issued a permit that contains the alternate standard with sufficient provisions to ensure that any resulting emission limit has been demonstrated to be quantifiable, accountable, enforceable and based upon replicable procedures.
  - (ii) Permit Duration - The Technical Secretary shall issue permits for a fixed term of 5 years in the case of affected sources, and for a term not to

(Rule 1200-03-09-.02, continued)

exceed 5 years in the case of all other sources. Notwithstanding this requirement, the Technical Secretary shall issue permits for solid waste incineration units combusting municipal waste subject to standards under section 129(e) of the Federal Act for a period not to exceed 12 years and shall review such permits at least every 5 years.

(iii) Monitoring and related recordkeeping and reporting requirements:

(I) Monitoring Requirements

- I. The Technical Secretary shall prescribe monitoring and related recordkeeping and reporting requirements in accordance with the powers granted to him at Chapter 1200-03-10.
- II. Where the applicable requirement does not require periodic testing or instrumental or noninstrumental monitoring (which may consist of recordkeeping designed to serve as monitoring), periodic monitoring shall be required sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the permit, as required pursuant to item 1200-03-09-.02(11)(e)1.(iii)(III). Such monitoring requirements shall assure use of such terms, test methods, units, averaging periods, and other statistical conventions consistent with the applicable requirements. Recordkeeping provisions shall be sufficient to meet the requirements of this subitem 1200-03-09-.02(11)(e)1.(iii)(I)II. if it is the judgment of the Technical Secretary that recordkeeping alone is sufficient to prove compliance; and
- III. As necessary, the Technical Secretary may impose requirements concerning the use, maintenance, and where appropriate, installation of monitoring equipment or methods.

(II) With respect to recordkeeping, the permit shall incorporate all applicable recordkeeping requirements and require, where applicable, the following:

- I. Records of required monitoring information that include the following:
  - A. The date, place as defined in the permit, and time of sampling or measurements;
  - B. The date(s) analyses were performed;
  - C. The company or entity that performed the analysis;
  - D. The analytical techniques or methods used;
  - E. The results of such analyses; and
  - F. The operating conditions as existing at the time of sampling or measurement.
- II. Retention of records of all required monitoring data and support information for a period of at least 5 years from the

(Rule 1200-03-09-.02, continued)

date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.

- (III) With respect to reporting, the permit shall incorporate all applicable reporting requirements and require the following:
- I. Submittal of reports of any required monitoring at least every 180 days. All instances of deviations from permit requirements must be clearly identified in such reports. All required reports must be certified by a responsible official consistent with part 1200-03-09-.02(11)(d)4.
  - II. Prompt reporting of deviations from permit requirements, including those attributable to upset, malfunction or emergency conditions as defined in the permit and/or Chapter 1200-03-20. The provisions of Rule 1200-03-20-.03 shall define "prompt reporting" for periods in between the 180 day reports in subitem 1200-03-09-.02(11)(e)1.(iii)(III)l.
  - III. Digital data accumulation which utilizes valid data compression techniques shall be acceptable for compliance determination as long as such compression does not violate an applicable requirement and its use has been approved in advance by the Technical Secretary.
- (iv) Permits issued to affected sources shall contain a permit condition that prohibits emissions exceeding any allowances that the source lawfully holds under title IV of the Federal Act of the Federal regulations promulgated thereunder and Chapter 1200-03-30.
- (I) The permittee shall not be subject to the permit revision requirements of subparagraph 1200-03-09-.02(11)(f) for increases in emissions that are authorized by allowances acquired pursuant to the acid rain program, provided that such increases do not require a permit revision under any other applicable requirement.
  - (II) No limit shall be placed on the number of allowances held by the source. The source may not, however, use allowances as a defense to noncompliance with any other applicable requirement.
  - (III) Any such allowance shall be accounted for according to the procedures established in the Federal regulations promulgated under title IV of the Federal Act and in State rules promulgated in Chapter 1200-03-30.
- (v) The permit requirements of a permit issued pursuant to paragraph 1200-03-09-.02(11) are severable. A dispute regarding one or more permit requirements in such a permit does not invalidate or otherwise excuse a permittee from their duty to comply with the remaining portion of the permit.
- (vi) The following general provisions shall appear on each permit issued pursuant to paragraph 1200-03-09-.02(11):

(Rule 1200-03-09-.02, continued)

- (I) The permittee shall comply with all conditions of its permit. Except for requirements specifically designated herein as not being federally enforceable, non-compliance with the permit requirements is a violation of the Federal Act and the Tennessee Air Quality Act and is grounds for enforcement action; for a permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. Non-compliance with permit conditions specifically designated herein as not being federally enforceable is a violation of the Tennessee Air Quality Act and may be grounds for these actions.
- (II) The need to halt or reduce activity is not a defense for noncompliance. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit. However, nothing in this item shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in assessing penalties for noncompliance if the health, safety or environmental impacts of halting or reducing operations would be more serious than the impacts of continuing operations.
- (III) The permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.
- (IV) The permit does not convey any property rights of any sort, or any exclusive privilege.
- (V) The permittee shall furnish to the Technical Secretary, within a reasonable time, any information that the Technical Secretary may request in writing to determine whether cause exists for modifying, revoking and reissuing, or termination of the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Technical Secretary copies of records required to be kept by the permit. If the permittee claims that such information is confidential, the Technical Secretary may review that claim and hold the information in protected status until such time that the Board can hear any contested proceedings regarding confidentiality disputes. If the information is desired by EPA, the permittee may mail the information directly to EPA.
- (vii) A permittee must pay fees in accordance with rule 1200-03-26-.02 as a condition of its permit.
- (viii) A permit revision will not be required under any approved economic incentives, marketable permits, emissions trading and other similar programs or process for changes that are provided for in the permit.
- (ix) Reasonable anticipated operating scenarios may be established in the permit to address variable operating modes at a source provided that each scenario is fully addressed in the source's application. Such scenarios are permissible only if:

(Rule 1200-03-09-.02, continued)

- (I) The source, contemporaneously with making a change from one operating scenario to another, shall record in a log at the permitted facility the scenario under which it is operating;
  - (II) The terms and conditions of each such alternate scenario shall meet all applicable requirements and the rules of Division 1200-03. The Technical Secretary is authorized to extend the permit shield described under part 1200-03-09-.02(11)(e)6. to all terms and conditions under each operating scenario.
- (x) An applicant in possession of a certificate of alternate emission control issued pursuant to the provisions of Chapter 1200-03-21 may trade emissions increases and decreases in the permitted facility to the extent that said certificate allows for such trading. The certificate and its terms shall be made part of the permit and must conform to the following requirements:
- (I) The certificate's terms shall include all terms required under part 1200-03-09-.02(11)(e)1. and part 1200-03-09-.02(11)(e)3. to determine compliance; and
  - (II) The certificate terms must meet all other applicable requirements and the rules of Division 1200-03 that were not altered by the certificate. The Technical Secretary is authorized to extend the permit shield described in part 1200-03-09-.02(11)(e)6. to all terms and conditions that allow such increase and decreases in emissions.
2. A permit issued under the provisions of paragraph 1200-03-09-.02(11) is a permit issued pursuant to the requirements of title V of the Federal Act and its implementing Federal regulations promulgated at 40 C.F.R. part 70. As such, the permittee is advised that:
- (i) All terms and conditions in a permit issued pursuant to paragraph 1200-03-09-.02(11) including any provisions designed to limit a source's potential to emit, are enforceable by the Administrator and citizens under the Federal Act.
  - (ii) Notwithstanding subpart 1200-03-09-.02(11)(e)2.(i), the Technical Secretary shall specifically designate as not being federally enforceable under the Federal Act any terms and conditions included in the permit that are not required under the Federal Act or under any of its applicable requirements. Terms and conditions so designated are not subject to the requirements of subparagraphs 1200-03-09-.02(11)(f) and 1200-03-09-.02(11)(g), other than those contained in this part 1200-03-09-.02(11)(e)2.
3. All permits issued pursuant to paragraph 1200-03-09-.02(11) shall contain the following elements with respect to compliance:
- (i) Consistent with subpart 1200-03-09-.02(11)(e)1.(iii), compliance certification, testing, monitoring, reporting, and recordkeeping requirements sufficient to assure compliance with the terms and conditions of the permit. Any document (including reports) required by a permit issued pursuant to paragraph 1200-03-09-.02(11) shall contain a certification by a responsible official that meets the requirements of part 1200-03-09-.02(11)(d)4.

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- (ii) Inspection and entry requirements that require that, upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Technical Secretary or his authorized representative to perform the following for the purposes of determining compliance with the permit applicable requirements:
  - (I) Enter upon the permittee's at reasonable times premises where a source subject to paragraph 1200-03-09-.02(11) is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;
  - (II) Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;
  - (III) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
  - (IV) As authorized by chapter 1200-03-10, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit or applicable requirements.
  - (V) "Reasonable times" shall be considered to be customary business hours unless reasonable cause exists to suspect noncompliance with the Act, Division 1200-03 or any permit issued pursuant thereto and the Technical Secretary specifically authorizes an inspector to inspect a facility at any other time.
- (iii) A schedule of compliance consistent with that declared by the applicant or as otherwise modified by the Technical Secretary utilizing the Board approved application forms in part 1200-03-09-.02(11)(d)3.
- (iv) The requirement that the permittee submit progress reports consistent with an applicable schedule of compliance and part 1200-03-09-.02(11)(d)3. The reports shall be submitted at least semiannually, or at a more frequent period if specified in the applicable requirement or by the Technical Secretary. Such progress reports shall contain the following:
  - (I) Dates for achieving the activities, milestones, or compliance required in the schedule of compliance, and dates when such activities, milestones or compliance were achieved; and
  - (II) An explanation of why any dates in the schedule of compliance were not or will not be met, and any preventative or corrective measures adopted.
- (v) The permit shall include requirements for compliance certification with terms and conditions contained in the permit, including emission limitations, standards, or work practices. Specifically, the permits shall include each of the following:
  - (I) The frequency (not less than annually or such more frequent periods as specified in the applicable requirement or by the Technical Secretary) of submissions of compliance certifications;

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- (II) A means of monitoring the compliance of the source with its emission limitations, standards and work practices. The means of monitoring shall conform to subpart 1200-03-09-.02(11)(e)1.(iii).
- (III) A requirement that compliance certification include all of the following (provided that the identification of applicable information may cross-reference the permit or previous reports, as applicable):
  - I. The identification of each term or condition of the permit that is the basis of the certification;
  - II. The identification of the method(s) or other means used by the owner or operator for determining the compliance status with each term and condition during the certification period. Such methods and other means shall include, at a minimum, the methods and means required under subpart 1200-03-09-.02(11)(e)1.(iii). If necessary, the owner or operator also shall identify any other material information that must be included in the certification to comply with section 113(c)(2) of the Federal Act (see subitem V.), which prohibits knowingly making a false certification or omitting material information;
  - III. The status of compliance with the terms and conditions of the permit for the period covered by the certification, including whether compliance during the period was continuous or intermittent. The certification shall be based on the method or means designated in subitem 1200-03-09-.02(11)(e)3.(v)(III)II. The certification shall identify each deviation and take it into account in the compliance certification. The certification shall also identify as possible exceptions to compliance any periods during which compliance is required and in which an excursion or exceedance as defined under subparagraph 1200-03-09-.02(11)(b) occurred; and
  - IV. Such other facts as the permitting authority may require to determine the compliance status of the source.
  - V. SECTION 113(c)(2) of the Federal Act SEC. 113. FEDERAL ENFORCEMENT.
    - A. Criminal Penalties.
    - B. Any person who knowingly -
      - (A) Makes any false material statement, representation, or certification in, or omits material information from, or knowingly alters, conceals, or fails to file or maintain any notice, application, record, report, plan, or other document required pursuant to this Act to be either filed or maintained (whether with respect to the requirements imposed by the Administrator or by a State);
      - (B) Fails to notify or report as required under this Act; or

(Rule 1200-03-09-.02, continued)

- (C) Falsifies, tampers with, renders inaccurate, or fails to install any monitoring device or method required to be maintained or followed under this Act shall, upon conviction, be punished by a fine pursuant to title 18 of the United States Code, or by imprisonment for not more than 2 years, or both. If a conviction of any person under this paragraph is for a violation committed after a first conviction of such person under this paragraph, the maximum punishment shall be doubled with respect to both the fine and imprisonment.
  - (IV) A requirement that all compliance certifications be submitted to the Administrator as well as to the Technical Secretary; and
  - (V) Such additional requirements as may be specified pursuant to sections 114(a)(3) and 504(b) of the Federal Act.
  - (vi) Any other compliance requirement deemed necessary by the Technical Secretary may be imposed in the permit.
4. General Permits
- (i) The Air Pollution Control Board may issue general permits for the purpose of covering numerous similar sources that are owned or operated by different persons at different facilities. A general permit satisfies the definition of a rule pursuant to the Uniform Administrative Procedures Act, T.C.A. §§ 4-5-101 et seq. As such, general permits must be promulgated as rules. The general permit must be subjected to the notice and an opportunity for public participation, as specified in part 1200-03-09-.02(11)(f)8. Further, the general permit must comply with the other requirements applicable to permits issued pursuant to paragraph 1200-03-09-.02(11). The permit must specify the eligibility criteria by which sources may qualify for the general permit. The general permits shall state the process by which a source notifies the Technical Secretary that it intends to be authorized under the general permit. The general permit shall state the means by which the Technical Secretary confirms that the source is covered by the general permit or that the source requires an individual permit. Notwithstanding the shield provisions of part 1200-03-09-.02(11)(e)6., the source operating under the provisions of a general permit shall be subject to enforcement action for operation without the permit required by paragraph 1200-03-09-.02(11) if the source requested coverage under a general permit by representing themselves to be eligible for a general permit in their notice of intent and it is later determined that the source does not qualify for the eligibility terms and conditions of the general permit. General permits shall not be authorized for affected sources under the acid rain program unless otherwise provided in regulations promulgated under title IV of the Federal Act or Chapter 1200-03-30.
  - (ii) Sources subject to the provisions of paragraph 1200-03-09-.02(11) that would qualify for a general permit must submit a notice of intent to the Technical Secretary for coverage under the terms of the general permit or must apply for the standard major stationary source operating permit consistent with subparagraph 1200-03-09-.02(11)(d) according to their choice of permitting routes as detailed in this part 1200-03-09-.02(11)(e)4.



(Rule 1200-03-09-.02, continued)

The Board may, in the general permit, provide for the requirements for the notice of intent which may deviate from the requirements of subparagraph 1200-03-09-.02(11)(d), provided that they meet the requirements of title V of the Federal Act, and include all information necessary to determine qualifications for and to assure compliance with, the general permit. When the Technical Secretary confirms that a source may operate under the terms of a general permit, that action is not subject to public participation under part 1200-03-09-.02(11)(f)8. and shall not be a final permit action for purposes of judicial review.

5. Temporary Sources

The Technical Secretary may issue a single permit authorizing emissions from similar operations by the same source owner or operator at multiple temporary locations. The operation must be temporary and involve at least one change of location during the term of the permit. No affected source shall be permitted as a temporary source. Permits for temporary sources shall include the following:

- (i) Conditions that will assure compliance with all applicable requirements at all authorized locations:
- (ii) Requirements that the owner or operator notify the Technical Secretary at least 10 days in advance of each change in location; and
- (iii) Conditions that assure compliance with all other provisions of this paragraph 1200-03-09-.02(11).

6. Permit Shield

- (i) Except as provided in paragraph 1200-03-09-.02(11), the Technical Secretary shall if requested by the applicant, expressly include in a permit issued pursuant to paragraph 1200-03-09-.02(11) a provision stating that compliance with the conditions of the permit shall be deemed compliance with any applicable requirements as of the date of permit issue, provided that:
  - (I) Such applicable requirements are included and are specifically identified in the permit; or
  - (II) The Technical Secretary, in acting on the permit application or revision, determines in writing that other requirements specifically identified are not applicable to the source, and the permit includes the determination or a concise summary thereof.
- (ii) A permit issued pursuant to paragraph 1200-03-09-.02(11) that does not expressly state that a permit shield exists shall be presumed not to provide such a shield.
- (iii) Nothing in this part or in any permit issued pursuant to paragraph 1200-03-09-.02(11) shall alter or affect the following:
  - (I) The provisions of section 303 of the Federal Act (emergency orders), including the authority of the Administrator under that section. Similarly, the provisions of T.C.A. § 68-201-109 (emergency orders) including the authority of the Governor under the section;

(Rule 1200-03-09-.02, continued)

- (II) The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;
- (III) The applicable requirements of the acid rain program, consistent with section 408(a) of the Federal Act; or
- (IV) The ability of EPA to obtain information from a source pursuant to section 114 of the Federal Act.

## 7. Emergency Provisions

- (i) Definition. An “emergency” means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology based emission limitation under the permit issued pursuant to paragraph 1200-03-09-.02(11), due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error. For the purposes of this definition, “permit issued pursuant to paragraph 1200-03-09-.02(11)” shall also include any construction permit issued under the provisions of rule 1200-03-09-.01 to a source subject to the permitting requirements of paragraph 1200-03-09-.02(11).
- (ii) An emergency constitutes an affirmative defense to an enforcement action brought against a source for noncompliance with such technology based emission limitations if the conditions of subpart 1200-03-09-.02(II)(e)7.(iii) are met.
- (iii) The affirmative defense of the emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:
  - (I) An emergency occurred and that the permittee can identify the probable cause(s) of the emergency. “Probable” must be supported by a credible investigation into the incident that seeks to identify the causes and results in an explanation supported by generally accepted engineering or scientific principles.
  - (II) The permitted facility was at the time being properly operated. In determining whether or not a facility was being properly operated, the Technical Secretary shall examine the source’s written standard operating procedures which were in effect at the time of the noncompliance and any other code as detailed below that would be relevant to preventing the noncompliance. Adherence to the source’s standard operating procedures will be the test of adequate preventative maintenance, careless operation, improper operation or operator error to the extent that such adherence would prevent noncompliance. The source’s failure to follow recognized standards of practice to the extent that adherence to such a standard would have prevented noncompliance will disqualify the source from any claim of an emergency and an affirmative defense. The Board will specifically recognize the National Fire Protection Association codes, the codes of the American National Standards Institute, the codes of the American Society of Testing Materials, the codes of the United

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States Department of Transportation, the codes of the United States Occupational Safety and Health Administration and any State of Tennessee statute or regulation if applicable. Recognition of these codes, statutes, regulations and standards of practice is limited to the test of determining whether or not a facility was operated properly for the purposes of preventing actual (not potential) noncompliance and in no way should it be viewed as the Board's imposition of the standards administered by other agencies, Boards, or organizations.

- (III) During the period of the emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit.
  - (IV) The permittee submitted notice of the emergency to the Technical Secretary according to the notification criteria for malfunctions in rule 1200-03-20-.03. For the purposes of this item 1200-03-09-.02(11)(e)7.(iii)(IV), "emergency" shall be substituted for "malfunctions(s)" in rule 1200-03-20-.03 to determine the relevant notification threshold. The notice shall include a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.
  - (iv) In any enforcement proceeding the permittee seeking to establish the occurrence of an emergency has the burden of proof.
  - (v) The provisions of this part 1200-03-09-.02(11)(e)7. are in addition to any emergency, malfunction or upset requirement contained in Division 1200-03 or other applicable requirement.
- (f) Permit Issuance, Renewal, Reopening and Revision
- 1. Action on an Application
    - (i) A permit, permit modification, or renewal may be issued only if all of the following conditions have been met:
      - (I) The Technical Secretary has received a complete application for a permit, permit modification, or permit renewal, except that a complete application need not be received before issuance of a general permit under part 1200-03-09-.02(11)(e)4.;
      - (II) Except for modifications qualifying for the minor permit modification procedures under subpart 1200-03-09-.02(11)(f)5.(ii) or subpart 1200-03-09-.02(11)(f)5.(iii), the Technical Secretary has complied with the requirements for public participation under part 1200-03-09-.02(11)(f)8.;
      - (III) The Technical Secretary has complied with the requirements for notifying and responding to affected States under part 1200-03-09-.02(11)(g)2.;
      - (IV) The conditions of the permit provide for compliance with all applicable requirements and the requirements of paragraph 1200-03-09-.02(11);

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- (V) The Administrator has received a copy of the proposed permit and any notices required under part 1200-03-09-.02(11)(g)1. and part 1200-03-09-.02(11)(g)2., and has not objected to the issuance of the permit under part 1200-03-09-.02(11)(g)3. within the time period specified therein.
- (ii) Except as otherwise required by subparagraph 1200-3-30-.06(4)(d) affected sources shall have final action taken on permit applications filed with the Technical Secretary within 18 months of the date that they file their complete permit application. The Technical Secretary is authorized to set the due date of their initial applications to mesh with their Phase II acid rain permit applications such that their initial permit will contain both acid rain requirements and standard emission/procedural requirements. The Technical Secretary is instructed to consider any guidance promulgated by the Administrator relative to meshing Title V and Title IV at affected facilities when setting such application submittal dates.
- (iii) To the extent practicable, the Technical Secretary shall give priority to the processing of operating permit applications to sources which are subject to either paragraph 1200-03-09-.01(4) or paragraph 1200-03-09-.01(5). Sources subject to paragraph 1200-03-09-.02(11) shall have final action taken on permit applications filed with the Technical Secretary within 18 months of the date that their application is deemed complete.
- (iv) The Technical Secretary shall provide notice to the applicant of whether the application is complete within 60 days of receipt of an application in his office. Unless the Technical Secretary requests additional information or otherwise notifies the applicant of incompleteness within 60 days of receipt of an application, the application shall be deemed complete. For modifications processed through minor permit modification procedures, such as those in subpart 1200-03-09-.02(11)(f)5.(ii) or subpart 1200-03-09-.02(11)(f)5.(iii) a completeness determination shall not be required of the Technical Secretary. An application that defaults to complete status through the Technical Secretary's failure to notify the applicant of its incompleteness within 60 days of his receipt, does not relieve the applicant of the duty to provide such supplemental information that the Technical Secretary must have in order to process the permit application.
- (v) The Technical Secretary shall provide a statement that sets forth the legal and factual basis for the draft permit conditions (including references to the applicable statutory or regulatory provisions). The Technical Secretary shall send this statement to EPA and to any other person provided that such person requests the statement in writing and pays a fee sufficient to pay for postage, copying costs and staff time to respond to the request.
- (vi) The submittal of a complete operating permit application shall not affect the requirement that any source have a construction permit as required under rule 1200-03-09-.01.

## 2. Requirement for a Permit

Except as provided in the following sentence, item 1200-03-09-.02(11)(a)4.(i)(I) Section 502(b)(10) changes, and item 1200-03-09-.02(11)(f)5.(ii)(V) and item 1200-03-09-.02(11)(f)5.(iii)(V), no source subject to paragraph 1200-03-09-.02(11) may operate after the time that it is required to submit a timely and complete application as provided for in subpart 1200-03-09-.02(11)(d)1.(i),

(Rule 1200-03-09-.02, continued)

except in compliance with a permit issued pursuant to paragraph 1200-03-09-.02(11). Consistent with the provisions of parts 1200-03-09-.02(11)(a)1. and 2., a source subject to paragraph 1200-03-09-.02(11) that submits a timely and complete application for permit issuance (including for renewal) will not be considered in violation of paragraph 1200-03-09-.02(11) until the Technical Secretary takes final action on the permit application, except as otherwise noted in paragraph 1200-03-09-.02(11). If the final action on a permit by the Technical Secretary has been appealed to the Board as a contested case, the application shield will remain in effect until final action of the Board. This protection shall cease to apply if, subsequent to the completeness determination made pursuant to subpart 1200-03-09-.02(11)(f)1.(iv), and as required by subpart 1200-03-09-.02(11)(d)1(ii), the applicant fails to submit by the deadline specified in writing by the Technical Secretary any additional information identified as being needed to process the application.

### 3. Permit Renewal and Expiration

- (i) Permits that are being renewed are subject to the same procedural requirements, including those for public participation, affected State and EPA review, that apply to initial permit issuance; and
- (ii) Consistent with the provisions of part 1200-03-09-.02(11)(a)2. permit expiration terminates the source's right to operate unless a timely and complete renewal application has been submitted consistent with part 1200-03-09-.02(11)(f)2. and item 1200-03-09-.02(11)(d)1.(i)(III).

### 4. Administrative Permit Amendments

- (i) An "administrative permit amendment" is a permit revision that:
  - (I) Corrects typographical errors;
  - (II) Identifies a change in the name, address, or phone number of any person identified in the permit, or provides a similar minor administrative change at the source;
  - (III) Requires more frequent monitoring or reporting by the permittee;
  - (IV) Allows for a change of ownership or operational control of a source where the Technical Secretary determines that no other change in the permit is necessary, provided that a transfer of ownership permit application is filed consistent with the provisions of paragraph 1200-03-09-.03(6) and further provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittee has been submitted to the Technical Secretary;
  - (V) Incorporates into the operating permit issued pursuant to paragraph 1200-03-09-.02(11) the requirements of a construction permit issued pursuant to rule 1200-03-09-.01 provided that the construction permit meets the requirements of subparagraph 1200-03-09-.02(11)(f), subparagraph 1200-03-09-.02(11)(g) and the compliance requirements of subparagraph 1200-03-09-.02(11)(e).

(Rule 1200-03-09-.02, continued)

- (ii) Administrative permit amendments for purposes of the acid rain portion of the permit shall be governed by regulations promulgated under title IV of the Federal Act and corresponding regulations in Chapter 1200-03-30.
  - (iii) Administrative permit amendment procedures shall be made according to the following criteria:
    - (I) The Technical Secretary shall take no more than 60 days from receipt of a request for an administrative permit amendment to take final action on such request, and may incorporate such changes without providing notice to the public or affected States provided that he designates any such permit revisions as having been made pursuant to part 1200-03-09-.02(11)(f)4.
    - (II) After making an administrative permit amendment, the Technical Secretary shall submit a copy of the revised permit to the Administrator.
    - (III) The source may implement the changes addressed in the request for an administrative amendment immediately upon submittal of the request.
  - (iv) The Technical Secretary may extend the permit shield as part of an administrative permit amendment revision consistent with the provisions of part 1200-03-09-.02(11)(e)6. for such revisions made pursuant to item 1200-03-09-.02(11)(f)4.(i)(V) which meet the relevant requirements of subparagraph 1200-03-09-.02(11)(e), subparagraph 1200-03-09-.02(11)(f) and subparagraph 1200-03-09-.02(11)(g) for significant permit modifications.
  - (v) Proceedings to review and grant administrative permit amendments shall be limited to only those parts of the permit for which cause to amend exists, and not the entire permit.
5. Permit Modifications
- (i) A permit modification is any revision to a permit issued pursuant to paragraph 1200-03-09-.02(11) that cannot be accomplished as an administrative permit amendment. A permit modification for purposes of the acid rain portion of the permit shall be governed by regulations promulgated under Title IV of the Federal Act and corresponding regulations at Chapter 1200-03-30. Proceedings to review and modify permits shall be limited to only those parts of the permit for which cause to modify the permit exists, and not the entire permit.
  - (ii) Minor permit modification procedures:
    - (I) Minor permit modification procedures may be used only for those permit modifications that:
      - I. Do not violate any applicable requirement;
      - II. Do not involve significant changes to existing monitoring, reporting or recordkeeping requirements in the permit;

(Rule 1200-03-09-.02, continued)

- III. Do not require or change a case-by-case determination of an emission limitation or other standard required by the Federal Act, or a source-specific determination for temporary sources of ambient impacts as required by the Federal Act, or a visibility or increment analysis as required by the Federal Act;
- IV. Do not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include:
  - A. A federally enforceable emissions cap assumed to avoid classification as a modification under any provision of Title I of the Federal Clean Air Act. Further, federally enforceable emission caps assumed to avoid classification as a modification under Chapter 0400-30-38, Chapter 1200-30-16, Chapter 1200-03-31, paragraph (4) of Rule 1200-03-09-.01, or paragraph (5) of Rule 1200-03-09-.01 are included in the criteria of this section.
  - B. An alternate emission limit approved pursuant to section 112(i)(5) of the Federal Act or rule 1200-03-31-.06;
- V. Are not modifications under Title I of the Federal Clean Air Act or the federal regulations promulgated pursuant thereto. Further, the minor permit modification process may be used only for changes that are not modifications under Chapter 0400-30-38, Chapter 1200-03-31, Chapter 1200-03-16, paragraph (4) of Rule 1200-03-09-.01, or paragraph (5) of Rule 1200-03-09-.01; and
- VI. Are not otherwise required in paragraph 1200-03-09-.02(11) to be processed as a significant modification.

(II) Application

An application requesting the use of minor permit modification procedures shall meet the requirements of part 1200-03-09-.02(11)(d)3. and shall include the following:

- I. A description of the change, the emissions resulting from the change, and any new applicable requirements that will apply if the change occurs;
- II. The source's suggested draft permit;
- III. Certification by a responsible official, consistent with part 1200-03-09-.02(11)(d)4., that the proposed modification meets the criteria for use of minor permit modification procedures and a request that such procedures be used; and
- IV. Completed forms for the Technical Secretary to use to notify the Administrator and affected States as required under subparagraph 1200-03-09-.02(11)(g).

(Rule 1200-03-09-.02, continued)

(III) EPA and affected State notification.

Within 5 working days of receipt of a complete permit modification application the Technical Secretary shall notify the Administrator and affected States of the requested permit modification consistent with the provisions of subpart 1200-03-09-.02(11)(g)1.(i) and subpart 1200-03-09-.02(11)(g)2.(i). The Technical Secretary shall promptly send any notice required under subpart 1200-03-09-.02(11)(g)2.(ii) to the Administrator.

(IV) The Technical Secretary shall not issue a final permit modification until after EPA's 45-day review period or until EPA has notified the Technical Secretary that EPA will not object to the issuance of the permit modification, whichever is first, although the Technical Secretary can approve the permit modification prior to that time. Within 90 days of the Technical Secretary's receipt of an application under minor permit modification procedures or 15 days after the end of the Administrator's 45-day review period under the provisions of subpart 1200-03-09-.02(11)(g)3., whichever is later, the Technical Secretary shall:

- I. Issue the permit modifications as proposed; or
- II. Deny the permit modification application; or
- III. Determine that the requested modification does not meet the minor permit modification criteria and should be reviewed under the significant modification procedures; or
- IV. Revise the draft permit modification and transmit to the Administrator the new proposed permit modification as required by part 1200-03-09-.02(11)(g)1.

(V) The source may make the change proposed in its minor permit modification immediately after it files such application. After the source makes the change allowed by the preceding sentence, and until the Technical Secretary takes any of the actions specified in subitems 1200-03-09-.02(11)(f)5.(ii)(IV)I.-III. the source must comply with both the applicable requirements governing the change and the proposed permit terms and conditions. During this time period, the source need not comply with the existing permit terms and conditions it seeks to modify. However, if the source fails to comply with its proposed permit terms and conditions during this time period, the existing permit terms and conditions it seeks to modify may be enforced against it.

(VI) Permit Shield - The permit shield under part 1200-03-09-.02(11)(e)6. may not extend to minor permit modifications.

(VII) Reserved.

(iii) Group processing of minor permit modifications:



(Rule 1200-03-09-.02, continued)

A source may group its applications for certain modifications eligible for minor permit modification processing according to the following requirements:

- (I) Criteria - Group processing of modifications may be used only for those permit modifications:
  - I. That meet the criteria for minor permit modification procedures under item 1200-03-09-.02(11)(f)5.(ii)(I); and
  - II. That are collectively below the least of the following threshold criteria levels:
    - A. 10 percent of the emissions allowed by the permit for the emissions unit for which the change is requested;
    - B. 20 percent of the applicable definition of "major source" in part 1200-03-09-.02(11)(b)14.; or
    - C. 5 tons per year.

(II) Application

An application requesting the use of the group processing of minor permit modifications procedure shall meet the requirements of part 1200-03-09-.02(11)(d)3. and shall include the following:

- I. A description of the change, the emissions resulting from the change, and any new applicable requirements that will apply if the change occurs;
- II. The source's suggested draft permit;
- III. Certification by a responsible official consistent with part 1200-03-09-.02(11)(d)4., that the proposed modification meets the criteria for use of group processing procedures and a request that such procedures be used.
- IV. A list of the source's other pending applications awaiting group processing, and a determination of whether the requested modification, aggregated with these other applications, equals or exceeds the threshold set under subitem 1200-03-09-.02(11)(f)5.(iii)(I)II.
- V. Certification, consistent with the provisions of part 1200-03-09-.02(11)(d)4., that the source has notified EPA of the proposed modification. Such notification need only contain a brief description of the requested modification.
- VI. Completed forms for the Technical Secretary to use to notify the Administrator and affected States as required under subparagraph 1200-03-09-.02(11)(g).

(III) EPA and affected State Notification;

(Rule 1200-03-09-.02, continued)

On a quarterly basis or within 5 business days of receipt of an application demonstrating that the aggregate of a source's pending applications equals or exceeds the threshold level set under subitem 1200-03-09-.02(11)(f)5.(iii)(I)II., whichever is earlier, the Technical Secretary promptly shall meet his obligation under subpart 1200-03-09-.02(11)(g)1.(i) and subpart 1200-03-09-.02(11)(g)2.(i) to notify the Administrator and affected States of the requested permit modifications. The Technical Secretary shall send any notice required under subpart 1200-03-09-.02(11)(g)2.(ii) to the Administrator.

(IV) Timetable for issuance;

The provisions of item 1200-03-09-.02(11)(f)5.(ii)(IV) shall apply to modifications eligible for group processing except that the Technical Secretary shall take one of the actions specified in subitems 1200-03-09-.02(11)(f)5.(ii)(IV)I. through IV. within 180 days of receipt of the application or 15 days after the end of the Administrator's 45 day review period under part 1200-03-09-.02(11)(g)3., whichever is later.

(V) Source's ability to make change;

The provisions of item 1200-03-09-.02(11)(f)5.(ii)(V) shall apply to modifications eligible for group processing.

(VI) Permit Shield

The provisions of item 1200-03-09-.02(11)(f)5.(ii)(VI) shall apply to modifications eligible for group processing.

(iv) Significant modification procedures

(I) Criteria

Significant modification procedures shall be used for applications requesting permit modifications that do not qualify as minor permit modifications or as administrative amendments. In addition to the criteria of the preceding sentence, a relaxation of monitoring, reporting or recordkeeping requirements shall be considered significant. In the event that the Technical Secretary issues a statement of clarification to clarify a permit requirement that is ambiguous or otherwise unclear, such clarification will not be considered a significant modification if it results in the less restrictive interpretation, provided however, that the less restrictive interpretation was the intent of the Technical Secretary in issuing the original permit requirement. Nothing herein shall be construed to preclude the permittee from making changes consistent with paragraph 1200-03-09-.02(11) that would render existing permit compliance terms and conditions irrelevant.

(II) Significant modifications shall meet all requirements of paragraph 1200-03-09-.02(11) including those for applications, public participation, review by affected States, and review by EPA, as they apply to permit issuance and permit renewal. The Technical Secretary shall endeavor to process all significant permit modification requests within 9 months after receipt of a complete

(Rule 1200-03-09-.02, continued)

application. The Technical Secretary is directed to program the resources of the Department's Division of Air Pollution Control such that at least 51 percent of the significant modification requests are processed within the 9 month period on a calendar year basis.

6. Reopening for Cause

- (i) Each issued permit shall include provisions specifying the conditions under which the permit will be reopened prior to the expiration of the permit. A permit shall be reopened and revised under any of the following circumstances:
  - (I) Additional applicable requirements under the Federal Act become applicable to a major source subject to paragraph 1200-03-09-.02(11) with a remaining permit term of 3 or more years. Such a reopening shall be completed not later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original has been extended pursuant to part 1200-03-09-.02(11)(a)2.
  - (II) Additional requirements (including excess emission requirements) become applicable to an affected source under the acid rain program. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the permit.
  - (III) The Technical Secretary or EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
  - (IV) The Technical Secretary or EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements.
- (ii) Proceedings to reopen and issue a permit shall follow the same proceedings as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists, and not the entire permit. Such reopening shall be made as expeditiously as practicable.
- (iii) Reopening under subpart 1200-03-09-.02(11)(f)6.(i) shall not be initiated before a notice of such intent is provided to the permittee by the Technical Secretary at least 30 days in advance of the date that the permit is to be reopened except that the Technical Secretary may provide a shorter time period in the case of an emergency. An emergency shall be established by the criteria of T.C.A. § 68-201-109 or other compelling reasons that public welfare is being adversely effected by the operation of a source that is in compliance with its permit requirements.

7. Reopenings for Cause by EPA

- (i) If the Administrator finds that cause exists to terminate, modify, or revoke and reissue a permit pursuant to part 1200-03-09-.02(11)(f)6., he is required under federal rules to notify the Technical Secretary and the permittee of such findings in writing. Upon receipt of such notification, the Technical Secretary shall investigate the matter in order to determine if he

(Rule 1200-03-09-.02, continued)

agrees or disagrees with the Administrator's findings. If he agrees with the Administrator's findings, the Technical Secretary shall conduct the reopening in the following manner:

- (ii) The Technical Secretary shall within 90 days after receipt of such notification, forward to EPA a proposed determination of termination, modification, or revocation and reissuance, as appropriate. If the Administrator grants additional time to secure permit applications or additional information from the permittee, the Technical Secretary shall have the additional time period added to the standard 90 day time period.
- (iii) EPA will evaluate the Technical Secretary's proposed revisions and respond as to their evaluation.
- (iv) If EPA agrees with the proposed revisions, the Technical Secretary shall proceed with the reopening in the same manner prescribed under subparts 1200-03-09-.02(11)(f)6.(ii) and (iii).
- (v) If the Technical Secretary disagrees with either the findings of the Administrator that a permit should be reopened or an objection of the Administrator to a proposed revision to a permit submitted pursuant to subpart 1200-03-09-.02(11)(f)7.(ii), he shall bring the matter to the Board at its next regularly scheduled meeting for instructions as to how he should proceed. The permittee shall be required to file a written brief expressing their position relative to the Administrator's objection and have a responsible official present at the meeting to answer questions of the Board. If the Board agrees that EPA is wrong in their demand for a permit revision, they shall instruct the Technical Secretary to conform to EPA's demand, but to issue the permit under protest preserving all rights available for litigation against EPA.

## 8. Public Participation

- (i) Except for modifications qualifying for minor permit modifications procedures, all permit proceedings, including initial permit issuance, significant modifications and renewals, shall provide adequate procedures for public notice including offering an opportunity for public comment and a hearing on the draft permit. These procedures shall include the following:
  - (l) Notice shall be given via electronic notice on the Department's website or by other means designated by the Technical Secretary if necessary to assure adequate notice to the affected public. Should newspaper publication of the notice be deemed necessary the applicant shall bear the expense of publishing the newspaper notice in a newspaper of general circulation in the area where the source is located. The electronic notice shall be available for the duration of the public comment period and any notice under this item shall include the notice of public comment, the draft permit, information on how to access the administrative record for the draft permit, and how to request and/or attend a public hearing on the draft permit. Notice shall also be given by the Technical Secretary to persons on a mailing list who meet the following criteria:
    - I. Such persons shall request to be on the list in writing on an annual basis.

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- II. Such persons shall pay a fee of \$10.00 per year to the Department to defray the cost of postage and handling and list management.
    - (II) The notice shall identify the facility to be permitted; the name and address of the permittee; the Technical Secretary and his address; the activity or activities involved in the permit action; the emission change involved in any permit modification; the name, address and telephone number of a person from whom interested parties may obtain additional information, including copies of the permit draft, the application, all relevant supporting materials including the source's compliance plan and monitoring reports, and all other materials available to the Technical Secretary that are relevant to the permit decision. These materials will be placed in a public depository for public inspection. Those persons unwilling to view these materials at the public depositories may request copies to be mailed to them at a cost of \$0.50 (50 cents) per page. The notice shall also include a brief description of the comment procedure specified in part 1200-03-09-.02(11)(f)8.; and the time and place of any hearing that may be held, including a statement of procedures to request a hearing (unless a hearing has already been scheduled);
    - (III) The Technical Secretary shall provide such notice and opportunity for participation by affected States as is provided for by subparagraph 1200-03-09-.02(11)(g);
    - (IV) The Technical Secretary shall provide at least 30 days for public comment and shall give notice of any public hearing at least 30 days in advance of the hearing.
    - (V) The Technical Secretary shall keep a record of the commentors and also of the issues raised during the public participation process so that the Administrator may fulfill his obligation under Section 505(b)(2) of the Federal Act to determine whether a citizen petition may be granted, and such records shall be available to both the public and the applicant.
- (g) Permit Review by EPA and Affected States
- 1. Transmission of Information to the Administrator
    - (i) The Technical Secretary shall provide a copy of each permit application submitted pursuant to the provisions of paragraph 1200-03-09-.02(11) to the Administrator. Upon agreement with the Administrator the Technical Secretary is permitted to send less than a complete copy to the Administrator as long as the Administrator is satisfied with the level of detail in the partial submittal. Additionally, the Technical Secretary shall provide the Administrator a copy of each proposed permit and each final permit that will be issued to a source subject to the provisions of paragraph 1200-03-09-.02(11).
    - (ii) The Technical Secretary shall keep for 5 years such records and submit to the Administrator such information as the Administrator may reasonably require to ascertain whether or not the provisions of paragraph 1200-03-09-.02(11) are being followed.

(Rule 1200-03-09-.02, continued)

2. Review by affected States

- (i) The Technical Secretary shall give notice of each draft permit prepared pursuant to the provisions of paragraph 1200-03-09-.02(11) to any affected State on or before the time that he provides this notice to the public under part 1200-03-09-.02(11)(f)8., except to the extent that subpart 1200-03-09-.02(11)(f)5.(ii) or subpart 1200-03-09-.02(11)(f)5.(iii) requires the timing of the notice to be different. The affected State review and comment period shall close simultaneously with the closure of the public review and comment period. The affected States will have thirty days to review and comment upon minor modifications.
- (ii) The Technical Secretary shall notify the Administrator and any affected State in writing of his refusal to accept all recommendations for the proposed permit that the affected State submitted during the public or affected State review period. Said notice shall be filed when the proposed permit is sent to the Administrator or as soon as possible after the submittal for minor permit modification procedures allowed under subpart 1200-03-09-.02(11)(f)5.(ii) or subpart 1200-03-09-.02(11)(f)5.(iii). The notice shall include the Technical Secretary's reasons for not accepting any such recommendation. The Technical Secretary is not required to accept recommendations that are not based upon applicable requirements or the requirements of 40 C.F.R. Part 70.

3. EPA Objection

- (i) No permit for which an application must be transmitted to the Administrator under part 1200-03-09-.02(11)(g)1. shall be issued if the Administrator objects to its issuance in writing within 45 days of receipt of the proposed permit and its level of supporting information as prescribed in subpart 1200-03-09-.02(11)(g)1.(i).
- (ii) The Technical Secretary shall respond to the objections of the Administrator and restructure the permit consistent with the provisions of the Federal Act, federal regulations promulgated thereunder or any lawfully promulgated federal policy and the provisions of the State Act, the regulations comprising Division 1200-03 and any policies of the Board.

4. Public Petitions to the Administrator

Any person can petition the Administrator to object to a permit according to the criteria of 40 C.F.R. 70.8(d). An objection to a permit by the Administrator that is filed in response to a public petition under the provisions of paragraph 40 C.F.R. 70.8(d) shall be answered by the Technical Secretary in the same manner prescribed by subpart 1200-03-09-.02(11)(g)3.(ii). If the Technical Secretary has issued the permit prior to the Administrator's objection in response to a public petition, the Administrator's modification, revocation or termination of the issued permit shall not cause the source to be in violation of the requirement to have submitted a timely and complete application as specified in part 1200-03-09-.02(11)(d)1. and in keeping with the application shield provisions of part 1200-03-09-.02(11)(f)2. If the Technical Secretary disagrees with the Administrator's objections and demand for revision of the permit, the provisions of subpart 1200-03-09-.02(11)(f)7.(v) shall apply.

- (12) The Technical Secretary may elect to issue minor source combination construction/operating permits. Sources issued such permits are considered to be in compliance with paragraph (1)

(Rule 1200-03-09-.02, continued)

of Rule 1200-03-09-.01 and paragraphs (1), (2), and (3) of this rule if all conditions in the permit are complied with and the permittee applies for renewal of the operating permit as specified in the permit.

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-201-101, et seq. **Administrative History:** Original rule certified June 7, 1974. Amendment filed and effective February 9, 1977. Amendment filed and effective March 21, 1979. Amendment filed May 17, 1990; effective July 1, 1990. Amendment filed July 8, 1994; effective September 20, 1994. Amendment filed May 11, 1998; effective July 25, 1998. Amendment filed October 15, 1998; effective December 28, 1998. Amendment filed November 12, 1998; effective January 26, 1999. Amendment filed December 14, 1999; effective February 27, 2000. Amendment filed December 30, 1999; effective March 14, 2000. Amendments filed February 24, 2009; effective May 10, 2009. Amendments filed November 10, 2010; effective February 8, 2011. Amendment filed August 29, 2011; effective November 27, 2011. Amendment filed September 11, 2015; effective December 10, 2015. Amendments filed May 17, 2017; effective August 15, 2017. Amendments filed June 6, 2018; effective September 4, 2018. Amendments filed October 23, 2020; effective January 21, 2021. Amendments filed September 29, 2022; effective December 28, 2022.

### 1200-03-09-.03 GENERAL PROVISIONS.

- (1) Notwithstanding the provisions of the preceding paragraphs of this chapter, the owner or operator of any air contaminant source shall be responsible for complying with emission regulations as contained in other chapters of these regulations at the earliest practicable time and for this purpose the Board shall have the authority and responsibility to require compliance with these regulations at an earlier date than indicated where such earlier compliance may reasonably be accomplished.
- (2) No person shall use any plan, activity, device, or contrivance which the Technical Secretary determines will, without resulting in an actual reduction of air contaminants, conceal or appear to minimize the effects of an emission which would otherwise constitute a violation of these regulations. Methods considered circumvention of the regulations include but are not limited to the following:
  - (a) Air (or other gases) introduced for dilution purposes only.
  - (b) The staggered installation and operation of a facility to avoid coverage by a standard that applies only to operations larger than a specified size.
- (3) No person shall discharge from any source whatsoever such quantities of air contaminant, uncombined water, or other materials which cause a traffic hazard.
- (4) Any person affected by any of these regulations shall file emissions data with the Technical Secretary on forms available from the Secretary. If any changes are made that invalidate this data, the owner or operator shall file within thirty (30) days new forms with the appropriate revisions to the data.
- (5) Any source operating under a variance or Board Order (whether effective under T.C.A. §§ 68-25-116 or 68-25-118) shall prominently and conspicuously display a copy of said variance or Board Order on the operating premises.
- (6) Ownership Change
  - (a) An operating permit, construction permit, notice of coverage, or notice of authorization is transferable from one person to another person provided that:
    1. Written notification of the ownership change is submitted to the Technical Secretary no later than thirty (30) days after the change; and

(Rule 1200-03-09-.03, continued)

2. The new owner or operator:
  - (i) Does not make any changes to the stationary source that meet the definition of modification as defined in this Division 1200-03 or Division 0400-30, and
  - (ii) Agrees to abide by the terms of the permit or notice of coverage or authorization, Division 1200-03, Division 0400-30, the Tennessee Air Quality Act, and any documented agreements made by the previous owner to the Technical Secretary.
- (b) No operating permit, construction permit, notice of coverage, or notice of authorization is transferable from one air contaminant source to another air contaminant source or from one location to another location. The new operating permit, construction permit, notice of coverage, or notice of authorization required by this subparagraph will be governed by rules in effect at the time of its issuance.
- (7) The Technical Secretary may suspend or revoke any construction permit, operating permit, notice of coverage, or notice of authorization if the holder fails to comply with the provisions, stipulations, or compliance schedules specified in the permit, notice of coverage, or notice of authorization; Division 1200-03; Division 0400-30; and the Tennessee Air Quality Act. Upon suspension or revocation of a permit or notice of coverage or authorization, if the holder fails to take remedial action, then the holder shall become immediately subject to additional enforcement actions prescribed by law.
- (8) The Technical Secretary may include on all permits issued under the Tennessee Air Quality Act conditions to directly impose all provisions applicable to sources that are necessary under the federal Clean Air Act and effective federal regulations pursuant to this act, e.g., National Emission Standards for Hazardous Air Pollutants, as well as provisions necessary under Tenn. Code Ann. §§ 68-201-101 et seq. and rules of this Division 1200-03. Issuance of a permit containing conditions imposing such applicable provisions necessary under the federal Clean Air Act and effective federal regulations pursuant to this act shall not be treated as a repeal by implication of any otherwise applicable provisions of Division 1200-03. That is, simply the inclusion of such conditions containing federal standards or requirements that are less restrictive than standards or requirements in Division 1200-03 concerning the same matter shall not thereby effect a relaxation of the more restrictive provisions of Division 1200-03.

**Authority:** T.C.A. §§ 4-5-202, et seq.; 68-25-105; 68-201-101, et seq.; and 68-201-105. **Administrative History:** Original rule certified June 7, 1974. Amendment filed and effective February 9, 1977. Amendment filed September 22, 1988; effective November 6, 1988. Amendment filed May 17, 1990; effective July 1, 1990. Amendment filed July 20, 1999; effective October 2, 1999. Amendment filed July 22, 2003; effective October 5, 2003. Amendment filed February 24, 2009; effective May 10, 2009. Amendments filed May 17, 2017; effective August 15, 2017.

#### **1200-03-09-.04 EXEMPTIONS.**

- (1) The permit exemptions listed in paragraph (4) of this rule do not apply if an air contaminant source is subject to a standard or requirement contained in the following, except if the air contaminant source belongs to a source category listed in paragraph (5) of Rule 1200-03-09-.07, even if the source itself is not eligible for authorization, or except where specifically stated:

Chapter 0400-30-38 (Emission Standards for Hazardous Air Pollutants);  
Chapter 1200-03-18 (Volatile Organic Compounds);



(Rule 1200-03-09-.04, continued)

Chapter 1200-03-19 (Emission Standards and Monitoring Requirements for Additional Control Areas);  
Chapter 1200-03-22 (Lead Emission Standards);  
Chapter 1200-03-27 (Nitrogen Oxides); and  
Paragraph (2) of Rule 1200-03-31-.05 (Standards for New Sources).

In addition, the exemption provided for the air contaminant sources in paragraph (4) of this rule does not exempt the sources from inclusion in determining if a major stationary source or major modification construction permit is required under paragraphs (4) and (5) of Rule 1200-03-09-.01.

(2) (a) Definitions.

As used in paragraphs (1), (2), (3), and (4) of this Rule, all terms not defined herein shall have the meaning given them in Paragraph 1200-03-09-.02(11) and Chapter 1200-03-02 with the terms in Paragraph 1200-03-09-.02(11) taking precedence over Chapter 1200-03-02.

1. "Emissions unit" means any part or activity of a stationary source that emits or has the potential to emit any regulated air pollutant or any pollutant listed in paragraph 1200-03-31-.02(6). Emissions unit includes within its meaning the smallest discrete or identifiable structure, device, item, equipment, or enclosure or group of discrete or identifiable structures, devices, items, equipment, or enclosures that emit or have the potential to emit any regulated air pollutant or any pollutant listed in paragraph 1200-03-31-.02(6). A point of origin of fugitive emissions resulting from equipment leaks of individual pieces of equipment, e.g., valves, flanges, pumps, and compressors, shall not be considered an individual emissions unit. Such equipment leaks shall be collectively considered an emissions unit based on their relationship to the associated process unit and shall be considered separately from other emissions from the process unit when defining insignificant emissions.
2. "Fugitive emissions" are those emissions which could not reasonably pass through a stack, chimney, vent, or other functionally-equivalent opening.
3. "Insignificant activity" or "insignificant emissions unit" means any activity or emissions unit at a stationary source for which the emissions unit or activity has the potential to emit less than 5 tons per year of each air contaminant and each regulated air pollutant that is not a hazardous air pollutant, and less than 1,000 pounds per year of each hazardous air pollutant unless specifically excluded from designation as an insignificant activity or insignificant emissions unit elsewhere in this Division 1200-03 or Division 0400-30.
4. "Potential to emit" means the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation is federally enforceable.
5. "Process unit" means equipment assembled and connected by pipes or ducts to manufacture an intended product. A process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the product.

(Rule 1200-03-09-.04, continued)

6. "Regulated air pollutant" has the same definition as found in subparagraph 1200-03-09-.02(11)(b)19.
  7. "Stationary source" means any building, structure, facility, or installation that emits or may emit any regulated air pollutant or any pollutant listed under paragraph 1200-03-31-.02(6).
  8. "Applicable requirement" has the same definition as in part 1200-03-09-.02(11)(b)5.
  9. "Federally enforceable" means any emission standard and/or procedural requirement that can be enforced against an air contaminant source by EPA or citizens under authority granted them by the Federal Act.
  10. "Hazardous air pollutant" means any air contaminant regulated in Chapter 0400-30-38, or listed in paragraph (6) of Rule 1200-03-31-.02.
- (b) Notwithstanding the permit exemptions granted in paragraph (4) of this rule, no person shall discharge, from any source whatsoever, such quantities of air contaminants or other materials which cause or have a tendency to cause injury, detriment, annoyance, or adverse effect to the public.
- (c) Notwithstanding any other provision of Division 1200-03 and Division 0400-30, no emissions unit or activity subject to a federally enforceable applicable requirement not included in this Division 1200-03 or Division 0400-30 (other than generally applicable requirements of the state implementation plan) shall qualify as an insignificant emissions unit or activity. For purposes of this paragraph, generally applicable requirements of the state implementation plan are those federally enforceable requirements that apply universally to all emission units or activities without reference to specific types of emission units or activities except for the sulfur dioxide standards for those categories and classes included in Chapter 1200-03-14.
- (d) Designation of an emissions unit or activity as insignificant for purposes of this rule does not exempt the unit or activity from any applicable requirement.
- (e) The emissions from any exempt air contaminant source shall comply with all applicable rules and regulations of the Tennessee Air Pollution Control Board.
- (3) Any person may request that a federally enforceable permit be issued for any of the air contaminant sources that are exempted in paragraph 1200-03-09-.04(4). "Federally enforceable" shall have the meaning as provided in paragraph 1200-03-09-.02(11).
- (4) The list of exempted air contaminant sources contained in this paragraph shall not be used as "insignificant activities" or "insignificant emission units" when applying for a major source operating permit under paragraph 1200-03-09-.02(11). These exemptions shall not be used to lower the source's potential to emit below "major source" applicability thresholds or to avoid any "applicable requirement". Otherwise, no person shall be required to obtain or file a request for a permit due to ownership, operation, construction, or modification of the following types of air contaminant sources unless specifically required to do so by the Board or as provided for in paragraph (3) of this rule:
- (a) Any "insignificant activity" or "insignificant emissions unit":
- In order to receive designation as an "insignificant activity" or "insignificant emissions unit", a written notification must be submitted to the Technical Secretary. The notification for designation shall include calculations and sufficient documentation to

(Rule 1200-03-09-.04, continued)

substantiate the applicant's claim. Upon receipt of the notification, the Technical Secretary will respond with a determination of agreement or disagreement with the applicant's claim. In issuance of determination as "insignificant", the Technical Secretary may base the determination upon any criteria that are relevant to the determination. For new sources, the request for designation must be made at least 30 days prior to the estimated starting date of construction. For new sources, if it is determined that the emissions unit does not qualify as an "insignificant emissions unit", the source must apply for a construction permit. The request for designation as an "insignificant emissions unit" may be made at any time for an existing source. In the absence of being designated as an "insignificant emissions unit" by the Technical Secretary under subparagraph 1200-03-09-.04(4)(a) or in the absence of being exempt under subparagraphs 1200-03-09-.04(4)(b) or 1200-03-09-.04(4)(c), any emission unit or activity must have a valid construction and / or operating permit.

- (b) The categorical emission units or activities listed in subparagraph 1200-03-09-.04(5)(f), excluding parts 1. and 2.

To be categorically insignificant, with the exception of parts 19. and 84., the emissions unit or activity must have a potential to emit less than 5 tons per year of each air contaminant and each regulated air pollutant that is not a hazardous air pollutant, and less than 1,000 pounds per year of each hazardous air pollutant. Such emission units or activities, with the exception of parts 19. and 84., are not required to be listed in the construction or operating permit applications for the facility.

- (c) The emission units or activities listed in subparagraph 1200-03-09-.04(5)(g). Such emission units or activities are not required to be listed in the construction or operating permit applications for the facility.

- (d) Any one of the following emission units or activities:

Such emission units or activities are not required to be listed in the construction or operating permit applications for the facility.

1. Fuel burning equipment of less than 500,000 Btu per hour capacity. This exemption shall not apply where the total capacity of such equipment operated by one person exceeds 2.00 million Btu per hour.
2. Single stack of an air contaminant source that emits no hazardous air contaminants or pollutants, and which does not have the potential for emitting more than 0.50 pounds per hour of nonhazardous particulates and 0.5 pounds per hour of any regulated nonhazardous gas (particulates and gases not defined as hazardous air contaminants or pollutants), provided that the total potential particulate emissions from the air contaminant source amounts to less than two (2) pounds per hour, and the total regulated gaseous emissions from the air contaminant source amounts to less than two (2) pounds per hour. For the purpose of this part, an air contaminant source includes all sources located within a contiguous area, and under common control.
3. Any air contaminant source constructed and operated at a domestic residence solely for domestic use.
4. Equipment used exclusively to store, hold, or distribute natural gas or propane excluding all associated fuel burning equipment not specifically exempted.
5. Brazing, soldering, or welding equipment which does not emit lead in amounts equal to or greater than 0.5 tons per year.

(Rule 1200-03-09-.04, continued)

6. Sources that are not owned or operated by the State within the counties of Shelby, Davidson, Hamilton, and Knox until such time as the Board shall determine that air pollution is not being controlled in such county to a degree at least as stringent as the substantive provisions of the Tennessee Air Quality Act and regulations adopted pursuant thereto. This exemption does not apply to any air contaminant source in those counties if the local regulation is less stringent than the applicable state regulation.
7. Automobile body shops not subject to the requirements of 40 CFR 63 subpart HHHHHH, including paint spraying, grinding and polishing operations. This exemption does not apply to sources in ozone nonattainment areas which emit more than 15 pounds per day of volatile organic compounds.
8. Any process emission source emitting less than 0.1 pounds per hour of a pollutant.
9. Any emission unit with the potential to emit radionuclides which will result in a dose to the most exposed member of the public of less than 0.1 millirem per year. Even though radionuclide air contaminant sources are regulated under Chapter 0400-30-38, this exemption is still valid except that recordkeeping and reporting requirements must be met.
10. Any modification (as defined in Rule 1200-03-02-.01) to an existing process emission source, incinerator, or fuel-burning installation to add sources of equipment leaks (e.g. valves, flanges, pumps, compressors, etc.) as long as the estimated increase in annual emissions attributable to the modification does not exceed 5 tons per year. However, such emissions increases shall be considered when making major modification determinations pursuant to paragraphs 1200-03-09-.01(4) and (5).
11. All livestock (including poultry) operations and associated fuel burning and incineration equipment. This exemption from permitting requirements does not extend to:
  - (i) An incineration unit which has a manufacturer's rated capacity greater than 500 pounds per hour or has a total burner rated capacity greater than 400,000 Btu per hour.
  - (ii) An incineration unit into which is charged materials or wastes other than livestock and poultry carcasses; or
  - (iii) A commercial incineration unit.
12. All storage tanks with a capacity less than 10,000 gallons and all process tanks with a capacity less than 3,000 gallons.
13. Mobile sources such as: automobiles, trucks, buses, locomotives, planes, boats, and ships. This exemption only applies to the emissions from the internal combustion engines used exclusively to propel such vehicles.
14. Diesel fuel or fuel oil storage tanks with a capacity of forty thousand (40,000) gallons or less.
15. Surface coating and degreasing operations which do not exceed a combined total usage of more than 60 gallons/month of coatings, thinners, clean-up

(Rule 1200-03-09-.04, continued)

- solvents, and degreasing solvents at any one plant location, and do not exceed 1,000 pounds per year of each hazardous air pollutant.
16. Repair and maintenance, cleaning and degreasing operations which do not exceed more than 145 gallons in any twelve (12) month period, and do not exceed 1,000 pounds per year of each hazardous air pollutant.
  17. Fuel burning sources that are either gas fired or #2 oil fired with a heat input rate under 10 million Btu/hour, where the combined total heat input rate at each location does not exceed 10 million Btu/hour.
  18. Machining of metals where total solvent usage does not exceed more than 60 gallons/month at any one plant location, and does not exceed 1,000 pounds per year of each hazardous air pollutant.
  19. Equipment used exclusively for steam or dry cleaning of fabrics, plastics, rubber, wood, or vehicle engines or drive trains, provided the total solvent usage on all equipment of this type at the same plant location is less than 60.0 gallons per month, and does not exceed 1,000 pounds per year of each hazardous air pollutant.
  20. Heat treating, soaking, case-hardening, or surface conditioning of metal objects, such as carbonizing, nitriding, carbonitriding, siliconizing, or diffusion treating using sweet natural gas or liquid petroleum gas as in process fuel and where the heat input rate is under 10 million Btu per hour.
  21. Natural gas fired and #2 oil fired ovens which have no emissions other than products of combustion which have a heat input rate under 10 million Btu per hour.
  22. Degreasing operations with solvent usage less than 30 gallons/month, and where hazardous air pollutant emissions are less than 1,000 pounds per year.
  23. Silk screen operations with solvent usage less than 30 gallons per month, and where hazardous air pollutant emissions are less than 1,000 pounds per year.
  24. The procedures for the on-site remediation of soil or water contaminated with organic compounds as follows:
    - (i) Landspreading, aeration or bioremediation of contaminated soil.
    - (ii) Negative pressure venting of contaminated soil, provided the remediation is completed within 18 months and volatile organic compound emissions do not exceed one (1) pound per hour.
    - (iii) Installation and use of air strippers for treatment of contaminated water, provided the remediation is completed within 18 months, and the emissions are no more than 5 tons per year of any regulated pollutant that is not a hazardous air pollutant, and less than 1,000 pounds per year of each hazardous air pollutant.
  25. Temporary-use air curtain destructors or temporary-use air curtain incinerators used in disaster recovery solely for disposal of materials resulting from a natural disaster, and when conducted in conformity with the following conditions:

(Rule 1200-03-09-.04, continued)

- (i) Fires disposing of structural and household materials and vegetation are allowed only when those structures or materials are destroyed or severely damaged by natural disaster. The air curtain destructor or air curtain incinerator shall only be used to combust debris in an area declared a State of Emergency by a local or State government, or the President, under the authority of the Stafford Act, has declared that an emergency or a major disaster exists in the area. Input from Emergency Management personnel may be requested in determining qualification with this criterion.
  - (ii) The maximum rated capacity for each temporary-use air curtain destructor or temporary-use air curtain incinerator shall not exceed 35 tons per day per unit.
  - (iii) The persons using temporary-use air curtain destructors or temporary-use air curtain incinerators under this provision must make a reasonable effort to remove all tires and other rubber products, vinyl shingles and siding, vinyl flooring, carpet, other plastics, asphalt shingles and other asphalt roofing materials, and/or asbestos containing materials from the materials to be burned before ignition. The Technical Secretary reserves the right to inspect the proposed materials to be burned before ignition. The alternative use of chippers and grinders, landfilling, or on-site burial of waste in lieu of burning, if lawful, is encouraged.
  - (iv) The person responsible for such burning must notify the Division of Air Pollution Control of the proposed location. The notification must be delivered to the Division of Air Pollution Control at the appropriate regional Environmental Field Office at least three (3) days prior to commencing the burn. The Division may request that alternate sites be identified to minimize impact to air quality. The alternative use of chippers and grinders in lieu of burning is encouraged.
  - (v) No fire shall be ignited while any air pollution emergency episode is in effect in the area of the burn.
  - (vi) The air curtain destructor or air curtain incinerator shall only be used during a period that begins on the date the unit started operation and lasts 8 weeks or less within the boundaries of the same emergency or disaster declaration area.
  - (vii) Disposal via temporary-use air curtain destructors or temporary-use air curtain incinerators conducted under this exception is only allowed where no other safe and/or practical means of disposal is available.
  - (viii) The Technical Secretary reserves the right to require a person to cease or limit burning if emissions from the air curtain destructor or air curtain incinerator are deemed by the Technical Secretary or his designee to jeopardize public health or welfare, create a public nuisance or safety hazard, create a potential safety hazard, or interfere with the attainment or maintenance of the air quality standards.
- (5) Major Source Operating Permits Insignificant Emission Units
- (a) Definitions.

(Rule 1200-03-09-.04, continued)

As used in this Rule, all terms not defined herein shall have the meaning given them in Paragraph 1200-03-09-.02(11) and Chapter 1200-03-02 with the terms in Paragraph 1200-03-09-.02(11) taking precedence over Chapter 1200-03-02.

1. "Emissions unit" means any part or activity of a stationary source that emits or has the potential to emit any regulated air pollutant or any pollutant listed in paragraph 1200-03-31-.02(6). Emissions unit includes within its meaning the smallest discrete or identifiable structure, device, item, equipment, or enclosure or group of discrete or identifiable structures, devices, items, equipment, or enclosures that emit or have the potential to emit any regulated air pollutant or any pollutant listed in paragraph 1200-03-31-.02(6). A point of origin of fugitive emissions resulting from equipment leaks of individual pieces of equipment, e.g., valves, flanges, pumps, and compressors, shall not be considered an individual emissions unit. Such equipment leaks shall be collectively considered an emissions unit based on their relationship to the associated process unit and shall be considered separately from other emissions from the process unit when defining insignificant emissions.
2. "Federal Act" has the same definition as found in subparagraph 1200-03-09-.02(11)(b).
3. "Fugitive emissions" are those emissions which could not reasonably pass through a stack, chimney, vent, or other functionally-equivalent opening.
4. "Insignificant activity" or "insignificant emissions unit" means any activity or emissions unit which qualifies as insignificant based on any one of the following:
  - (i) Any air emissions from an air emissions unit or activity at a stationary source for which the emissions unit or activity has a potential to emit less than 5 tons per year of each regulated air pollutant that is not a hazardous air pollutant, and less than 1,000 pounds per year of each hazardous air pollutant. Such emission units and activities or types of emission units and activities must be listed in the permit application.
  - (ii) The emission unit or activity, with the exception of parts 19. and 84., is listed in subparagraph (5)(f) as not having to be included in a Title V application. For an activity listed in subparagraph (5)(f), with the exception of parts 1., 2., 19., and 84., the emissions unit or activity must have a potential to emit less than 5 tons per year of each regulated air pollutant that is not a hazardous air pollutant, and less than 1,000 pounds per year of each hazardous air pollutant.
  - (iii) The emission unit or activity is listed in subparagraph (5)(g) as not having to be included in a Title V application.
  - (iv) Any emission unit with the potential to emit radionuclides which will result in a dose to the most exposed member of the public of less than 0.1 millirem per year. Such emission unit must be listed in the permit application.
  - (v) Any emission units or activities considered by the Division to be insignificant and approved by EPA. The Division shall maintain a list of emission units or activities which are considered to be insignificant by the Division and EPA. Such emission units or activities must be listed in the permit application.

(Rule 1200-03-09-.04, continued)

5. "Potential to emit" means the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation is enforceable by the Administrator. This term does not alter or affect the use of this term for any other purposes under the Federal Act, or the term "capacity factor" as used in title IV of the Federal Act or the Federal regulations promulgated thereunder or Chapter 1200-03-30.
6. "Process unit" means equipment assembled and connected by pipes or ducts to manufacture an intended product. A process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the product.
7. "Regulated air pollutant" has the same definition as found in subparagraph 1200-03-09-.02(11)(b).
8. "Stationary source" means any building, structure, facility, or installation that emits or may emit any regulated air pollutant or any pollutant listed under paragraph 1200-03-31-.02(6).
9. "Major source" has the same definition as in part 1200-03-09-.02(11)(b)14.
10. "Applicable requirement" has the same definition as in part 1200-03-09-.02(11)(b)5.
11. "EPA" or the "Administrator" means the Administrator of the EPA or his designee.
12. "Permit revision" means any permit modification or administrative permit amendment.
13. "Renewal" means the process by which a permit is reissued at the end of its term.
14. "Federally enforceable" means any emission standard and/or procedural requirement that can be enforced against an air contaminant source by EPA or citizens under authority granted them by the Federal Act.
15. "Hazardous air pollutant" means any air contaminant regulated in Chapter 0400-30-38 or listed in paragraph (6) of Rule 1200-03-31-.02.

(b) General

1. This paragraph contains criteria for identifying insignificant emission units or activities for purposes of issuance of major stationary source operating permits, Paragraph 1200-03-09-.02(11).
2. Notwithstanding the classifications as insignificant emissions units or activities granted in this paragraph, no person shall discharge, from any source whatsoever, such quantities of air contaminants or other materials which cause or have a tendency to cause injury, detriment, annoyance, or adverse effect to the public.



(Rule 1200-03-09-.04, continued)

3. Designation of an emission unit or activity as insignificant for purposes of this paragraph and paragraph 1200-03-09-.02(11) does not exempt the unit or activity from any applicable requirement.
4. No insignificant activities or emission units shall be exempt from inclusion in the permit application if the information omitted is needed to:
  - (i) Determine or impose any applicable requirement, or the requirement to obtain a permit under paragraph 1200-03-09-.02(11).
  - (ii) Determine if a source is major.

(c) Applicable Requirements

1. Notwithstanding any other provision of paragraph (11) of Rule 1200-03-09-.02, no emissions unit or activity subject to a federally enforceable applicable requirement not included in this Division 1200-03 or Division 0400-30 (other than generally applicable requirements of the state implementation plan) shall qualify as an insignificant emissions unit or activity. For purposes of this paragraph, generally applicable requirements of the state implementation plan are those federally enforceable requirements that apply universally to all emission units or activities without reference to specific types of emission units or activities except for the sulfur dioxide standards for those categories and classes included in Chapter 1200-03-14.
2. The permit application shall list and the permit shall contain all generally applicable requirements that apply to insignificant emission units or activities at the major source. For compliance purposes, the Technical Secretary may require monitoring, recordkeeping, and reporting for insignificant emission units or activities.
3. Any emission unit or activity which is a subset of a process emission source, fuel burning installation, or incinerator, and which has a potential to emit less than 5 tons per year of a regulated air pollutant, by annual certification of compliance as required in item (11)(d)1.(ii)(l) of Rule 1200-03-09-.02, may, at the discretion of the Technical Secretary, be considered to meet the monitoring and related recordkeeping and reporting requirements of subpart (11)(e)1.(iii) of Rule 1200-03-09-.02 and part (2)(b)1. of Rule 1200-03-10-.04, and the compliance requirements of subpart (11)(e)3.(i) of Rule 1200-03-09-.02 for that regulated air pollutant except where generally applicable requirements of the state implementation plan specifically impose monitoring and related record keeping and reporting requirements, or except where any applicable procedures and methods are required pursuant to Rule 1200-03-10-.04. This provision shall not relieve any emissions unit or activity from any applicable standard or requirement under Chapters 0400-30-38 and 1200-03-31, and subparagraph (1)(dd) of Rule 1200-03-02-.01.

(d) Reserved.

(e) Documentation

1. Upon request from the Technical Secretary the applicant must provide sufficient documentation to enable the Technical Secretary to determine that the emission unit or activity has been appropriately listed on the permit application as insignificant.

(Rule 1200-03-09-.04, continued)

2. Upon request from the Technical Secretary, at any time during the term of the permit, an applicant who lists an activity or emissions unit as insignificant under subpart 1200-03-09-.04(5)(a)4.(i) of this paragraph shall demonstrate to the Technical Secretary that the actual emissions of the unit or activity are below the emission thresholds listed in that subpart.
- (f) Unless specifically required under part (b)4. of this paragraph, the following emission units or activities, or stationary sources that qualify as 'insignificant activities', with the exception of parts 19. and 84. of this subparagraph, are not required to be included in a permit application under paragraph (11) of Rule 1200-03-09-.02. For the following listed activities to be considered insignificant, with the exception of parts 1., 2., 19. and 84. of this subparagraph, the emissions unit or activity must have a potential to emit less than 5 tons per year of each regulated air pollutant that is not a hazardous air pollutant and less than 1,000 pounds per year of each hazardous air pollutant. No emissions unit or activity subject to a federally enforceable applicable requirement not included in this Division 1200-03 or Division 0400-30 (other than generally applicable requirements of the state implementation plan) shall qualify as an insignificant emissions unit or activity.
1. Unpaved roadways and parking areas unless permits have specific conditions limiting fugitive emissions. This activity is not insignificant if it is subject to new source performance standards for nonmetallic mineral processing plants under Chapter 1200-03-16 or under 40 CFR part 60.
  2. Paved roadways and parking areas unless permits have specific conditions limiting fugitive emissions. This activity is not insignificant if it is subject to new source performance standards for nonmetallic mineral processing plants under Chapter 1200-03-16 or under 40 CFR part 60.
  3. Equipment used on farms for soil preparation, tending or harvesting of crops, or for preparation of feed to be used on the farm where prepared. This activity is not insignificant if it is subject to new source performance standards under Chapter 1200-03-16 or under 40 CFR part 60.
  4. Barbecue pits and cookers; if the products are edible (intended for human consumption), and are sold on site, or at one location.
  5. Vacuum pump exhausts when evacuating air conditioning units. This activity is not insignificant if emissions exhausted are subject to any standard or other requirement of the regulations promulgated to protect stratospheric ozone under title VI of the Federal Act.
  6. Wood smoking operations to cure tobacco in barns.
  7. Operations regulated under Chapter 1200-03-04 (Open Burning) of these Regulations.
  8. Sewer vents. This activity is not insignificant if it is subject to the new source performance standards for petroleum refinery wastewater systems under Chapter 1200-03-16 or under 40 CFR part 60.
  9. Natural gas mixing and treatment operations including sampling and testing. This activity is not insignificant if it is subject to the new source performance standards for onshore natural gas processing plants under Chapter 1200-03-16 or under 40 CFR part 60.

(Rule 1200-03-09-.04, continued)

10. Wire drawing including drawing coolants and lubricants provided that they are water based.
11. Air drying of wood.
12. Washing of trucks and vehicles where no solvent cleaners are used.
13. Sealing or cutting plastic film or foam with heat or hot wires provided no chlorofluorocarbons (CFCs) are emitted.
14. Combustion units designed and used exclusively for comfort heating purposes employing liquid petroleum gas, or propane or natural gas as fuel.
15. Water cooling towers (except for those at nuclear power plants), water treating systems for process cooling water or boiler feedwater, and water tanks, reservoirs, or other water containers designed to cool, store, or otherwise handle water (including rainwater) that has not been used in direct contact with gaseous or liquid process streams containing carbon compounds, sulfur compounds, halogens or halogen compounds, cyanide compounds, inorganic acids, or acid gases. This activity is not insignificant if chromium-based water treatment chemicals are used.
16. Equipment used exclusively to store, hold, or distribute natural gas. This activity is not insignificant if it is subject to the new source performance standards for onshore natural gas processing plants under Chapter 1200-03-16 or under 40 CFR part 60.
17. Gasoline, diesel fuel, and fuel oil handling facilities, equipment, and storage tanks, except those subject to new source performance standards and those subject to standards in Chapter 1200-03-18. However, facilities, equipment, and storage tanks which are subject only to Chapter 1200-03-18 requirements for submerged fill and for maintenance of records documenting quantities of gasoline, diesel fuel, and fuel oil dispensed are entitled to the exemption provided by this paragraph, despite the qualification of exemption specified in the first sentence of this subparagraph. This activity is not insignificant if it is subject to the new source performance standards for bulk gasoline terminals under Chapter 1200-03-16 or under 40 CFR part 60 and the Stage I gasoline distribution MACT standard under Chapter 1200-03-31.
18. Blast cleaning equipment using a suspension of abrasives in water.
19. Laboratory equipment, used for research and development or for chemical and physical analyses, including ventilating and exhaust systems for laboratory hoods used for air contaminants.
20. Equipment used for inspection of metal products.
21. Portable, hand operated brazing, soldering, or welding equipment. Portable means as being able to be moved by hand from one location to another by an individual without the assistance of any motorized or non-motorized vehicle, conveyance, or device.
22. Equipment used for washing or drying products fabricated from metal or glass, provided no volatile organic compounds (solvents) are used in the process and that no oil or solid fuel is burned.

(Rule 1200-03-09-.04, continued)

23. Foundry sand mold forming equipment to which no heat is applied, and from which no organics are emitted.
24. Equipment used for compression molding and injection molding of plastics which emit no hazardous air pollutants.
25. Mixers, blenders, roll mills, or calendars for rubber or plastics where no materials in powder form are added and in which no organic solvents, diluents, or thinners are used.
26. Equipment used exclusively to package pharmaceuticals and cosmetics or to coat pharmaceutical tablets where no hazardous air pollutants are emitted. Any associated fuel burning is not included.
27. Electrically heated equipment used exclusively for heat treating, soaking, case hardening, or surface conditioning of metal objects, such as carbonizing, nitriding, carbonitriding, siliconizing, or diffusion treating.
28. Vacuum cleaning systems used exclusively for industrial, commercial, or residential housekeeping purposes, except those systems used to collect hazardous air contaminants regulated by Chapter 0400-30-38.
29. Sewage treatment facilities (excluding combustion or incineration equipment, land farms, storage silos for dry material, or grease trap waste handling or treatment facilities). This activity is not insignificant if it is subject to new source performance standards for volatile organic compounds emissions under Chapter 1200-03-16 or under 40 CFR part 60, MACT standard under Chapter 1200-03-31, and hazardous organic NESHAP under 40 CFR part 63.
30. Emergency smoke relief vents that activate only in the event of fire.
31. Alkaline/phosphate washers and associated burners.
32. Outdoor kerosene heaters.
33. Livestock and poultry feedlots.
34. Wire insulation marking provided the marking materials are water based.
35. Portable equipment used for the on-site painting of buildings, towers, bridges, and roads.
36. Powder coating operations.
37. The following equipment, when used exclusively for emergency replacement or standby service:

Internal combustion engines burning natural gas, gasoline, or diesel fuel including stationary reciprocating engines, internal combustion (IC) engine driven compressors, IC engine driven electric generator sets and IC driven water pumps, and equipment components for gas dehydration units, gas-oil separators, free water knockouts, iron sponge units, production tank batteries, and natural gas liquids separation plants.
38. Equipment used exclusively to mill or grind coatings and holding compounds where all materials charged are in paste form.

(Rule 1200-03-09-.04, continued)

39. Stenciling of cartons or boxes for purposes of shipment and content identification provided the inks are water based.
40. Firefighting equipment and the equipment used for training of firefighting.
41. Clean steam condensate and steam relief vents where steam has not contacted any process organics or other production materials.
42. End paper labeling of books or other reading material provided no organic or solvent based materials are used.
43. Pressurized vessels designed to operate in excess of 30 psig storing a petroleum fuel. This activity is not insignificant if it is subject to new source performance standards for petroleum liquid storage vessels under Chapter 1200-03-16 or under 40 CFR part 60.
44. Herbicide and pesticide mixing, application, and storage activities for on site use.
45. Maintenance activities, such as: machining of metals and plastic curing for non-production related operations, vehicle repair shops, carpenter shops, spraying, grinding and polishing operations, maintenance shop vents, and miscellaneous non-production surface cleaning, preparation, and painting operations. Repairs not involving structural changes where no new or permanent stationary source is installed. Internal combustion (IC) engine driven welders not part of a production process. Any maintenance activity is not insignificant if it is part of a manufacturing process.
46. Miscellaneous activities and equipment, such as: aerosol spray cans, cafeteria vents, locker room vents, photo copying, photographic processes, blue print machines, decommissioned equipment, solid waste dumpsters, fire training, and space heaters. Miscellaneous means as being unrelated to the primary business activity of the source.
47. Cold storage refrigerator equipment powered by electric motors and that do not use Class I or Class II ozone depleting substances.
48. Sampling systems used to withdraw materials for testing and analysis, and vents from process instrumentation systems, including area monitors.
49. Laboratories in primary and secondary schools and in schools of higher education used for instructional purposes.
50. Hydrovactor air separator tanks.
51. Equipment used exclusively for rolling, forging, pressing, stamping, spinning, or extruding either hot or cold plastics provided hazardous air pollutants are not emitted.
52. Grain, metal or mineral extrusion process. This activity is not insignificant if it is subject to new source performance standards for metallic mineral processing plants under Chapter 1200-03-16 or under 40 CFR part 60.
53. Bioremediation operations.

(Rule 1200-03-09-.04, continued)

54. Equipment used exclusively for rolling, forging, pressing, stamping, spinning, drawing, or extruding either hot or cold metals.
55. Equipment used exclusively for sintering of ceramics, glass or metals, but not exempting equipment used for sintering metal-bearing ores, metal scale, clay, fly ash, or metal compounds. This activity is not insignificant if it is subject to new source performance standards for primary zinc smelters and glass manufacturing operations under Chapter 1200-03-16 or under 40 CFR part 60.
56. Equipment for the mining and screening of uncrushed native sand and gravel. This activity is not insignificant if it is subject to new source performance standards for nonmetallic mineral processing plants under Chapter 1200-03-16 or under 40 CFR part 60.
57. Equipment used exclusively for mixing and blending water-based adhesives and coatings at ambient temperatures. Materials containing less than 5 percent volatile organic compounds qualify as water-based for purposes of this exemption.
58. Pulp and paper industry, and cellulosic fiber industry insignificant activities: Any of the following activities is not insignificant if it is subject to new source performance standards for kraft pulp mills under Chapter 1200-03-16 or under 40 CFR part 60, and MACT standard under Chapter 1200-03-31.
  - (i) Ash sluice tanks
  - (ii) Black liquor mix boxes (e.g., for sulfur addition)
  - (iii) Caustic tanks
  - (iv) Chemical spills less than reportable quantity
  - (v) Deinking cell
  - (vi) Demineralized water tanks
  - (vii) Dredging
  - (viii) Dregs washer
  - (ix) Dryer can steam/condensate blowdown
  - (x) Electrical charging station
  - (xi) Green liquor clarifiers
  - (xii) Green liquor tanks
  - (xiii) Grinding/blasting for nondestructive testing of metals
  - (xiv) High density pulp storage tanks
  - (xv) Hydrapulper
  - (xvi) Hydroblasting (e.g., evaporators)

(Rule 1200-03-09-.04, continued)

- (xvii) Instrument air dryers and distribution
- (xviii) Lime mud filter filtrate tanks
- (xix) Lime mud piles
- (xx) Liquid sodium hydrosulfide storage tanks
- (xxi) Log flumes
- (xxii) Neutralized spent cooking acid tanks
- (xxiii) Oilers on chain, etc.
- (xxiv) Open containers
- (xxv) Paper machine "blowdown" with air for cleanup
- (xxvi) Pressure filters
- (xxvii) Pressurized pulp washers
- (xxviii) Process raw water treatment (e.g., phosphate)
- (xxix) Pulp tanks and stock chests
- (xxx) Railroad flares
- (xxxi) Saltcake storage tanks vented to the recovery system
- (xxxii) Slaker vents
- (xxxiii) Smelt spout cooling water tanks
- (xxxiv) Smelt spout covers (dog houses)
- (xxxv) Starch or dye make-down tanks
- (xxxvi) Strong black liquor tanks
- (xxxvii) Tank interior coatings (epoxy resins)
- (xxxviii) Turpentine loading
- (xxxix) Weak wash tanks
- (xl) Wheel barrows
- (xli) White liquor clarifiers
- (xlii) White liquor oxidizer
- (xliii) White liquor tanks
- (xliv) Winder

(Rule 1200-03-09-.04, continued)

59. Steam heated wood drying kilns excluding chemically treated wood.
60. Warehouse storage of packaged raw materials and finished goods emitting no hazardous air pollutants.
61. Electric stations, including transformers, and substations, unless a federal requirement not incorporated into this Division 1200-03 or Division 0400-30 applies.
62. Groundwater monitoring wells.
63. Lubricants and waxes used for machinery lubrication.
64. Use of materials for marking and grading of lumber, and the storage of lumber.
65. Equipment used exclusively to package photographic chemicals, and food preservatives excluding any associated fuel burning.
66. Air purification systems. This activity is not insignificant if emissions exhausted are from any manufacturing or other industrial processes and subject to any standard or other requirement of the regulations promulgated to protect stratospheric ozone under title VI of the Federal Act.
67. Equipment used in the production of enteric food coatings.
68. Equipment used in the production of aqueous inks in which no organic solvents, dilutents, or thinners are used.
69. Equipment used to transport or store process wastewater streams to a wastewater treatment facility (i.e. floor drains, sumps, drain headers, manhole covers). This activity is not insignificant if it is subject to the new source performance standards for petroleum refinery wastewater systems under Chapter 1200-03-16 or under 40 CFR part 60.
70. Drum melter operations for low-volatility solid and semi-solid materials using steam or electrical heating. This activity is not insignificant if it is subject to the new source performance standards for electric arc furnaces under Chapter 1200-03-16 or under 40 CFR part 60.
71. Vacuum producing equipment including vacuum seal pots and vacuum pumps. Any associated internal combustion engines are excluded.
72. Presses used exclusively for extruding metals, minerals, plastics, rubber, or wood except where halogenated carbon compounds or hydrocarbon organic solvents are used as foaming agents. Presses used for extruding scrap materials or reclaiming scrap materials are not exempt.
73. Tank trucks, railcars, barges, and trailers excluding transfer operations at loading and unloading stations, and internal cleaning operations.
74. Portable dumpsters and other containers for liquids (excluding transfer operations), and solid waste dumpsters, including handling equipment and associated activities.
75. Environmental field sampling activities.



(Rule 1200-03-09-.04, continued)

76. Parts washer where the vapor pressure of cleaners is less than 1.52 psia. Any activity is not insignificant if it is subject to the halogenated solvent cleaning MACT standard under Chapter 1200-03-31.
77. Instrument air dryers and distribution.
78. Automatic oiling operations (e.g., oiler on chains).
79. Machine blowdown with air for cleanup.
80. Storage tanks of any size containing exclusively soaps, detergents, surfactants, waxes, glycerine, vegetable oils, greases, animal fats, sweeteners, corn syrup, aqueous salt solutions or aqueous caustic solutions provided an organic solvent has not been mixed with such materials. This activity is not insignificant if appropriate lids and/or covers are not utilized.
81. Loading and unloading systems for railcars, tank trucks, or watercraft that handle only the following liquid materials provided an organic solvent has not been mixed with such materials: soaps, detergents, surfactants, waxes, glycerine, vegetable oils, greases, animal fats, sweeteners, corn syrup, aqueous salt solutions, or aqueous caustic solutions. This activity is not insignificant if appropriate lids and/or covers are not utilized.
82. Sanitary sewer systems.
83. Treatment systems for potable water.
84. Any pilot plant provided that the following conditions are satisfied:
  - (i) Pilot plant facilities which demonstrate to the satisfaction of the Technical Secretary, that such facilities do not significantly impact ambient air quality. Air quality modeling may be required by the Technical Secretary.
  - (ii) The facility is constructed and operated only for the purpose of:
    - (I) Testing the manufacturing or marketing potential of a proposed product, or
    - (II) Defining the design of a larger plant or future processes, or
    - (III) Studying the behavior of an existing plant through modeling in the pilot plant.
85. Sodium hypochlorite storage tanks.
86. Industrial-Commercial-Institutional Steam Generating Facility exemptions are as follows: Any of the following activities is not insignificant if it is subject to new source performance standards for steam-generating facilities under Chapter 1200-03-16 or under 40 CFR part 60.
  - (i) Bunker room exhaust
  - (ii) Coal sampling and weighing operations
  - (iii) Alternative solid fuel handling

(Rule 1200-03-09-.04, continued)

- (iv) Vents from ash transport systems not operating at positive pressure (e.g. ash hoppers)
  - (v) Coal combustion by-product disposal (except for dry stacking and intermittent ash hauling and disposal)
  - (vi) Building ventilation other than boiler room, coal handling, and ash loading (e.g. turbine room, battery room)
  - (vii) Lubrication of equipment
  - (viii) Hydrogen vents
  - (ix) Steam vents
  - (x) Air compressor and distribution systems
  - (xi) Emergency equipment
  - (xii) Fugitive dust from operation of a passenger automobile, station wagon, pickup truck, or van.
  - (xiii) Pressure relief valves
  - (xiv) Test gases and bottled gases
  - (xv) Emissions from a laboratory. If a facility manufactures or produces products for profit in any quantity, it may not be considered to be a laboratory under this item. Support part of the laboratory. Support activities do not include the provision of power to the laboratory from sources that provide power to multiple projects or from sources which would otherwise require permitting, such as boilers that provide power to an entire facility.
  - (xvi) Safety devices such as fire extinguishers
  - (xvii) Equipment used for hydraulic or hydrostatic testing
  - (xviii) Food preparation for onsite consumption
  - (xix) Oil vapor extractor (e.g. turbine seal oil, turbine lube oil)
87. Sulfuric acid tanks. This activity is not insignificant if it is subject to new source performance standards for sulfuric acid plants under Chapter 1200-03-16 or under 40 CFR part 60.
88. Soil "borrow" pits. This activity is not insignificant if it is subject to new source performance standards for nonmetallic mineral processing plants under Chapter 1200-03-16 or under 40 CFR part 60.

(Rule 1200-03-09-.04, continued)

89. Phosphoric acid tanks. This activity is not insignificant if it is subject to new source performance standards for phosphate fertilizer industry under Chapter 1200-03-16 or under 40 CFR part 60.
  90. Sodium carbonate tanks.
  91. Firearms, firing ranges, and protective services facilities.
  92. Physical testing of air filtration. This activity is not insignificant if emissions exhausted are from any manufacturing or other industrial processes and subject to any standard or other requirement of the regulations promulgated to protect stratospheric ozone under title VI of the Federal Act.
  93. Safe venting of compressed gas cylinders which have lost structural integrity.
  94. Testing, inspection, cleaning or drying of personal protective equipment such as respirators, clothing, gloves, shoe scuffs, etc.
  95. Equipment used to process or handle solid materials or solid wastes such as bottle smashers, bulb crushers, balers, compactors, and can puncturers.
- (g) Unless specifically required under part 1200-03-09-.04(5)(b)4., the following emission units or activities, or stationary sources that qualify as 'insignificant activities' are not required to be included in a permit application under paragraph 1200-03-09-.02(11).
1. Combustion emissions from propulsion of mobile sources, except for vessel emissions from Outer Continental Shelf sources.
  2. Air-conditioning units used for human comfort that do not have applicable requirements under title VI of the Act.
  3. Ventilating units used for human comfort that do not exhaust air pollutants into the ambient air from any manufacturing/industrial or commercial process.
  4. Non-commercial food preparation.
  5. Consumer use of office equipment and products, not including printers or businesses primarily involved in photographic reproduction.
  6. Janitorial services and consumer use of janitorial products.
  7. Internal combustion engines used for landscaping purposes.
  8. Laundry activities, except for dry-cleaning and steam boilers.
  9. Bathroom/toilet vent emissions.
  10. Emergency (backup) electrical generators at residential locations.
  11. Tobacco smoking rooms and areas.
  12. Blacksmith forges.
  13. Plant maintenance and upkeep activities (e.g., grounds-keeping, general repairs, cleaning, painting, welding, plumbing, re-tarring roofs, installing insulation, and paving parking lots) provided these activities are not conducted as part of a

(Rule 1200-03-09-.04, continued)

- manufacturing process, are not related to the source's primary business activity, and not otherwise triggering a permit modification.
14. Repair or maintenance shop activities not related to the source's primary business activity, not including emissions from surface coating or de-greasing (solvent metal cleaning) activities, and not otherwise triggering a permit modification.
  15. Portable electrical generators that can be moved by hand from one location to another.
  16. Hand-held equipment for buffing, polishing, cutting, drilling, sawing, grinding, turning or machining wood, metal or plastic.
  17. Brazing, soldering and welding equipment, and cutting torches related to manufacturing and construction activities that do not result in emission of HAP metals.
  18. Air compressors and pneumatically operated equipment, including hand tools.
  19. Batteries and battery charging stations, except at battery manufacturing plants.
  20. Storage tanks, vessels, and containers holding or storing liquid substances that will not emit any VOC or HAP.
  21. Storage tanks, reservoirs, and pumping and handling equipment of any size containing soaps, vegetable oil, grease, animal fat, and nonvolatile aqueous salt solutions, provided appropriate lids and covers are utilized.
  22. Equipment used to mix and package, soaps, vegetable oil, grease, animal fat, and nonvolatile aqueous salt solutions, provided appropriate lids and covers are utilized.
  23. Drop hammers or hydraulic presses for forging or metalworking.
  24. Equipment used exclusively to slaughter animals, but not including other equipment at slaughterhouses, such as rendering cookers, boilers, heating plants, incinerators, and electrical power generating equipment.
  25. Vents from continuous emissions monitors and other analyzers.
  26. Natural gas pressure regulator vents, excluding venting at oil and gas production facilities.
  27. Hand-held applicator equipment for hot melt adhesives with no VOC in the adhesive formulation.
  28. Equipment used for surface coating, painting, dipping or spraying operations, except those that will emit VOC or HAP.
  29. CO<sub>2</sub> lasers, used only on metals and other materials which do not emit HAP in the process.
  30. Consumer use of paper trimmers/binders.

(Rule 1200-03-09-.04, continued)

31. Electric or steam-heated drying ovens and autoclaves, but not the emissions from the articles or substances being processed in the ovens or autoclaves or the boilers delivering the steam.
  32. Salt baths using nonvolatile salts that do not result in emissions of any regulated air pollutants.
  33. Laser trimmers using dust collection to prevent fugitive emissions.
  34. Bench-scale laboratory equipment used for physical or chemical analysis, but not lab fume hoods or vents.
  35. Routine calibration and maintenance of laboratory equipment or other analytical instruments.
  36. Equipment used for quality control/assurance or inspection purposes, including sampling equipment used to withdraw materials for analysis.
  37. Hydraulic and hydrostatic testing equipment.
  38. Environmental chambers not using hazardous air pollutant (HAP) gasses.
  39. Shock chambers.
  40. Humidity chambers.
  41. Solar simulators.
  42. Fugitive emission related to movement of passenger vehicles, provided the emissions are not counted for applicability purposes and any required fugitive dust control plan or its equivalent is submitted.
  43. Process water filtration systems and demineralizes.
  44. Demineralized water tanks and demineralizer vents.
  45. Boiler water treatment operations, not including cooling towers.
  46. Oxygen scavenging (de-aeration) of water.
  47. Ozone generators.
  48. Fire suppression systems.
  49. Emergency road flares.
  50. Steam vents and safety relief valves.
  51. Steam leaks.
  52. Steam cleaning operations.
  53. Steam sterilizers.
- (6) Municipal solid waste landfills with a design capacity less than 2.5 million megagrams by mass or 2.5 million cubic meters by volume shall satisfy the applicable provisions of 40 CFR

(Rule 1200-03-09-.04, continued)

60 Subparts WWW or XXX, or any applicable federal or state plan established pursuant to Section 111(d) of the Clean Air Act, but shall otherwise be exempt from the requirement to obtain a construction or operating permit. This exemption shall not apply to any major stationary source or major modification as defined by paragraph (4) of Rule 1200-03-09-.01 or to any major source as defined by paragraph (11) of Rule 1200-03-09-.02.

**Authority:** T.C.A. §§ 4-5-201, et seq.; 4-5-202, et seq.; 68-201-101, et seq.; and 68-201-105.

**Administrative History:** Original Rule certified June 7, 1974. Amendment filed January 10, 1977; effective February 9, 1977. Amendment filed March 31, 1987; effective May 10, 1987. Amendment filed September 27, 1989; effective November 11, 1989. Amendment filed May 17, 1990; effective July 1, 1990. Amendment filed April 22, 1993; effective June 5, 1993. Amendment filed September 7, 1993; effective November 21, 1993. Amendment filed June 12, 1995; effective August 26, 1995. Amendment filed July 25, 1996; effective October 6, 1996. Amendment filed November 30, 1999; effective February 6, 2000. Amendment filed November 29, 2001; effective February 12, 2002. Amendments filed September 9, 2005; effective November 23, 2005. Amendment filed June 1, 2009; effective August 15, 2009. Amendment filed April 28, 2017; effective July 27, 2017. Amendments filed May 17, 2017; effective August 15, 2017. Amendments filed September 29, 2022; effective December 28, 2022.

#### 1200-03-09-.05 APPEAL OF PERMIT APPLICATION DENIALS AND PERMIT CONDITIONS.

- (1) In any case where the Technical Secretary or the Department denies a permit application, this denial is appealable to the Board if a petition of appeal is received by the Technical Secretary within thirty (30) days of receipt of the denial letter by the owner or operator.
- (2) The letter of denial of the application shall include the basis for denial and notify the party of their right to appeal and of the right to legal counsel.
- (3) The reasons the petitioner feels the permit should have been granted must be filed as part of the petition. Additionally a party may request prehearing discovery, as provided in T.C.A. § 4-5-306, by filing and detailing the request with the petition.
- (4) Within thirty (30) days of receipt of the petition for appeal of a permit denial, the Technical Secretary shall notify the petitioner of the time and place for the hearing.
- (5) In any case where a condition is placed on a permit, the imposition of that permit condition may be appealed by filing a petition for reconsideration of the permit conditions. The petition for reconsideration of permit conditions shall specify which conditions and portions of conditions are objected to and specifying in detail the objections. The petition of appeal must be delivered to the Technical Secretary within thirty (30) days after the mailing date of the permit.

If the Technical Secretary is considering denying the petition he shall schedule a conference with the petitioner to discuss the matters under appeal within forty-five (45) days of receipt of the petition. If the Technical Secretary's resultant decision on the matter under appeal aggrieves the petitioner, the petitioner may request a hearing pursuant to T.C.A. § 68-25-108.

- (6) All applicable provisions of T.C.A. §§ 4-5-301 et seq., on contested cases shall apply to the hearing before the Board on such appeals.
- (7) The denial of a permit application by the Technical Secretary stands, unless the majority of a quorum of the Board votes to overturn the denial after the hearing.
- (8) A permit condition specified by the Technical Secretary after the hearing provided for in paragraph (5) stands unless on appeal the Board votes to modify or delete the condition by a majority of a quorum of the Board.

(Rule 1200-03-09-.05, continued)

**Authority:** T.C.A. §§ 4-5-202, et seq. and 68-25-105. **Administrative History:** Original rule filed October 1, 1979; effective November 16, 1979. Amendment filed May 17, 1990; effective July 1, 1990. Administrative History has been edited to delete a November 6, 1988 Amendment. No evidence of this filing exists, and this is an editorial mistake by the Secretary of State. June 30, 2001.

#### 1200-03-09-.06 GENERAL PERMITS.

- (1) Applicability
  - (a) This rule does not apply to sources that are subject to the provisions of paragraph (11) of Rule 1200-03-09-.02.
  - (b) Sources located in a nonattainment area are not eligible for a general permit for construction of a new or modified air contaminant source if the source emits the pollutant and/or a precursor to the pollutant for which the area has been designated nonattainment by the United States Environmental Protection Agency or the Tennessee Air Pollution Control Board.
- (2) The Technical Secretary may issue general permits for the purpose of covering numerous similar sources that are owned or operated by different persons at different facilities.
- (3) Notwithstanding the provisions of the preceding rules of this chapter, a general permit may serve as both a construction permit and an operating permit.
- (4)
  - (a) A notice of intent for coverage under a general permit serving as a construction permit shall be subjected to public notice and an opportunity for public participation, as specified in subparagraph (1)(h) of Rule 1200-03-09-.01.
  - (b) A general permit serving as a construction permit shall be subjected to public notice and an opportunity for public participation by prominent advertisement in each air quality control region. The notice shall specify the types of sources to be covered by the permit and the terms of the permit and opportunity for public comment. Comments shall be in writing and delivered to the Technical Secretary within thirty (30) days after the publication of the public notice.
- (5) The general permit shall specify the eligibility criteria by which sources may qualify for the general permit and shall state both the process by which an owner or operator of a source notifies the Technical Secretary that the owner or operator requests the source to be covered under the general permit and the means by which the Technical Secretary confirms that the source is either covered by the general permit or requires an individual permit. The owner or operator constructing or operating a source under the provisions of a general permit shall be subject to enforcement action for construction or operation without a permit required by this chapter if the owner or operator of the source requested coverage under a general permit by representing the source to be eligible for a general permit in the notice of intent and it is later determined that the source does not qualify for the eligibility terms and conditions of the general permit.
- (6) Owners or operators of sources subject to the provisions of this chapter that would qualify for a general permit shall submit a notice of intent to the Technical Secretary for coverage under the terms of the general permit. The Technical Secretary may, in the general permit, specify requirements for the notice of intent which deviate from the requirements of Rules 1200-03-09-.01 and 1200-03-09-.02, provided that the notice of intent includes all information necessary to determine qualifications for, and to assure compliance with, the general permit.
- (7) If either an owner or operator of a source covered by a general permit or the Technical Secretary determines that the source no longer qualifies for such permit, the source shall

(Rule 1200-03-09-.06, continued)

submit a notice of the change in status to the Division within thirty (30) days of either such determination by the source or notification by the Technical Secretary, whichever occurs first.

- (8) General permits shall be issued for a fixed term, not to exceed ten (10) years, which shall be stated in the permit.
- (9) For the purposes of this rule the following terms shall have the following meanings:
  - (a) "Notice of coverage" or "NOC" means a confirmation from the Technical Secretary of coverage under a general permit.
  - (b) "Notice of intent" or "NOI" means a written notification requesting coverage under a general permit.

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-201-101, et seq. **Administrative History:** Original rule filed September 11, 2015; effective December 10, 2015. Amendments filed May 17, 2017; effective August 15, 2017.

#### 1200-03-09-.07 PERMITS-BY-RULE.

##### (1) Definitions

As used in this rule and Rule 1200-03-09-.06, all terms not defined by this paragraph shall have the meaning given to them in this chapter and all terms not defined in this chapter shall have the meaning given to such terms in Chapter 1200-03-02.

- (a) "Permit-by-rule" means authorization from the Technical Secretary for the owner or operator to construct, modify, or operate an eligible true minor air contaminant source if such construction, modification, or operation is in compliance with this rule and rules promulgated in carrying out this rule specifically applicable to such source.
- (b) "Notice of authorization" or "NOA" means a confirmation from the Technical Secretary of authorization to construct, modify, or operate a minor air contaminant source under a permit-by-rule.
- (c) "Notice of intent" or "NOI" means a written notification requesting coverage under a general permit or authorization under a permit-by-rule.

##### (2) Applicability

- (a) 1. An owner or operator of a source that is a member of a category of air contaminant sources listed in paragraph (5) of this rule may obtain a notice of authorization under a permit-by-rule to construct, modify, or operate the source instead of obtaining an individual construction or operating permit for such construction, modification, or operation if the air contaminant source is eligible. An eligible air contaminant source is an air contaminant source that is not excluded by paragraph (4) of this rule and meets the qualifying criteria established by the applicable permit-by-rule. The Technical Secretary may, with cause, refuse to issue a notice of authorization and require an owner or operator to follow the standard permitting procedures as otherwise required by this chapter.
2. An owner or operator remains authorized pursuant to an NOA to construct, modify, or operate an air contaminant source under a permit-by-rule if the air contaminant source continues to be eligible and the owner or operator is in compliance with this rule and the applicable permit-by-rule. When required in



(Rule 1200-03-09-.07 continued)

writing by the Technical Secretary, the owner or operator of a source that fails to meet the qualifying criteria established in the applicable permit-by-rule or fails to comply with this rule and the applicable permit-by-rule shall submit an application for an individual construction or operating permit or both.

- (b) This rule does not exempt any air contaminant source from any requirements of the federal Clean Air Act, the Tennessee Air Quality Act, Division 0400-30 (including being considered for purposes of determining whether a facility constitutes a major source or is otherwise regulated under this Division 1200-03), Division 0400-30, or any requirement to list insignificant activities and emission levels in a Title V permit application. In addition, this rule does not relieve the owner or operator from the requirement of including the emissions associated with the exempt sources in any major NSR permitting action.

(3) General provisions

The provisions of this paragraph apply to any owner or operator constructing, modifying, or operating an air contaminant source under an NOA unless otherwise stated in a permit-by-rule specific to such source.

(a) Recordkeeping requirements

1. The owner or operator shall collect and maintain the records required for each air contaminant source to which an NOA applies. These records shall be retained in the owner or operator's files for a period of not less than five (5) years and shall be made available to the Technical Secretary or any authorized representative of the Technical Secretary for review upon request.
2. For the purposes of this subparagraph, records include, but are not limited to, any monitoring data, testing data, and support information required by the applicable permit-by-rule and shall be retained for a period of five (5) years from the date the record was created. Support information includes, but is not limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the specific permit-by-rule. Records may be maintained in computerized form.

(b) Notification requirements for new installations

The owner or operator of an air contaminant source to be installed on or after the effective date of a permit-by-rule electing to be authorized to construct, modify, or operate under the permit-by-rule shall submit an NOI in a form and manner prescribed by the Technical Secretary prior to installation of the air contaminant source. The NOI must be submitted to the Technical Secretary not less than seven (7) days prior to the estimated start date of construction, and shall contain the following information, at a minimum:

1. The owner's or operator's name and the facility contact's name;
2. The facility mailing address and telephone number;
3. The location of the air contaminant source(s);
4. A description of the air contaminant source(s), including any pollution control(s);

(Rule 1200-03-09-.07 continued)

5. A statement by the owner or operator that indicates the permit-by-rule under which construction, modification, or operation of the air contaminant source will be authorized;
6. The estimated start date of construction; and
7. A signed statement that the proposed air contaminant source(s) qualifies to be covered under this rule and the applicable permit-by-rule.

(c) Notification requirements for existing permitted sources

1. An owner or operator of an air contaminant source which is operating under an existing construction or operating permit may continue to operate in compliance with that permit or may submit an NOI in the form and manner prescribed by the Technical Secretary that contains at a minimum the applicable information required by the Technical Secretary under subparagraph (b) and a written notification to the Technical Secretary that the owner or operator intends to relinquish the existing permit or permits.
2. The Technical Secretary may issue the requested NOA and allow the owner or operator to relinquish a construction or operating permit pursuant to this paragraph if an NOA may be issued to the permittee pursuant to paragraph (2) and the Technical Secretary determines that the relinquishment will not result in the violation of any applicable laws. When an owner or operator submits an NOI and relinquishment notification pursuant to this paragraph, the Technical Secretary, without prior hearing, shall make a final determination on the relinquishment notification and either issue the NOA and allow the relinquishment of the existing permit or permits or inform the permittee in writing of the Technical Secretary's denial. The NOA is effective on the date the existing permit is relinquished.

(d) Reporting requirements

The owner or operator shall submit required reports in the following manner:

1. Reports of any monitoring or recordkeeping information required by a permit-by-rule shall be submitted to the Division at the physical address or e-mail address provided in the notice of authorization or as specified in an official notification from the Division.
2. A written report of any deviations (excursions) from emission limitations, operational restrictions, qualifying criteria, and control equipment operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in the permit-by-rule shall be submitted to the Division within thirty (30) days of the date the deviation occurred. The report shall describe the specific limitation or operational restriction exceeded, the probable cause of such deviation, and any corrective actions or preventive measures that have been or will be taken.

(e) Scheduled maintenance/malfunction reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with the requirements of the applicable permit-by-rule. The malfunction of any emissions units or any associated air pollution control system(s) shall be reported to the Division in accordance with Chapter 1200-03-20. Except as provided in Chapter 1200-03-20, any scheduled maintenance or malfunction necessitating the shutdown or

(Rule 1200-03-09-.07 continued)

bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emissions unit(s) that is served by such control system(s).

- (f) Any person in possession of a notice of authorization under a permit-by-rule shall ensure that the notice of authorization is readily available for inspection by the Technical Secretary or the Technical Secretary's designated representative on the operating premises or an alternate location approved by the Technical Secretary.

(4) Exclusions from eligibility

- (a) No stationary source with the potential to emit one hundred (100) tons per year or more of any air pollutant subject to regulation is eligible to be authorized under a permit-by-rule.
- (b) No stationary source with the potential to emit ten (10) tons per year or more of a single hazardous air pollutant or twenty-five (25) tons per year or more of any combination of hazardous air pollutants is eligible to be authorized under a permit-by-rule.
- (c) Stationary sources of nitrogen oxides or volatile organic compounds located in areas designated serious, severe, or extreme non-attainment for ozone by the U.S. EPA that otherwise would be eligible to be authorized under a permit-by-rule but have the potential to emit ten (10) tons per year or more of these precursor pollutants cannot be authorized under a permit-by-rule.

(5) Source categories potentially eligible for permit-by-rule:

- (a) Gasoline dispensing facilities (GDFs) subject to the provisions of Rule 1200-03-18-.24.
- (b) Emergency stationary reciprocating internal combustion engines subject to the provisions of Rule 0400-30-38-.01.
- (c) Emergency stationary compression ignition internal combustion engines subject to the provisions of Rule 0400-30-39-.01.
- (d) Emergency stationary spark ignition internal combustion engines subject to the provisions of Rule 0400-30-39-.02.
- (e) Auto body refinishing operations, which includes paint stripping and surface coating of motor vehicles and mobile equipment, subject to the provisions of Rule 0400-30-38-.02. However, no emission source subject to a rule in Chapter 1200-03-18 shall qualify for permit-by-rule.

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-201-101, et seq. **Administrative History:** New rule filed May 17, 2017; effective August 15, 2017. Amendments filed January 8, 2018; effective April 8, 2018.

**RULES  
OF  
THE TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
DIVISION OF AIR POLLUTION CONTROL**

**CHAPTER 1200-03-10  
REQUIRED SAMPLING, RECORDING, AND REPORTING**

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**1200-03-10-.01 SAMPLING REQUIRED TO ESTABLISH AIR CONTAMINANT EMISSION LEVELS.**

(1) New Facilities

(a) There shall be provided for any stack or duct adequate sampling facilities as follows:

1. Sampling ports of a size, number, and location as the Technical Secretary may require;
2. Safe access to each port; and
3. Such other sampling and testing facilities as the Technical Secretary may require.

(b) The Technical Secretary may at his discretion require the applicant for an operating permit to conduct or have conducted such tests as are necessary to establish the amount of air contaminants emitted from such equipment or control apparatus. Such tests shall be conducted in a manner approved by the Technical Secretary. The Technical Secretary may require that such tests be conducted in the presence of this representative.

(c) The Technical Secretary may conduct tests of air contaminant emissions from any source. Upon request of the Technical Secretary the person responsible for the source to be tested shall provide, at no expense to the Technical Secretary, reasonable and necessary openings in stacks, vents, and ducts, along with safe and easy access thereto including a suitable power source to the point of testing for proper determination of the level of air contaminant emissions.

(2) Existing Facilities

(a) Whenever the Technical Secretary has reason to believe that the emission limits of the regulations set forth herein are being violated, he may require the owner to conduct or have conducted at the owner's expense, tests to determine the emission level of specific air contaminants. The Technical Secretary may require that such tests be conducted in the presence of his representative.

(b) The Technical Secretary may at his discretion require the applicant for an operating permit to conduct or have conducted such tests as are necessary to establish the amount of air contaminants emitted from such equipment or control apparatus. Such tests shall be made at the expense of the applicant and shall be conducted in a manner

(Rule 1200-03-10-.01, continued)

approved by the Technical Secretary. The Technical Secretary may require that such tests be conducted in the presence of this representatives.

- (c) The Technical Secretary may conduct tests of air contaminant emissions from any source. Upon request of the Technical Secretary, the person responsible for the source to be tested shall provide, at no expense to the Technical Secretary, reasonable and necessary openings in stacks, vents, and ducts, along with safe and easy access thereto, including a suitable power source to the point of testing for proper determination of the level of air contaminant emissions.

(3) Periodic Testing Required

- (a) The Technical Secretary may require the owner or operator of an air contaminant source, as a condition of his operating permit, to conduct or have conducted periodic tests to establish the amount of air contaminants emitted. The nature, extent, and frequency of such required testing shall be specified in the operating permit. Such tests shall be made at the expense of the owner or operator and shall be conducted in a manner approved by the Technical Secretary. The Technical Secretary shall be supplied with such data as stipulated in the operating permit.
- (b) Any person affected by any of these regulations and directed to do so by the Technical Secretary, shall file emission data, as a minimum of one year, with the Technical Secretary on forms available from the Secretary.

**Authority:** T.C.A. §§ 4-5-202, et seq.; 53-3412; 68-25-105; and 68-201-101, et seq. **Administrative History:** Original rule certified June 7, 1974. Amendments filed June 6, 2018; effective September 4, 2018.

**1200-03-10-.02 MONITORING OF SOURCE EMISSIONS, RECORDING, AND REPORTING OF THE SAME ARE REQUIRED.**

(1) Monitoring of Emissions

- (a) The Technical Secretary may require the owner or operator of any air contaminant source discharging air contaminants, at the expense of the owner or operator, to install, calibrate, operate, and maintain such monitoring equipment as the Technical Secretary shall prescribe; sample such emissions in accordance with methods as the Technical Secretary shall prescribe; establish and maintain such records; and make periodic emission reports as required in paragraph (2).
- (b) 1. The specific source categories listed below are required to complete the installation and performance testing of the respective equipment and begin maintaining and recording within 18 months of the effective date of each rule.
  - (i) Fossil fuel-fired steam generators with an annual average capacity factor of greater than 30 percent, as reported to the Federal Power Commission for calendar year 1974 or as otherwise demonstrated to the Technical Secretary by the owner or operator, shall conform with the following monitoring requirements. For purposes of this rule, "fossil fuel-fired steam generator" means a furnace or boiler used in the process of burning fossil fuel for the purpose of producing steam by heat transfer.
  - (l) A continuous monitoring system for the measurement of opacity shall be installed, calibrated, maintained, and operated by the owner or operator of any such steam generator of greater than 250 million Btu

(Rule 1200-03-10-.02, continued)

per hour heat input except for generators operated as described in subitem I., II., or III. of this item.

- I. Gaseous fuel is the only fuel burned.
  - II. Oil or a mixture of gas and oil are the only fuels burned, and the source is able to comply with the applicable particulate matter and opacity regulations without utilization of particulate matter collection equipment, and where the source has never been found, through any administrative or judicial proceedings, to be in violation of any visible emission standard of these regulations.
  - III. The owner or operator installs, certifies, operates, and maintains a particulate matter continuous emissions monitoring system (PM CEMS) or particulate matter continuous parameter monitoring system (PM CPMS) in accordance with the requirements of 40 C.F.R. Part 63 Subpart UUUUU, and the PM CEMS or PM CPMS is subject to and complies with:
    - A. The filterable particulate matter standards established by 40 C.F.R. § 63.9991(a)(1) and Table 1 or Table 2 of Subpart UUUUU;
    - B. The monitoring requirements established by 40 C.F.R. §§ 63.10010(h) or (i); and
    - C. The work practice standards established by 40 C.F.R. § 63.10007(a)(1) and Table 3 of Subpart UUUUU.
  - IV. The provisions of 40 C.F.R § 63.9991(a)(1), § 63.10007(a)(1), §§ 63.10010(h) and (i), and Tables 1 through 3 of Subpart UUUUU (2020) are hereby adopted by reference.
    - (ii) Each sulfuric acid plant of greater than 300 tons per day production capacity, the production being expressed as 100 percent acid, shall install, calibrate, maintain, and operate a continuous monitoring system for the measurement of sulfur dioxide for each sulfuric acid producing facility within such plant.
    - (iii) Each catalyst regenerator for fluid bed catalytic cracking units of greater than 20,000 barrels per day fresh feed capacity shall install, calibrate, maintain, and operate a continuous monitoring system for the measurement of opacity.
2. Any source which is subject to a regulation in Chapter 1200-03-16 or which is scheduled for retirement within five years of the effective date of the appropriate designating subparts of part 1. above, provided that adequate evidence and guarantees are provided that clearly shows that the source will cease operation prior to such date, will not be subject to the monitoring requirements of this subparagraph.
- (c) 1. All monitoring equipment specified in this paragraph shall meet the performance specifications in the *Federal Register*, Volume 40, No. 194, October 6, 1975. The

(Rule 1200-03-10-.02, continued)

equipment shall also be installed, calibrated, operated, and maintained in accordance with the procedures in this reference.

2. Reserved.
  3. A 30-day notice shall be given to the Technical Secretary of the date upon which any sampling or testing will be conducted as required under this subparagraph.
  4. The sampling point for continuous emission monitoring shall be representative of the concentration of the parameter being monitored at the source emission point. If the monitor is located at any position except the stack, the Technical Secretary will require evidence of the representativeness of the location.
- (d) 1. Each owner or operator of any air contaminant source directed by the Technical Secretary to monitor and report on specified air contaminants shall develop and submit a detailed monitoring program; and order and install sampling equipment within the following time schedule:
- (i) Within 60 days after designation by the Technical Secretary of those air contaminants to be monitored, the owner or operator of the air contaminant source shall submit a detailed monitoring program for approval by the Technical Secretary.
  - (ii) Within 30 days after the monitoring program has been approved in writing by the Technical Secretary, sampling and monitoring equipment shall be ordered. The order shall specify a delivery date that is as expeditious as possible.
  - (iii) Within 90 days after delivery of the equipment the owner or operator of the air contaminant source shall place said equipment in effective operation in accordance with its approved monitoring program.
2. Any owner or operator required by subparagraph (b) to monitor must follow the schedule outlined in part 1. above with the exception that the detailed monitoring program must be submitted to the Technical Secretary within one hundred twenty (120) days of the effective date of the appropriate designating subpart of subparagraph (b) and not as specified in subpart (l) of the above part 1.
- (e) Monitoring System Malfunction
- Due allowance for failure to monitor shall be made during any period of monitoring system malfunction, provided that the source owner or operator shows, to the satisfaction of the Technical Secretary, that the malfunction was unavoidable and is being repaired as expeditiously as practicable and that a log of all such malfunctions is being kept by the owner or operator, including time malfunction began, when it was detected, what was wrong, what was done to correct the malfunction, and when the malfunction was corrected.
- (f) Owners and operators of fossil fuel-fired steam generators that install a continuous sulfur dioxide monitoring system as provided in Rule 1200-03-12-.04 are required to complete the installation and performance testing of the applicable equipment and begin maintaining and recording within eighteen months of the effective dates of this subparagraph unless a revised time frame is agreed to by the Technical Secretary because of the installation of sulfur dioxide control equipment.

(Rule 1200-03-10-.02, continued)

1. The owner or operator shall develop and submit a detailed monitoring program; and order and install measuring equipment for sulfur dioxide and either oxygen or carbon dioxide within the following time schedule:
    - (i) Within 150 days after the effective date of this subparagraph, the owner or operator shall submit a detailed monitoring program for approval by the Technical Secretary.
    - (ii) Within 30 days after the monitoring program has been approved in writing by the Technical Secretary, sampling and monitoring equipment shall be ordered. The order shall specify delivery date but as expeditious as possible.
    - (iii) Within 90 days after delivery of the equipment the owner or operator of the air contaminant source shall place said equipment in effective operation in accordance with the approved monitoring program.
  2. The sampling point for the carbon dioxide or oxygen monitor shall be same as that for the sulfur dioxide monitor except as specified for installations using flue gas desulfurization systems.
- (g) Owners and/or operators of sources required to install a continuous sulfur dioxide monitoring system as provided in paragraph 1200-03-12-.04(3) are required to complete the installation and performance testing of the applicable equipment and begin maintaining and recording within twelve months of the effective date of this subparagraph.
- (2) Recording and Reporting
- (a) Records and reports as the Technical Secretary shall prescribe on air contaminant emissions, ambient air concentrations, or fuel analyses shall be recorded, compiled, and submitted in a format prescribed by the Technical Secretary.
  - (b)
    1. Owners or operators of facilities subject to subparagraph (1)(b) of this rule, are required to submit a written report of excess emissions for each calendar quarter and the nature and cause of the excess emissions, if known. The requirements of this subparagraph must be followed by all owners and operators when making these required reports.
    2. For opacity measurements the summary shall consist of the magnitude in actual percent opacity of all one minute averages of opacity greater than the opacity standard in the applicable rule in Chapter 1200-03-05 for each hour of operation and the facility minus the five-minute exempt period.

Average values may be obtained by integration over the averaging period or by arithmetically averaging a minimum of four equally spaced, instantaneous opacity measurements per minute. The averaging period used for data reporting is one minute for opacity measurements and one hour for measurements of sulfur dioxide; provided, however, that for opacity measurements for fuel burning installations with fuel burning equipment of input capacity greater than  $600 \times 10^6$  Btu per hour, the summary shall consist of the magnitude in actual percent opacity of all six-minute averages of opacity greater than the opacity standard in the applicable plan for each hour of operation of the facility minus one six-minute exempt period per hour of no more than 40 percent opacity. Averaging values may be obtained by integration over the averaging period or by arithmetically averaging a minimum of twenty-four hours for measurements of sulfur dioxide for fuel burning installations with fuel burning equipment of input capacity greater



(Rule 1200-03-10-.02, continued)

- than  $600 \times 10^6$  Btu per hour. The averaging period used for data reporting from all other sources is one minute for opacity measurements and one hour for measurements of sulfur dioxide except as denoted in other Chapters of these regulations.
3. For gaseous measurements the summary shall consist of emission averages, in the units of the applicable standard, for each averaging period during which the applicable standard was exceeded.
  4. The date and time identifying each period during which the continuous monitoring system was inoperative, except for zero and span checks, and the nature of system repairs or adjustments shall be reported. The Technical Secretary may require proof of continuous monitoring system performance whenever system repairs or adjustments have been made.
  5. When no excess emissions have occurred and the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be included in the report.
  6. Maintain a file of all information reported in the quarterly summaries, and all other data collected either by the continuous monitoring system or as necessary to convert monitoring data to the units of the applicable standard for a minimum of two years from the date of collection of such data or submission of such summaries.
  7. Owners or operators of air contaminant sources subject to subparagraph (1)(b) of this Rule are required to use the procedures outlined in the October 6, 1975, *Federal Register*, Vol. 40, No. 194 (Appendix P, Paragraph 5.0), Page 46249 for converting monitoring data to units of the standard where necessary. These procedures are essentially the same as those in subparagraphs 1200-03-16-.02(6)(e) and (f). Where applicable, the procedures outlined in the October 12, 1976, *Federal Register*, Volume 41, Number 198, pages 44838-44839 may be used.
- (c) Owners or operators of facilities subject to Rule 1200-03-12-.04 are required to submit a written report on emissions for each calendar quarter and the nature and cause of excess emissions, if known. The Technical Secretary will specify details of the reports required after the monitor has been performance tested.
1. General Procedures:
    - (i) The source owner or operator shall report all 3-hour averages in excess of the applicable emission standard or all 24-hour averages in units of the applicable emission standard. The 3-hour and 24-hour values shall be computed by taking the average of three contiguous or 24 contiguous one-hour values of sulfur dioxide emissions. The one-hour average values may be obtained by integration over the one-hour period or be computed from four or more data points equally spaced over each one-hour period. Data recorded during periods of monitoring system break downs, repairs, calibration checks, and zero and span adjustments shall not be included in the data averages.
    - (ii) In the event that the fuel burning installation contains discharge points utilizing continuous sulfur dioxide monitoring systems and discharge points which do not require monitoring systems (or where an individual monitoring system is inoperative), and the data from the monitoring system indicates a

(Rule 1200-03-10-.02, continued)

violation, an administrative hearing may be conducted by the Technical Secretary to determine the compliance status of the entire fuel burning installation.

- (iii) To determine compliance where multiple units of fuel burning equipment are involved, an average weight on the basis of heat input shall be used.
2. The owners and operators of these sources must follow the same procedures as specified in parts (2)(b)4., 6., and 7. of Rule 1200-03-10-.02. Alternative methods for converting sulfur dioxide monitoring instrument data to units of the applicable emission standard may be approved by the Technical Secretary if demonstrated to yield equivalent results.
- (d) Any source located at a facility required to obtain a major source operating permit in accordance with the provisions of paragraph (11) of Rule 1200-03-09-.02 may submit the reports required by this rule on a semi-annual basis.

**Authority:** T.C.A. §§ 4-5-201, et seq.; 4-5-202, et seq.; 68-201-101, et seq.; and 68-201-105.

**Administrative History:** Original rule certified June 7, 1974. Amendment filed January 10, 1977; effective February 9, 1977. Amendment filed March 13, 1978; effective April 12, 1978. Amendment filed May 7, 1979; effective June 21, 1979. Amendment filed October 28, 1981; effective December 14, 1981. Amendment filed January 27, 1993; effective March 13, 1993. Amendment filed January 31, 1997; effective April 16, 1997. Amendment filed November 7, 2012; effective February 5, 2013. Amendments filed June 6, 2018; effective September 4, 2018. Amendments filed June 2, 2022; effective August 31, 2022.

#### **1200-03-10-.03 REPEALED.**

**Authority:** T.C.A. §§ 4-5-202, et seq., and 68-25-105. **Administrative History:** Original rule certified June 7, 1974. Rule certified June 7, May 17, 1974; effective June 16, 1974. Repeal filed February 5, 1979; effective March 21, 1979.

#### **1200-03-10-.04 SAMPLING, RECORDING, AND REPORTING REQUIRED FOR MAJOR STATIONARY SOURCES.**

- (1) The provisions of the rule shall apply to all sources required to obtain a major stationary source operating permit in accordance with the provisions of paragraph 1200-03-09-.02(11). Such sources are also subject to the provisions of Rule 1200-03-10-.01 and Rule 1200-03-10-.02.
- (2) The Technical Secretary is authorized to require by permit condition any periodic or enhanced monitoring, recording and reporting that he deems necessary for the verification of the source's compliance with the applicable requirements as defined in paragraph 1200-03-09-.02(11).
  - (a) Monitoring may include, but is not limited to: source testing; in-stack monitoring; process parameter monitoring of material feed rates, temperature, pressure differentials, power consumption or fuel consumption; chemical analysis of feed stocks, coatings, or solvents; ambient monitoring; visible emissions evaluations; control equipment performance parameters of pressure differentials, power consumption, air or liquid flow rates or amount of air contaminants collected for disposal; air contaminant leak detection tests from process or control equipment; and any other such monitoring that the Technical Secretary may prescribe.

(Rule 1200-03-10-.04, continued)

1. The monitoring must be conducted in a manner acceptable to the Technical Secretary. This includes, but is not limited to: sampling methods, analytical methods, sensor locations and frequency of sampling.
  2. The monitoring method must have at least a 95% operational availability rate to prove compliance directly or indirectly with the applicable requirements unless otherwise stipulated by the Technical Secretary in the permit. Ambient air monitors shall have their minimum operational availability rates prescribed by Chapter 1200-03-12. Missing data in excess of these levels shall be grounds for enforcement action.
- (b) Recordkeeping may include handwritten or computerized records and shall be kept in accordance with the manner approved by the Technical Secretary. The Technical Secretary or an employee of the Department authorized by the Technical Secretary shall have the authority to inspect the records during reasonable hours at the place where such records are kept. The source owner or operator must provide copies of the records to the Technical Secretary upon request. If the records are computerized, the owner or operator may provide them to the Technical Secretary in an electronic format compatible with the Department's electronic data processing equipment for initial review. Upon discovery of electronic data that may reveal noncompliance, the Technical Secretary shall ask for excerpts documenting the noncompliance, and the owner or operator shall comply with the request. All electronic submittals shall be in "read only" format such that the submittal cannot be written over with different electronic data.
1. In the absence of a specific recordkeeping procedure, it is the general duty of a person required to keep the records required under this rule in such a fashion that compliance with the applicable requirement can be readily ascertained.
  2. Records must be legible, quantifiable and supported by documentation to validate the entries.
- (c) Reporting shall be in the manner prescribed by the Technical Secretary in the permit or approved by him in the source's operating permit application.
- (d) All reports submitted to the Technical Secretary shall be signed by a responsible official consistent with the provisions of part 1200-03-09-.02(11)(d)4.

**Authority:** T.C.A. §§ 4-5-201, et seq.; 4-5-202, et seq.; 68-201-101, et seq.; and 68-201-105.

**Administrative History:** Original rule effective September 12, 1994. Amendments filed June 6, 2018; effective September 4, 2018.

#### **1200-03-10-.05 EMISSIONS INVENTORY REQUIREMENTS.**

- (1) Stationary sources that exceed the emission thresholds specified in 40 CFR 51 Subpart A shall submit emissions inventories of the pollutants listed in § 51.15(a)(1), as follows:
  - (a) Electricity generating units (EGUs), as defined in subpart (9)(d)2.(i) of Rule 1200-03-26-.02, shall submit emissions inventories no later than July 1 of each calendar year, in accordance with § 51.30 and Table 1 to Appendix A of 40 C.F.R. 51 Subpart A.
  - (b) All other stationary sources shall submit emissions inventories no later than June 1 of each calendar year, in accordance with § 51.30 and Table 1 to Appendix A of 40 C.F.R. 51 Subpart A.

(Rule 1200-03-10-.05, continued)

- (2) Emissions inventories shall be submitted and certified in accordance with forms and guidance issued by the Technical Secretary.
- (3) The Technical Secretary may make the forms issued pursuant to paragraph (2) of this rule available electronically. If an emission inventory is submitted electronically, then the submission shall be in accordance with the requirements of Chapter 0400-01-40.

**Authority:** T.C.A. §§ 4-5-201, et seq., and 68-201-101, et seq. **Administrative History:** New rule filed November 14, 2017; effective February 12, 2018.

**RULES  
OF  
THE TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
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**1200-03-11-.01    REPEALED.**

**Authority:** T.C.A. §§ 4-5-201, et seq.; 68-25-105; and 68-201-101, et seq. **Administrative History:** Original rule filed January 10, 1977; effective February 9, 1977. Amendment filed May 17, 1978; effective June 16, 1978. Amendment filed September 21, 1988; effective November 6, 1988. Amendment filed May 17, 1990; effective July 1, 1990. Amendment filed March 7, 2006; effective May 21, 2006. Amendment filed May 25, 2011; effective August 23, 2011. Amendment filed April 1, 2015; effective June 30, 2015. Repeal filed September 29, 2022; effective December 28, 2022.

**1200-03-11-.02    REPEALED.**

**Authority:** T.C.A. §§ 4-5-201, et seq.; 68-201-101, et seq.; and 68-201-105. **Administrative History:** Original rule filed January 10, 1977; effective February 9, 1977. Amendment filed April 17, 1978; effective June 16, 1978. Amendment filed August 21, 1981; effective October 5, 1981. Amendment filed March 5, 1993; effective April 19, 1993. Amendment filed March 10, 1995; effective May 24, 1995. Amendment filed January 31, 1997; effective April 16, 1997. Amendment filed December 22, 1997; March 7, 1998. Amendments filed June 6, 2018; effective September 4, 2018. Repeal filed September 29, 2022; effective December 28, 2022.

**1200-03-11-.03    REPEALED.**

**Authority:** T.C.A. §§ 4-5-201, et seq.; 68-25-105; and 68-201-101, et seq. **Administrative History:** Original rule certified June 7, 1974. Amendment filed January 10, 1977; effective February 9, 1977. Amendment filed September 10, 1979; effective October 25, 1979. Repeal filed September 29, 2022; effective December 28, 2022.

**1200-03-11-.04    REPEALED.**

**Authority:** T.C.A. §§ 4-5-201, et seq.; 68-25-105; 68-201-101, et seq.; and 68-201-105. **Administrative History:** Original rule certified June 7, 1974. Amendment filed January 10, 1977; effective February 9, 1977. Amendment filed September 21, 1988; effective November 6, 1988. Amendment filed January 15, 2009; effective March 31, 2009. Repeal filed September 29, 2022; effective December 28, 2022.

**1200-03-11-.05    REPEALED.**

**Authority:** T.C.A. §§ 4-5-201, et seq.; 68-25-105; and 68-201-101, et seq. **Administrative History:** Original rule filed March 13, 1978, effective April 12, 1978. Amendment filed September 10, 1979, effective October 25, 1979. Amendment filed September 21, 1988; effective November 6, 1988. Repeal filed September 29, 2022; effective December 28, 2022.

**1200-03-11-.06 REPEALED.**

**Authority:** T.C.A. §§ 4-5-201, et seq.; 68-25-105; and 68-201-101, et seq. **Administrative History:** Original rule filed September 21, 1988; effective November 6, 1988. Repeal filed September 29, 2022; effective December 28, 2022.

**1200-03-11-.07 REPEALED.**

**Authority:** T.C.A. §§ 4-5-201, et seq.; 68-25-105; and 68-201-101, et seq. **Administrative History:** Original rule filed September 21, 1988; effective November 6, 1988. Repeal filed September 29, 2022; effective December 28, 2022.

**1200-03-11-.08 REPEALED.**

**Authority:** T.C.A. §§ 4-5-201, et seq.; 68-25-105; and 68-201-101, et seq. **Administrative History:** Original rule filed August 14, 1995; effective October 28, 1995. Repeal filed September 29, 2022; effective December 28, 2022.

**1200-03-11-.09 REPEALED.**

**Authority:** T.C.A. §§ 4-5-201, et seq.; 68-25-105; and 68-201-101, et seq. **Administrative History:** Original rule filed September 21, 1988; effective November 6, 1988. Repeal filed September 29, 2022; effective December 28, 2022.

**1200-03-11-.10 REPEALED.**

**Authority:** T.C.A. §§ 4-5-201, et seq.; 68-25-105; and 68-201-101, et seq. **Administrative History:** Original rule filed September 21, 1988; effective November 6, 1988. Repeal filed September 29, 2022; effective December 28, 2022.

**1200-03-11-.11 REPEALED.**

**Authority:** T.C.A. §§ 4-5-201, et seq.; 68-25-105; and 68-201-101, et seq. **Administrative History:** Original rule filed September 21, 1988; effective November 6, 1988. Repeal filed September 29, 2022; effective December 28, 2022.

**1200-03-11-.12 THROUGH 1200-03-11-.16 REPEALED.**

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-201-101, et seq. **Administrative History:** Original rule filed August 14, 1995; effective October 28, 1995. Repeal filed September 29, 2022; effective December 28, 2022.

**1200-03-11-.17 REPEALED.**

**Authority:** T.C.A. §§ 4-5-201, et seq.; 68-201-101, et seq.; and 68-201-105. **Administrative History:** Original rule filed August 14, 1995; effective October 28, 1995. Repeal filed September 29, 2022; effective December 28, 2022.

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**CHAPTER 1200-03-12  
METHODS OF SAMPLING AND ANALYSIS**

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**1200-03-12-.01 GENERAL.**

- (1) It is explicitly implied that in addition to and consistent with specific methods of sampling and analysis described herein, that samples will be taken in such number, duration and location as to be statistically significant and representative of the condition which the sample(s) purport to evaluate.
- (2) Where specific materials, equipment procedures are specified, it shall be permissible to use other materials, equipment or procedures where it has been reliably demonstrated that their use produces results comparable to that which would have been obtained by use of the specified materials, equipment or procedures.

**Authority:** T.C.A. § 53-3412. **Administrative History:** Original rule certified June 7, 1974.

**1200-03-12-.02 PROCEDURES FOR AMBIENT SAMPLING AND ANALYSIS.**

- (1) The reference method for the sampling and the analytical procedures for sulfur dioxide, total suspended particulates, carbon monoxide, nitrogen dioxide, lead, PM-10 and ozone are found in 40 CFR Part 50, Chapter 1, Subchapter C (7-1-92 Edition) which is incorporated in its entirety by reference. The procedure for sampling and analyzing atmospheric fluorides shall conform with the method adopted by the American Society for Testing Materials and found in the Annual Book of ASTM Standards published each year by the American Society for Testing Materials with a designation of D3266 "Standard Test Method for Automated Separation and Collection of Particulate and Acidic Fluoride in the Atmosphere ("Double Paper Tape Sampler Method")." Persons required to conduct ambient air monitoring may obtain a copy of 40 CFR Part 50, Chapter 1, Subchapter C from the Technical Secretary.
- (2) For those air contaminants which the EPA has established reference and equivalent monitoring methods, the use of alternative sampling procedures shall be approved by the Technical Secretary and EPA. For those air contaminants which the EPA has not established reference and equivalent methods, the use of alternative sampling procedures shall be approved by the Technical Secretary.
- (3) Each owner or operator of an air monitoring network required by the Technical Secretary shall submit in writing to the Technical Secretary a Quality Control/Quality Assurance plan for approval prior to commencing air monitoring. This plan shall be reviewed and approved prior to start-up of new monitoring networks or whenever any significant change is made to an existing network. The Technical Secretary will determine if a change that is made is significant.
- (4) All ambient monitoring data generated by continuous operating monitors, or intermittent sampling techniques, shall be submitted in a format acceptable to the Technical Secretary.

(Rule 1200-03-12-.02, continued)

- (5) Each ambient monitor sited in the field for the purpose of generating data for the monitoring procedures listed in 1200-03-12-.02(1) must have a valid data recovery of at least 75 percent. Information which documents the cause of missing data shall be submitted in writing to the Technical Secretary for all missing data.

**Authority:** T.C.A. §§ 4-5-201, et seq.; 4-5-202, et seq.; 53-3412; 68-25-105; and 68-201-101, et seq.  
**Administrative History:** Original rule certified June 7, 1974. Amendment filed January 10, 1977; effective February 9, 1977. Amendment filed May 7, 1979; effective June 21, 1979. Amendment filed December 4, 1979; effective January 18, 1980. Amendment filed June 28, 1990; effective August 12, 1990. Amendment filed November 30, 1993; effective February 13, 1994. Amendment filed March 18, 1994; effective June 1, 1994. Amendments filed June 6, 2018; effective September 4, 2018.

### 1200-03-12-.03 SOURCE SAMPLING AND ANALYSIS.

The methods set forth in this section shall be applicable for determining compliance with emission standards.

- (1) **SAMPLE AND VELOCITY TRAVERSES.** - Sample and velocity traverses shall be determined by Method 1 outlined in the *Federal Register*, Volume 42, Number 160, August 18, 1977, as amended in the *Federal Register*, Volume 43, Number 57, March 23, 1978.
- (2) **STACK GAS VELOCITY DETERMINATION.** - Stack gas velocity shall be determined by Method 2 outlined in the *Federal Register*, Volume 42, Number 160, August 18, 1977, as amended in the *Federal Register*, Volume 43, Number 57, March 23, 1978, except in such instances where a Type S pitot tube is not applicable.
- (3) **GAS ANALYSIS.** - Gas analysis for carbon dioxide, oxygen, excess air, and dry molecular weight shall be determined by Method 3 outline in the *Federal Register*, Volume 42, Number 160, August 18, 1977, as amended in the *Federal Register*, Volume 43, Number 57, March 23, 1978, or another type of test procedure that is direct indicating and/or recording approved by the Technical Secretary.
- (4) **DETERMINATION OF MOISTURE CONTENT IN STACK GASES.** - Moisture content shall be determined by Method 4 outline in the *Federal Register*, Volume 42, Number 60, August 18, 1977, as amended in the *Federal Register*, Volume 43, Number 57, March 23, 1978, or other technique approved by the Technical Secretary.
- (5) **DETERMINATION OF PARTICULATE EMISSIONS.** - The basic design of the sampling train is left to the individual, if certain criteria are observed to assure high collection efficiency and standard analysis of the collected particulates.
  - (a) **DESCRIPTION OF SAMPLING APPARATUS.**
    1. This apparatus shall include interchangeable sampling nozzles or probes, of various diameters, a filter effective for the removal of particulates exceeding 0.3 micron diameter of solid or liquid, a suitable number of impingers to reduce condensable vapors to liquid or solid particulate matter, and appropriate connecting tubing at temperatures above the aqueous dewpoint of the gases. All materials of construction shall be resistant to corrosive elements in the flue gases, e.g., SO<sub>2</sub>, NO<sub>x</sub> and elevated temperatures.
    2. This filter assembly shall be maintained above the aqueous dewpoint of the flue gases throughout the sampling operation. To accomplish this, the filter assembly may be disposed inside the gas flue to be completely bathed by the hot gas



(Rule 1200-03-12-.03, continued)

stream; or it may be disposed outside the gas stream, provided the following precautions are taken.

- (i) If the filter is disposed outside the hot gas flue, a temperature indicator, e.g., thermocouple, shall be provided at the sample filter gas exit to monitor the filter temperature above the aqueous dewpoint of the flue gases at all times. Auxiliary heating elements for tubing and filter holder shall be provided to maintain specified temperatures when required.
    - (ii) Deposits in the tube connecting the probe to the exterior filter shall be quantitatively removed by washing with a suitable liquid and by brushing, the weight of solids recovered therefrom being added to the weight found in the filter.
  3. Provisions shall be included for cooling the gas stream to standard conditions (70 F) to reduce condensable vapors to liquid or solid particulate matter, and for cooling the condensed particles, including water that may be formed by condensation of water vapor in the sample. This shall be accomplished by passage through bubblers provided with an orifice submerged in water through which the gas stream passes at a velocity of approximately 100 meters per second. The bubblers should be immersed in an ice bath to minimize evaporation. A trap of suitable shape and dimensions for the collection of overflow or overspray shall be provided downstream from the bubblers.
  4. An indicating flowmeter shall be provided and preferably located in the train at a point preceding the source of suction, preceded by a trap to prevent condensed water from entering the flowmeter; and a vacuum gauge adjacent to the flowmeter to indicate the absolute pressure of the gas passing through the orifice meter.
  5. Operation charts comprising either graphs or tables shall be prepared and be available as a part of the apparatus, to indicate proper sampling rates as a function of gas density in the stack and at the flowmeter.
- (b) ANALYTICAL RESULTS. Analytical results shall be accomplished as outlined in the appendix of the *Federal Register*, Volume 36, Number 160, August 18, 1977, as amended in the *Federal Register*, Volume 43, Number 57, March 23, 1978, for the filter catch and washings up to the filter. Inclusion or exclusion of material collected in the impinger train as "particulate matter" and method of analysis will be determined on an individual air contaminant source basis.
  - (c) EQUIVALENT METHODS. Those procedures demonstrated to yield equivalent results and approved by the Technical Secretary may be used for sampling and analysis of particulate matter. Stack sampling methods promulgated by the Environmental Protection Agency for specified air contaminant sources are considered to be equivalent methods and therefore acceptable.
- (6) Measurement of Sulfur Dioxide in Stack Gases.
    - (a) The approved procedure for measuring sulfur dioxide in stack gases is the method contained in Chapter 3 of the Tennessee Department of Public Health's January, 1975 edition of the Source Sampling Manual as amended on August 11, 1975.
    - (b) Equivalent Methods. Many new and improved methods of continuous gaseous monitoring in stacks are now in use. Any method of stack sampling approved by the Technical Secretary may be used in accordance with good professional practice. Stack

(Rule 1200-03-12-.03, continued)

sampling methods promulgated by the Environmental Protection Agency for specified air contaminant sources are considered to be equivalent methods and therefore acceptable.

- (7) Determination of Sulfuric Acid ( $H_2SO_4$ ) in Stack Gases. Sulfuric acid in stack gases shall be determined by Method 8 outlined in the *Federal Register*, Volume 42, Number 160, August 18, 1977, as amended in the *Federal Register*, Volume 43, Number 57, March 23, 1978.
- (8) Determination of Nitrogen Oxides in Stack Gases. Nitrogen oxides in stack gases shall be determined by Method 7 outlined in the *Federal Register*, Volume 42, Number 160, August 18, 1977, as amended in the *Federal Register*, Volume 43, Number 57, March 23, 1978.
- (9) Determination of the Efficiency of Fluoride Control Devices for Potrooms of Primary Aluminum Reduction Plants as follows:
  - (a) The determination shall consist of three sample runs, each of which shall consist of a simultaneous inlet and outlet sample upon the control device or an equivalent test procedure approved by the Technical Secretary. Each sample shall be of eight (8) hours duration and shall contain a minimum of two hundred and forty (240) dry standard cubic feet of air.
  - (b) Other details as to the collection of the samples and their analysis shall be accomplished by either Method 13A or 13B or approved equivalent as outlined in the *Federal Register*, Volume 40, Number 152, August 6, 1975 and as amended in the *Federal Register*, Volume 41, Number 230, November 29, 1976.
  - (c) The average efficiency of each fluoride control device shall be calculated as the average of the three control device collection efficiencies as determined by the three sample runs.
- (10) Determination of Inorganic Lead Emissions in Stack Gases. Lead emissions in stack gases shall be determined by Method 12 outlined in the *Federal Register*, Volume 47, April 16, 1982, pp 16574-16579.

**Authority:** T.C.A. §§ 68-25-105, et seq. **Administrative History:** Original rule certified June 7, 1974. Amendment filed March 22, 1976; effective April 21, 1976. Amendment filed March 13, 1978; effective April 12, 1978. Amendment filed October 2, 1979; effective November 16, 1979. Amendment filed December 8, 1981; effective January 22, 1982. Amendment filed July 3, 1984; effective August 1, 1984.

#### **1200-03-12-.04 MONITORING REQUIRED FOR DETERMINING COMPLIANCE OF CERTAIN LARGE SOURCES.**

- (1) For a fossil fuel-fired steam generator using solid fuel subject to subparagraph 1200-03-14-.02(1)(d), the source owner or operator may choose the method of measuring sulfur dioxide in the stack gases depending upon the type of fuel burned. No later than 30 days after the effective date of this regulation, the source owner or operator must inform the Technical Secretary by certified mail of the method to be utilized. If no choice is made by that date the owner or operator must monitor using the method outlined in subparagraph (2)(b) of this rule.
- (2) The available sulfur dioxide measurement methods are as follows:
  - (a) If low sulfur coal is the only solid fuel burned, fuel analysis procedures and methods of calculations as prescribed by the Technical Secretary may be used. The purpose of this rule, low sulfur coal is defined as coal containing less than 1.00% sulfur by weight on a dry basis. Determination will be based on records of fuel burning during calendar year 1974. The procedures used to determine if the sulfur content of the fuel meet this

(Rule 1200-03-12-.04, continued)

1.00% limitation during this time period will be subject to approval by the Technical Secretary. If the source owner or operator elects this method, the Technical Secretary will specify the data to be submitted to verify that the sulfur content is less than the 1.00% limitation. For facilities that elect to use fuel analysis procedures, fuels are not required to be sampled or analyzed for preparation of reports of compliance until the Technical Secretary specifies the procedures and requirements. If the 1.00% limit is ever exceeded then the method specified in subparagraph (b) of this paragraph must be used for monitoring.

- (b) Measurement of sulfur dioxide in the stack gases may be accomplished by the installation and operation of a continuous in-stack sulfur dioxide monitoring instrument. The type of monitor and its location will be subject to approval by the Technical Secretary. The in-stack monitoring instrument will be subject to the provisions of paragraph 1200-03-10-.02(1)(f) of these regulations.
- (3) For sulfuric acid plants and liquid sulfur dioxide plants located in a Class I county and existing on January 1, 1979, the measurement of sulfur dioxide in the stack gases must be accomplished by the installation and operation of a continuous in-stack sulfur dioxide monitor. The type of monitor and its location will be subject to approval by the Technical Secretary. The in-stack monitoring instrument will be subject to the provisions of paragraph 1200-03-10-.02(1) of these regulations.
- (4) For recovery furnaces and lime kilns located at kraft mills the measurement of total reduced sulfur compounds in stack gases must be accomplished by the installation and operation of a continuous in-stack total reduced sulfur (TRS) monitor. Such TRS monitor shall be accompanied by a continuous monitoring system for the measurement of the percent oxygen. The type of monitor and its location will be subject to approval by the Technical Secretary. The in-stack monitoring instrument will be subject to the provisions of paragraph 1200-03-10-.02(1) of these regulations.

**Authority:** T.C.A. §§ 4-5-201 and 68-201-105, et seq. **Administrative History:** Original rule filed March 13, 1978; effective April 12, 1978. Amendment filed May 7, 1979; effective June 21, 1979. Amendment filed August 26, 1981; effective October 13, 1981. Amendment filed November 12, 1982; effective December 13, 1982. Amendment filed October 14, 1996; effective December 28, 1996.

**RULES  
OF  
TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
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**CHAPTER 1200-3-13  
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**1200-3-13-.01 VIOLATION STATEMENT.** Failure to comply with any of the provisions of these regulations shall constitute a violation thereof and shall subject the person or persons responsible therefore to any and all the penalties provided by law.

*Authority:* T.C.A. Section 53-3412. *Administrative History:* Original Rule certified June 7, 1974.

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OF  
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**CHAPTER 1200-03-14  
CONTROL OF SULFUR DIOXIDE EMISSIONS**

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**1200-03-14-.01 GENERAL PROVISIONS.**

- (1) (a) For the purpose of this chapter, each county in Tennessee will be classified by the Board into one of seven categories, defined as Class I, Class II, Class III, Class IV, Class V, Class VI, and Class VII.
- (b) Each class has been established with the essential limit necessary to attain and/or maintain ambient air quality standards based on measured and predicted air quality.
- (2) The county classifications are as follows:
  - (a) Class I - Polk
  - (b) Class IIA - Maury
  - (c) Class IIB - Humphreys
  - (d) Class III - Sullivan
  - (e) Class IV - Shelby
  - (f) Class V - Anderson, Davidson, Hamilton, Hawkins, Knox, Rhea
  - (g) Class VI - All counties not specifically classified
  - (h) Class VII - Roane
- (3) Upon mutual agreement of the owner or operator of any air contaminant source and the Technical Secretary, an emission limit more restrictive than that otherwise specified in this Chapter may be established. This emission limit shall be stated as a special condition for any permit or order issued concerning the source. Violation of this agreed to, more stringent emission standard is grounds for revocation of the issued permit and/or other enforcement measures provided in the Tennessee Air Quality Act.
- (4) Regardless of the specific emission standards contained in this Chapter, all sources identified in paragraph 1200-03-09-.01(4) of these regulations shall comply with the standards set pursuant to Chapter 1200-03-09.
- (5) Regardless of the specific emission standards contained in this Chapter, new and/or modified sources in or significantly impacting upon a nonattainment area must comply with the provisions of paragraph 1200-03-09-.01(5).
- (6) Except as otherwise allowed by subparagraph (d) of this paragraph, every owner or operator of a fuel burning installation having a total rated capacity greater than 1,000 million BTU per hour or of a process emission source emitting more than 1,000 tons per year of sulfur dioxide during any calendar year shall:
  - (a) Demonstrate to the satisfaction of the Technical Secretary that the sulfur dioxide emitted, either alone or in contribution to other sources, will not interfere with attainment and maintenance of any primary or secondary air quality standard. Any

(Rule 1200-03-14-.01, continued)

such demonstration must be based on the allowable emission rate specified in the source's construction or operating permit(s) and the source's maximum rated capacity.

- (b) Install and maintain air quality sensors to monitor attainment and maintenance of ambient air quality standards in the areas influenced by the emissions from such installation. Monitoring shall be performed, and results of such monitoring shall be provided in the manner and form directed by the Technical Secretary. Owners or operators may petition and be granted permission by the Technical Secretary to terminate ambient air quality monitoring provided two complete calendar years of air quality data have been generated in the area under the influence of the source's emissions. Petitions may be granted only if the conditions of parts 2. and 3. of this subparagraph are met. For the purpose of this paragraph, "complete" shall mean that all data were collected in accordance with the requirements for data collection, completeness, and quality assurance specified in the source's Title V Operating Permit.
  - 1. Reserved.
  - 2. The source must be located in an attainment area and must not significantly impact a sulfur dioxide nonattainment area.
  - 3. Measurements of air quality in the vicinity of the source demonstrate that ambient sulfur dioxide levels do not exceed 75 percent of the Tennessee Ambient Air Quality Standards.
- (c) Reserved.
- (d) The requirements of subparagraph (b) of this paragraph shall not apply to any fuel burning installation or process emission source located in an area in which the Technical Secretary operates one or more ambient sulfur dioxide air quality monitors in the area under the influence of the source's emissions.

**Authority:** T.C.A. §§ 4-5-201, et seq.; 4-5-202; 68-25-105; 68-201-101, et seq.; and 68-201-105.  
**Administrative History:** Original rule filed June 7, 1974. Repeal and new rule filed February 19, 1976; effective March 20, 1976. Amendment filed February 5, 1979; effective March 21, 1979. Amendment filed May 7, 1979; effective June 21, 1979. Amendment filed October 2, 1979; effective November 16, 1979. Amendment filed June 16, 1981; effective July 31, 1981. Amendment filed November 12, 1982; effective December 13, 1982. Amendment filed July 3, 1984; effective August 1, 1984. Amendment filed September 21, 1988; effective November 6, 1988. Amendment filed March 30, 2009; effective June 13, 2009. Amendments filed March 2, 2021; effective May 31, 2021.

#### 1200-03-14-.02 NON-PROCESS EMISSION STANDARDS.

- (1) Fuel Burning Installation in Operation Prior to April 3, 1972.
  - (a) The owner or operator of a fuel burning installation shall not cause, suffer, allow, or permit the emissions from that source of sulfur dioxide in excess of that contained in Table 1:

(Rule 1200-03-14-.02, continued)

TABLE 1

ALLOWABLE SO<sub>2</sub> EMISSIONS FOR FUEL BURNING INSTALLATIONS

IN TERMS OF POUNDS PER MILLION BTU/HR. HEAT INPUT  
(One Hour Average - Exceptions Mentioned in this Chapter)

| Rated Capacity                                 | Class I | Class IIA | Class IIB | Class III | Class V | Class VI | Class VII |
|--|---------|-----------|-----------|-----------|---------|----------|-----------|
| greater than<br>1000 x 10 <sup>6</sup> BTU/hr. | 1.2     | 1.2       | 3.4       | 2.4       | 4.0     | 5.0      | 2.8       |
| less than 1000 x 10 <sup>6</sup><br>BTU/hr.    | 1.6     | 5.0       | 5.0       | 2.4       | 4.0     | 5.0      | 5.0       |

- (b) The owner or operator of a fuel burning installation in a Class IV County shall not cause, suffer, allow, or permit emissions from that source of sulfur dioxide in excess of those listed in Table 2 or the following equation:

TABLE 2

| FUEL   | EMISSION LIMIT<br>(one hour average)  |
|--|---|
| Coal   | 4.0 lbs. SO <sub>2</sub> /10 <sup>6</sup> BTU                                   |
| No. 5 and No. 6 fuel oil and solid fuels other than coal | 2.7 lbs. SO <sub>2</sub> /10 <sup>6</sup> BTU                                   |
| All other fuels  | 0.5 lbs. SO <sub>2</sub> /10 <sup>6</sup> BTU                                   |
| $Q_{SO_2} =$   | $\frac{4.0 X + 2.7Y + 0.5Z}{X + Y + Z}$   |
| $Q_{SO_2} =$   | Allowable Sulfur Dioxide Emissions in lbs. SO <sub>2</sub> /10 <sup>6</sup> BTU |
| X =  | Heat input from coal  |
| Y =  | Heat input from No. 5 or No. 6 fuel oil and solid fuels other than coal         |
| Z =  | Heat input from all other fuel  |

- (c) For purpose of this rule, the total heat input (based on maximum rated capacity) from all fuel combustion units at a plant, premises, or installation shall be used for

(Rule 1200-03-14-.02, continued)

determining the maximum allowable emission of sulfur dioxide that passes through a stack or stacks. The heat value of the fuel that is not released within the fuel burning equipment shall not be considered as part of the heat input to the fuel burning installation.

- (d) Fuel burning installations containing units of fuel burning equipment larger than 600 million BTU per hour heat input and which were commenced before April 3, 1972 shall comply with the applicable sulfur dioxide emission limit specified in Table 1 or Table 2 for fuel burning installations greater than 1 billion BTU per hour heat input. However, for fuel burning installations containing fuel burning equipment meeting these requirements, a 24-hour averaging basis shall be utilized rather than a one hour basis. For units of fuel burning equipment in a fuel burning installation of less than 600 million BTU per hour heat input, the allowable sulfur dioxide emission limits shall be those determined by Table 1 or Table 2 of Rule 1200-14-.02(1)(a) or (1)(b).
- (2) Fuel Burning Equipment Constructed After April 3, 1972.
- (a) Fuel burning equipment with a rated capacity of 250 million BTU per hour or less heat input, shall not cause, suffer, allow, or permit the emission of sulfur dioxide in excess of 1.6 pounds per million BTU heat input (one hour average) in a Class I county, 2.4 pounds in a Class III county, 4.0 pounds in a Class V county, nor in excess of 5.0 pounds per million BTU heat input (one hour average) in a Class II, VI, or VII county. Emission limits for Class IV counties shall be those listed in Table 2.
- (b) The owner or operator of fuel burning equipment with a rated capacity greater than 250 million BTU per hour heat input shall not cause, suffer, allow, or permit the emissions from that source of sulfur dioxide in excess of the following:
1. .80 lbs. per million BTU heat input, maximum 1 hour average, when liquid fossil fuel is burned.
  2. 1.2 lbs. per million BTU heat input, maximum 1 hour average, when solid fossil fuel is burned.
  3. Where different fossil fuels are burned simultaneously in any combustion, the applicable standard shall be determined by proration. Compliance shall be determined by using the following formula:
 
$$\frac{Y(0.80) + Z(1.2)}{Y + Z}$$
- (c) Where:
1. Y is the percent of total heat input derived from liquid fossil fuel and,
  2. Z is the percent of total heat input derived from solid fossil fuel.
- (3) Limiting the Effect of the Definition of Modification. If an owner or operator of fuel burning equipment is ordered by the U.S. Department of Energy under the Energy Supply and Environmental Coordination Act of 1974, or any amendments thereto, or any subsequent enactment which supersedes such provisions, to switch fuels, required alterations to existing fuel burning equipment to accommodate these additional fuels shall not be deemed a modification for purposes of determining the allowable emissions as established by this rule.
- (4) Fuel Burning Equipment Relocated After November 6, 1988.



(Rule 1200-03-14-.02, continued)

Irrespective of the maximum allowable emission as determined in the preceding paragraphs in this rule, the maximum allowable sulfur dioxide emissions for non-portable fuel burning equipment which is relocated more than 1.0 km from the previous position after November 6, 1988, shall not exceed the greater of the actual emissions at its previous location or the allowable emissions for new fuel burning equipment.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule certified June 7, 1974. Repeal and new rule filed February 19, 1976; effective March 20, 1976. Amendment filed March 13, 1978; effective April 12, 1978. Amendment filed May 17, 1978; effective June 16, 1978. Amendment filed February 5, 1979; effective March 21, 1979. Amendment filed October 2, 1979; effective November 16, 1979. Amendment filed November 12, 1982; effective December 13, 1982. Amendment filed July 3, 1984; effective August 1, 1984. Amendment filed September 21, 1988; effective November 6, 1988. Amendment filed May 17, 1990; effective July 1, 1990.

### 1200-03-14-.03 PROCESS EMISSION STANDARDS.

- (1) On and after July 1, 1975, the owner or operator of an air contaminant source located in a Class I county shall not cause, suffer, allow, or permit the emission from that source of sulfur oxides (calculated as sulfur dioxide) in excess of 500 parts per million, 0.05 percent by volume, dry basis (one hour average). Different standards and averaging times may be met as an alternative, or as required, where they are specified in Chapter 1200-03-19.
- (2) On and after July 1, 1975, the owner or operator of an air contaminant source located in a Class II, III, or VII county shall not cause, suffer, allow, or permit the emission from that source of sulfur dioxide in excess of 1000 parts per million, 0.10 percent by volume, dry basis (one hour average).
- (3) On and after July 1, 1975, the owner or operator of an air contaminant source located in a Class IV, V or VI county shall not cause, suffer, allow, or permit the emission from that source of sulfur dioxide in excess of 2,000 parts per million, 0.20 percent by volume, dry basis (one hour average).
- (4) A process source in a Class IV county as an alternative to the standard in paragraph (3) above may request from the Technical Secretary of the Tennessee Air Pollution Control Board to be regulated by not being allowed to exceed their sulfur dioxide emission capacity in 1974, on a twenty-four hour and an annual basis. These emissions will be specified in a Board Order, as a permit condition, or other legally enforceable manner. This document will be incorporated into the State Implementation Plan. The cost of the legal notice involved must be paid by the requesting source. The Technical Secretary may approve such a request after being given adequate proof that this alternative standard will not cause any air quality standards to be violated, and the company has an adequate continuous air monitoring network for determining the impact of its emissions.
- (5) No person shall cause, suffer, allow, or permit the emissions from any new air contaminant source in excess of those limits specified in Chapter 1200-03-14-.03, paragraph (1), (2) or (3), whichever is applicable. Regardless of the specific emission standard, new sources shall utilize the best available control technology as deemed appropriate by the Technical Secretary of the Tennessee Air Pollution Control Board.
- (6) For purposes of this chapter, thermal oxidizers, and incinerators shall be construed as process emission sources.
- (7) Limiting the Effect of the Definition of Modification. For the purpose of determining the applicable sulfur dioxide emission standards in this rule, a change in fuel from natural gas,

(Rule 1200-03-14-.03, continued)

propane, butane, and/or fuel oil to any of these herein named fuels and any required alterations to existing fuel burning equipment to accommodate these fuels shall not be considered a modification.

- (8) Irrespective of the maximum allowable emission as determined in the preceding paragraphs of this rule, the maximum allowable sulfur dioxide emissions for a process emission source which is relocated more than 1.0 km from the previous position after November 6, 1988, shall not exceed the greater of the actual emissions at its previous location or the allowable emissions for a new process emission source.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule certified June 7, 1974. Repeal and new rule filed February 19, 1976; effective March 20, 1976. Amendment filed March 13, 1978; effective April 12, 1978. Amendment filed May 17, 1978; effective June 16, 1978. Amendment filed May 7, 1979; effective June 21, 1979. Amendment filed July 3, 1984; effective August 1, 1984. Amendment filed September 21, 1988; effective November 6, 1988. Amendment filed May 17, 1990; effective July 1, 1990. Amendment filed February 4, 1993; effective March 21, 1993.

**1200-03-14-.04 RESERVED.**

**Authority:** T.C.A. §§ 4-5-201, et seq.; 68-201-101, et seq.; and 68-201-105. **Administrative History:** New rule filed August 10, 2006; effective October 10, 2006. Amendments filed November 21, 2016; effective February 19, 2017.

**RULES  
OF  
TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
BUREAU OF ENVIRONMENT  
DIVISION OF AIR POLLUTION CONTROL**

**CHAPTER 1200-3-15  
EMERGENCY EPISODE PLAN**

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**1200-3-15-.01 PURPOSE.**

It is the purpose of this chapter to establish criteria so as to prevent undesirable levels of air contaminants during adverse meteorological conditions. Primary responsibility to initiate activity required by this chapter during stagnant atmosphere periods rests with the Technical Secretary according to T.C.A. §53-3414(G).

*Authority:* T.C.A. §§53-3412. *Administrative History:* Original rule filed January 10, 1977; effective February 9, 1977.

**1200-3-15-.02 EPISODE CRITERIA.**

- (1) Conditions justifying the proclamation of an air pollution alert, air pollution warning, or air pollution emergency shall be deemed to exist when the Technical Secretary will be guided by the criteria in the remaining paragraphs of this rule.
- (2) "Air Pollution Forecast": An internal watch by the Division of Air Pollution Control shall be actuated by a National Weather Service advisory that Atmospheric Stagnation Advisory is in effect or the equivalent local forecast or stagnant atmospheric conditions.
- (3) "Air Pollution Alert": The Alert level is that concentration of pollutions at which emissions reductions must begin. An Alert will be declared when any one of the following levels is reached at any monitoring site:
  - (a) SO<sub>2</sub>--800 ug/m<sup>3</sup>(0.3 ppm), 24-hour average.
  - (b) PM<sub>10</sub>--350 ug/m<sup>3</sup>, 24-hour average.
  - (c) Reserved
  - (d) CO--17 mg/m<sup>3</sup> (15 ppm), 8-hour average.
  - (e) Ozone (O<sub>3</sub>)--400 ug/m<sup>3</sup> (0.2 ppm)--1 hr. average.
  - (f) NO<sub>2</sub>--1130 ug/m<sup>3</sup> (0.6 ppm), 1-hr. average; 282 ug/m<sup>3</sup> (0.15 ppm), 24-hour average.

And meteorological conditions are such that pollutant concentrations can be expected to remain at the above levels for twelve (12) or more hours or increase unless control actions are taken, or in the case of ozone, the situation is likely to reoccur within the next twenty-four (24) hours unless control actions are taken.

(Rule 1200-3-15-.02, continued)

- (4) “Air Pollution Warning”: The warning level indicates that air quality is continuing to degrade and that additional control actions are necessary. A warning will be declared when any one of the following levels is reached at any monitoring site:
- (a) SO<sub>2</sub>-1,600 ug/m<sup>3</sup>(0.6 ppm), 24-hour average.
  - (b) PM<sub>10</sub>-420 ug/m<sup>3</sup>, 24-hour average.
  - (c) Reserved.
  - (d) CO-34 mg/m<sup>3</sup> (30 ppm), 8-hour average.
  - (e) Ozone (O<sub>3</sub>)-800 ug/m<sup>3</sup> (0.4 ppm), 1-hour average.
  - (f) NO<sub>2</sub>-2,260 ug/m<sup>3</sup> (1.2 ppm)--1 hour average; 565 ug/m<sup>3</sup> (0.3 ppm), 24-hour average.

And meteorological conditions are such that pollutant concentrations can be expected to remain at the above levels for twelve (12) or more hours or increase unless control actions are taken, or in the case of ozone, the situation is likely to reoccur within the next twenty-four (24) hours unless control actions are taken.

- (5) “Air Pollution Emergency”: The emergency level indicates that air quality is continuing to degrade to a level which could cause an unreasonable risk to public health, and that the most stringent control actions are necessary. An emergency will be declared when any one of the following levels is reached at any monitoring site:
- (a) SO<sub>2</sub>-2,100 ug/m<sup>3</sup> (0.8 ppm), 24-hour average.
  - (b) PM<sub>10</sub>-500 ug/m<sup>3</sup>, 24-hour average.
  - (c) Reserved.
  - (d) CO-46 mg/m<sup>3</sup> (40 ppm), 8-hour average.
  - (e) Ozone (O<sub>3</sub>)-1,000 ug/m<sup>3</sup> (0.5 ppm), 1-hour average.
  - (f) NO<sub>2</sub>--3,000 ug/m<sup>3</sup> (1.6 ppm) 1-hour average; 750 ug/m<sup>3</sup> (0.4 ppm), 24-hour average.

And meteorological conditions are such that this condition can be expected to continue for twelve (12) or more hours, or in the case of ozone, the situation is likely to reoccur within the next twenty-four (24) hours unless control actions are taken.

- (6) “Terminations”: Once declared, any status reached by application of these criteria will remain in effect until the criteria for that level are no longer met. At such time, the next lower status will be assumed.

**Authority:** T.C.A. §§68-201-105 and 4-5-202 et. seq. **Administrative History:** Original rule filed January 10, 1977; effective February 9, 1977. Amendment filed May 12, 1993; effective June 26, 1993.

**1200-3-15-.03 REQUIRED EMISSIONS REDUCTIONS.**

- (1) When the Technical Secretary has declared that an air pollution alert, an air pollution warning, or an air pollution emergency exists, all persons must follow the requirements for that episode level as outlined in Tables 1, 2, or 3 or the air pollution episode emissions reduction plan approved in accordance with paragraphs (2), (3), (4), (5), or (6) on this rule. If a plan has been approved emissions must be reduced to that level or lower.
- (2) Major sources in or significantly impacting a nonattainment area must submit to the Technical Secretary an acceptable air pollution episode emissions reduction plan to be followed during the alert, warning, and emergency levels or an air pollution episode. The term "Major source" as used above means any of the following types of stationary sources of air pollutants which emit, or have the potential to emit, one hundred tons per year or more of any air pollutant from the following types of stationary sources: fossil fuel fired steam electric plants of more than two hundred fifty-million British thermal units per hour heat input, coal cleaning plants (thermal dryers), kraft pulp mills, Portland cement plants, primary zinc smelters, iron and steel plants, primary aluminum ore reduction plants, primary copper smelters, municipal incinerators capable of charging more than two hundred fifty tons of refuse per day, hydrofluoric, sulfuric, and nitric acid plants, petroleum refineries, lime plants, phosphate rock processing plants, coke oven batteries, sulfur plants, phosphate rock processing plants, sulfur recovery plants, carbon black plants (furnace process), primary lead smelters, fuel conversion plants, sintering plants, secondary metal production facilities, chemical process plants, fossil-fuel boilers of more than two-hundred and fifty million British thermal units per hour heat input, petroleum storage and transfer facilities with a capacity exceeding three hundred thousand barrels, taconite ore processing facilities, glass fiber processing plants, charcoal production facilities. Such term also includes any other sources with the potential to emit two hundred and fifty tons per year or more of any air pollutant. Only the pollutants for which the area is nonattainment are considered in determining whether a source is a major source.
- (3) Any source subject to paragraph (2) above must submit a revised air pollution episode emissions reduction plan at the request of the Technical Secretary should the nature and quality of the source's emissions change or the original plan be deemed inadequate.
- (4) The owners and operators of other air contaminant sources, having a smaller potential for emissions than one hundred tons per year, may file an acceptable air pollutant episode emissions reduction plan for use during an air pollution episode if they feel they can contribute through other measures as much or more benefit to the reduction of the health hazard in the area at a lower cost to themselves.
- (5) Where specific actions may be necessary to relieve a health hazard by sources emitting at lower levels than indicated in paragraph (2) above, the Technical Secretary may require the submittal of an acceptable plan from the owner or operators of that source. The owner or operator will have thirty (30) days to submit the plan, once it has been required.
- (6) If the owners or operators of any source required to have an approved air pollution episode emissions reduction plan on file with the Technical Secretary by paragraphs (2), (3), or (5) above, fail to submit an approvable plan, the Technical Secretary may schedule an Administrative Hearing to set an approved air pollution episode emissions reduction plan for that air pollution source.

(Rule 1200-3-15-.03, continued)

TABLE 1  
EMISSION REDUCTION PLANS

ALERT LEVEL

Part A. GENERAL

1. There shall be no open burning by any persons of tree waste, vegetation, refuse, or debris in any form.
2. The use of incinerators for the disposal of any form of solid waste shall be limited to the hours between 12:00 noon and 4:00 p.m.
3. Persons operating fuel-burning equipment which requires boiler lancing or soot blowing shall perform such operations only between the hours of 12:00 noon and 4:00 p.m.
4. The Tennessee Air Pollution Control Division encourages persons operating motor vehicles to eliminate all unnecessary operation.

Part B. SOURCE CURTAILMENT

Any person responsible for the operation of a source of air pollutants listed below shall take all required control actions for this Alert Level.

| <u>Source of Air Pollution</u>                             | <u>Control Action</u>  |
|--|--|
| 1. Coal or oil-fired electric power generating facilities. | <ol style="list-style-type: none"> <li>a. Substantial reduction by utilization of fuels having low ash and sulfur content.</li> <li>b. Maximum utilization of mid-day (12:00 noon to 4:00 p.m.) atmospheric turbulence for boiler lancing and soot blowing.</li> <li>c. Substantial reduction by diverting electric power generation to facilities outside of Alert Area.</li> </ol> |
| 2. Coal and oil-fired process steam generating facilities. | <ol style="list-style-type: none"> <li>a. Substantial reduction by utilization of fuels having low ash and sulfur content.</li> <li>b. Maximum utilization of mid-day (12:00 noon to 4:00 p.m.) atmospheric turbulence for boiler lancing and soot blowing.</li> <li>c. Substantial reduction of steam load demands consistent with continuing plant operations.</li> </ol>          |
| 3. Manufacturing industries of the following               | <ol style="list-style-type: none"> <li>a. Substantial reduction of air contaminants</li> </ol>   |

(Rule 1200-3-15-.03, continued)

classifications:

Primary Metals Industry

Petroleum Refining Operations

Chemical Industries

Mineral Processing Industries

Paper and Allied Products

Grain Industry

from manufacturing operations by curtailing, postponing, or deferring production and all operations.

b. Maximum reduction by deferring trace waste disposal operations which emit solid particles, gases, vapors or malodorous substance.

c. Maximum reduction of heat load demands for processing.

d. Maximum utilization of mid-day (12:00 noon to 4:00 p.m.) atmospheric turbulence for boiler lancing or soot blowing.

TABLE 2

EMISSION REDUCTION PLANS

WARNING LEVEL

Part A. GENERAL

1. There shall be no open burning by any persons of tree waste, vegetation, refuse, or debris in any form.
2. The use of incinerators for the disposal of any form of solid waste shall be limited to the hours between 12:00 noon and 4:00 p.m.
3. Persons operating fuel-burning equipment which requires boiler lancing or soot blowing shall perform such operations only between the hours of 12:00 noon and 4:00 p.m.
4. The Tennessee Air Pollution Control Division encourages persons operating motor vehicles to reduce operations by the use of car pools and increase use of public transportation and the elimination of unnecessary operation.

Part B. SOURCE CURTAILMENT

Any person responsible for the operation of a source of air pollutants listed below shall take all required control actions for this Warning Level.

Source of Air Pollution

Control Level

1. Coal or oil-fired electric power generating facilities.
  - a. Maximum reduction by utilization of fuels having lowest ash and sulfur content.
  - b. Maximum utilization of mid-day (12:00 noon to 4:00 p.m.) atmospheric turbulence for boiler lancing and soot blowing.
  - c. Maximum reduction by diverting electric

(Rule 1200-3-15-.03, continued)

power generation to facilities outside of Warning area.

- 
- 2. Coal and oil-fired process steam generating facilities.
    - a. Maximum reduction by utilization of fuels having the lowest available ash and sulfur content.
    - b. Maximum utilization of mid-day (12:00 noon to 4:00 p.m.) atmospheric turbulence for boiler lancing and soot blowing.
    - c. Making ready for use a plan of action to be taken if an emergency develops.
- 

- 3. Manufacturing industries which require considerable lead time for shut-down including the following classifications:
    - Petroleum Refining
    - Chemical Industries
    - Primary Metal Industries
    - Glass Industries
    - Paper and Allied Products
    - a. Maximum reduction of air contaminants from manufacturing operations by, if necessary, assuming reasonable economic hardship by postponing production and allied operation.
    - b. Maximum reduction by deferring trade waste disposal operations which emit solid particles, gases, vapors, or malodorous substances.
    - c. Maximum reduction of heat load demands for processing.
    - d. Maximum utilization of mid-day (12:00 noon to 4:00 p.m.) atmospheric turbulence for boiler lancing or soot blowing.
- 

- 4. Manufacturing industries which require relatively short lead times for shut-down including the following classifications:
  - Primary Metals Industries
  - Chemical Industries
  - Mineral Processing Industries
  - Grain Industry
  - a. Elimination of air contaminants from manufacturing operations by ceasing, curtailing, postponing, or deferring production and allied operations to the extent possible without causing injury to persons or damage.
  - b. Elimination of air contaminants from trade waste disposal processes which emit solid particles, gases, vapors, or malodorous substances.
  - c. Maximum reduction of heat load demands for processing.
  - d. Maximum utilization of mid-day (12:00 noon to 4:00 p.m.) atmospheric turbulence for boiler lancing or soot blowing.



(Rule 1200-3-15-.03, continued)

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TABLE 3  
EMISSION REDUCTION PLANS  
EMERGENCY LEVELS

## Part A. GENERAL

1. There shall be no open burning by any persons of tree waste, vegetation, refuse or debris in any form.
2. The use of incinerators for the disposal of any form of solid or liquid waste shall be prohibited.
3. All places of employment described below shall immediately cease operations.
  - a. Mining and quarrying of non-metallic minerals.
  - b. All construction work except that which must proceed to avoid emergent physical harm.
  - c. All air contaminant sources except those required to have in force an air pollution emergency plan.
4. Any commercial and manufacturing establishments not included in this order will institute such actions as will result in maximum reduction of air pollutants from their operations by ceasing, curtailing, or postponing operations which emit air pollutants to the extent possible without causing injury to persons or damage to equipment.
5. The Tennessee Air Pollution Control Division encourages the users of motor vehicles to cease usage except in emergencies.

## Part B. SOURCE CURTAILMENT

Any person responsible for the operation of a source of air pollutants listed below shall take all required control actions for this Emergency Level.

| <u>Source of Air Pollution</u>                             | <u>Control Level</u>  |
|--|---|
| 1. Coal or oil-fired electric power generating facilities. | <ol style="list-style-type: none"> <li>a. Maximum reduction by utilization of fuels having lowest ash and sulfur content.</li> <li>b. Maximum utilization of mid-day (12:00 noon to 4:00 p.m.) atmospheric turbulence for boiler lancing and soot blowing.</li> <li>c. Maximum reduction by diverting electric power generation to facilities outside of Emergency area.</li> </ol> |

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(Rule 1200-3-15-.03, continued)

- |  |    |   |
|--|----|---|
| 2. Coal and oil-fired process steam generating facilities. | a. | Maximum reduction by reducing heat and steam demands to absolute necessities consistent with preventing equipment damage. |
|  | b. | Maximum utilization of mid-day (12:00 noon to 4:00 p.m.) atmospheric turbulence for boiler lancing and soot blowing.      |
|  | c. | Taking the action called for in the emergency plan.   |
- 
- |   |    |   |
|---|----|---|
| 3. Manufacturing industries of the following classifications: | a. | Elimination of air contaminants from manufacturing operations by ceasing, curtailing, postponing or deferring production and allied operations to the extent possible without causing injury to persons or damage to equipment. |
| Primary Metals Industries                                     |    |   |
| Petroleum Refining  |    |   |
| Chemical Industries   | b. | Elimination of air contaminants from trade waste disposal processes which emit solid particles, gases, vapors, or malodorous substances.  |
| Mineral Processing Industries                                 |    |   |
| Grain Industry  | c. | Maximum reduction of heat load demands for processing.  |
| Paper and Allied Products                                     | d. | Maximum utilization of mid-day (12:00 noon to 4:00 p.m.) atmospheric turbulence for boiler lancing or soot blowing.   |

**Authority:** T.C.A. Section 53-3412. **Administrative History:** Original rule filed January 10, 1977; effective February 9, 1977. Amendment filed March 31, 1981; effective May 15, 1981.

**RULES  
OF  
THE TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
DIVISION OF AIR POLLUTION CONTROL**

**CHAPTER 1200-03-16  
NEW SOURCE PERFORMANCE STANDARDS**

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**1200-03-16-.01 GENERAL PROVISIONS.**

- (1) When a standard for visible emissions, particulate matter, sulfur oxides, or any other pollutant is specified for an affected facility in this chapter, it will supersede the standards in any other rule of the regulations. Otherwise, all the provisions of the other regulations, concerning those pollutants shall remain in full effect for all sources regulated under this chapter.

(Rule 1200-03-16-.01, continued)

- (2) No person shall cause, suffer, allow, or permit emissions in excess of the standards in this chapter.
- (3) Applicability. Unless specifically defined in subsequent rules, the provisions of this chapter shall apply to the owner or operator of any source which contains any new or modified affected facility commenced after the date specified in each rule. Regardless of the specific emission standards contained in this chapter, new and/or modified sources in or significantly impacting upon a nonattainment area must comply with the provisions of paragraph 1200-03-09-.01(5). Regardless of the specific emission standards contained in this chapter, all sources identified in paragraph 1200-03-09-.01(4) of these regulations shall comply with the standards set pursuant to chapter 1200-03-09.
- (4) (a) Definitions. As used in this chapter, all terms not defined herein shall have the meaning given them in chapter 1200-03-02.
  1. "Affected facility" means, with reference to a stationary source, any apparatus to which a standard is applicable.
  2. "Capital expenditure" means an expenditure for a physical or operational change to an existing facility which exceeds the product of the applicable "annual asset guidelines repair allowance percentage" specified in the latest edition of Internal Revenue Service Publication 534 and the existing facility's basis, as defined by section 1012 of the Internal Revenue Code.
  3. "Continuous monitoring system" means the total equipment, required under the emission monitoring paragraphs in applicable rules, used to sample and condition (if applicable), to analyze, and to provide a permanent record of emissions or process parameters.
  4. "Existing facility" means, with reference to a stationary source, any apparatus of the type for which a standard is promulgated in this chapter, and the construction or modification of which was commenced before the date specified in a given rule; or any apparatus which could be altered in such a way as to be of that type.
  5. "One-Hour Period" means any 60 minute period commencing on the hour.
  6. "Modification" means any physical change in, or change in the method of operation of, an existing facility which increases the amount of any air pollutant (to which a standard applies) emitted into the atmosphere by that facility or which results in the emission of any pollutant (to which a standard applies) into the atmosphere not previously emitted. The application of this definition is further defined in paragraph (9) of this rule.
  7. "Monitoring device" means the total equipment required under the monitoring paragraphs in applicable rules, used to measure and record (if applicable) process parameters.
  8. "Nitrogen oxides" means all oxides of nitrogen except nitrous oxide measured by the reference method.
  9. "Particulate matter" means any finely divided solid or liquid material, other than uncombined water, as measured by the reference method or an equivalent or alternate method.

(Rule 1200-03-16-.01, continued)

10. "Run" means the net period of time during which an emission sample is collected. Unless otherwise specified, a run may be either intermittent or continuous within the limits of good engineering practice.
  11. "Six-minute period" means any one of ten equal parts of a one-hour period.
  12. "Standard conditions" means a temperature of 20°C (68°F) and a pressure of 760mm of Hg (29.92 in. of Hg).
- (b) Each rule in this chapter may contain additional definitions that apply just in that rule only unless specifically referred to in other rules of these regulations.
- (5) Performance test:
- (a) Within sixty (60) days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility and at such other times as may be required by the Technical Secretary, the owner or operator of such facility shall conduct performance test(s) and furnish the Technical Secretary a written report of the results of such performance test(s).
  - (b) Performance tests shall be conducted and data reduced in accordance with the test methods and procedures specified in subparagraph (g) of this paragraph or in the latter rules of this chapter, unless the Technical Secretary:
    1. Specifies or approves the use of a reference method with minor changes in methodology.
    2. Approves the use of an equivalent method.
    3. Approves the use of an alternative method the results of which it has determined to be adequate for indicating whether a specific source is in compliance.
  - (c) Performance tests shall be conducted under such conditions as the Technical Secretary shall specify to the plant operator based on representative performance of the affected facility. The owner or operator shall make available to the Technical Secretary such records as may be necessary to determine the conditions of the performance tests. Operations during periods of startups, shutdown, and malfunctions shall not constitute representative conditions of performance tests unless otherwise specified in the applicable standard.
  - (d) The owner or operator of an affected facility shall provide the Technical Secretary ten (10) days prior notice of the performance test to afford the Technical Secretary the opportunity to have an observer present.
  - (e) The owner or operator of an affected facility shall provide, or cause to be provided, performance testing facilities as follows:
    1. Sampling ports adequate for test methods applicable to such facility.
    2. Safe sampling platform(s).
    3. Safe access to sampling platform(s).
    4. Utilities for sampling and testing equipment.

(Rule 1200-03-16-.01, continued)

- (f) Each performance test shall consist of three (3) separate runs using the applicable test method. Each run shall be conducted for such time and under such conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic means of results of the three (3) runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one (1) of the three (3) runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances, beyond the owner or operator's control, compliance may, upon the Technical Secretary's approval, be determined using the arithmetic mean of the results of the two (2) other runs.
- (g) The reference methods and procedures to be used for any tests required in this chapter, except as provided in subparagraph (b) of this paragraph, are as follows:

(Note: All references to ASTM in this chapter refers to the American Society for Testing Materials. Copies of methods are available for purchase by writing to ASTM, 1916 Race Street, Philadelphia, PA 19103 or by writing to the Tennessee Division of Air Pollution Control, 701 Broadway, 4th Floor Customs House, Nashville, TN 37219. Be sure and specify which method is desired).

1. Sample and Velocity Traverses for Stationary Sources

Sample and velocity traverses shall be determined by Method 1 outlined in the *Federal Register*, Vol. 42, No. 160, August 18, 1977, beginning on page 41755, as amended in the *Federal Register*, Vol. 43, No. 57, March 23, 1978, on page 11984, and as amended in the *Federal Register*, Vol. 48, No. 191, September 30, 1983, beginning on page 45035, and as amended in the *Federal Register*, Vol. 51, No. 107, June 4, 1986, beginning on page 20288, and as amended in the *Federal Register*, Vol. 51, No. 157, August 14, 1986, on page 29104.

2. Determination of Stack Gas Velocity and Volumetric Flow Rate (Type S Pitot Tube)

Stack gas velocity and volumetric flow rate shall be determined with a type S pitot tube by Method 2 outlined in the *Federal Register*, Vol. 42, No. 160, August 18, 1977, beginning on page 41758, and as amended in the *Federal Register*, Vol. 43, No. 57, March 23, 1978, on page 11984, or by one of the following alternative methods:

(i) Direct Measurement of Gas Volume Through Pipes and Small Ducts

Gas volume through pipes and small ducts shall be determined by direct measurement by Method 2A outlined in the *Federal Register*, Vol. 48, No. 161, August 18, 1983, beginning on page 37592.

(ii) Determination of Exhaust Gas Volume Flow Rate from Gasoline Vapor Incinerators

Exhaust gas volume flow rate from gasoline vapor incinerators shall be determined by Method 2B outlined in the *Federal Register*, Vol. 48, No. 161, August 18, 1983, beginning on page 37594.

(iii) Reserved

(iv) Reserved

(Rule 1200-03-16-.01, continued)

3. Gas Analysis for Carbon Dioxide, Oxygen, Excess Air, and Dry Molecular Weight  
Carbon dioxide, oxygen, excess air, and dry molecular weight shall be determined by gas analysis by Method 3 outlined in the *Federal Register*, Vol. 42, No. 160, August 18, 1977, beginning on page 41768, as amended in the *Federal Register*, Vol. 43, No. 57, March 23, 1978, on page 11984, and as amended in the *Federal Register*, Vol. 48, No. 207, October 25, 1983, beginning on page 49459, or by the following alternative method:

- (i) Determination of Oxygen and Carbon Dioxide Concentrations in Emissions From Stationary Sources (Instrument Analyzer Procedure)

Oxygen and carbon dioxide concentrations in emissions from stationary sources shall be determined by an instrument analyzer procedure by Method 3A outlined in the *Federal Register*, Vol. 49, No. 248, December 24, 1984, beginning on page 49964, as amended in the *Federal Register*, Vol. 51, No. 112, June 11, 1986, beginning on page 21166.

4. Determination of Moisture Content in Stack Gases

Moisture content in stack gases shall be determined by Method 4 outlined in the *Federal Register*, Vol. 42, No. 160, August 18, 1977, beginning on page 41771, as amended in the *Federal Register*, Vol. 43, No. 57, March 23, 1978, beginning on page 11984, and as amended in the *Federal Register*, Vol. 48, No. 241, December 14, 1983, on page 55671.

5. Determination of Particulate Emissions from Stationary Sources

Particulate emissions from stationary sources shall be determined by Method 5 outlined in the *Federal Register*, Vol. 42, No. 160, August 18, 1977, beginning on page 41776, as amended in the *Federal Register*, Vol. 43, No. 57, March 23, 1978, on page 11985, as amended in the *Federal Register*, Vol. 45, No. 196, October 7, 1980, on page 66752, as amended in the *Federal Register*, Vol. 48, No. 167, August 26, 1983, beginning on page 39011, as amended in the *Federal Register*, Vol. 48, No. 241, December 14, 1983, on page 55671, and as amended in the *Federal Register*, Vol. 50, No. 6, January 9, 1985, beginning on page 1165; or by one of the following alternative methods:

- (i) Determination of Particulate Emissions from the Asphalt Processing and Asphalt Roofing Industry

Particulate Emissions from the asphalt processing and asphalt roofing industry shall be determined by Method 5A outlined in the *Federal Register*, Vol. 47, No. 153, August 6, 1982, beginning on page 34145, and as amended in the *Federal Register*, Vol. 51, No. 177, September 12, 1986 on page 32455.

- (ii) Determination of Nonsulfuric Acid Particulate Matter from Stationary Sources.

Particulate matter emissions from Nonsulfuric Acid from stationary sources shall be determined by Method 5B outlined in the *Federal Register*, Vol. 51, No. 228, November 26, 1986, beginning on page 42842.

- (iii) Reserved

- (iv) Determination of Particulate Matter Emissions from Positive Pressure Fabric Filters

(Rule 1200-03-16-.01, continued)

Particulate matter emissions from positive pressure fabric filters shall be determined by Method 5D outlined in the *Federal Register*, Vol. 49, No. 212, October 31, 1984, beginning on page 43847, and as amended in the *Federal Register*, Vol. 51, No. 177, September 12, 1986, on page 32455.

- (v) Determination of Particulate Emission from the Wool Fiberglass Insulation Manufacturing Industry

Particulate emission from the wool fiberglass insulation manufacturing industry shall be determined by Method 5E outlined in the *Federal Register*, Vol. 50, No. 37, February 25, 1985, beginning on page 7701.

- (vi) Determination of Nonsulfate Particulate Matter from Stationary Sources.

Non-sulfate particulate matter from stationary sources shall be determined by Method 5F outlined in the *Federal Register*, Vol. 51, No. 228, November 26, 1986, on page 42842.

6. Determination of Sulfur Dioxide Emissions from Stationary Sources

Sulfur dioxide emissions from stationary sources shall be determined by Method 6 outlined in the *Federal Register*, Vol. 42, No. 160, August 18, 1977, beginning on page 41783, as amended in the *Federal Register*, Vol. 43, No. 57, March 23, 1978, on page 11985, as amended in the *Federal Register*, Vol. 48, No. 167, August 26, 1983, on page 39013, and as amended in the *Federal Register*, Vol. 49, No. 125, June 27, 1984, on page 26524, or by one of the following alternative methods:

- (i) Determination of Sulfur Dioxide, Moisture, and Carbon Dioxide Emissions from Fossil Fuel Combustion Sources

Sulfur dioxide, moisture, and carbon dioxide emissions from fossil fuel combustion sources shall be determined by Method 6A outlined in the *Federal Register*, Vol. 47, No. 231, December 1, 1982, beginning on page 54079, and as amended in the *Federal Register*, Vol. 49, No. 51, March 14, 1984, beginning on page 9684, and as amended in the *Federal Register*, Vol. 51, No. 177, September 12, 1986, on page 32455.

- (ii) Determination of Sulfur Dioxide and Carbon Dioxide Daily Average Emissions from Fossil Fuel Combustion Sources

Sulfur dioxide and carbon dioxide daily average emissions from fossil fuel combustion sources shall be determined by Method 6B outlined in the *Federal Register*, Vol. 47, No. 231, December 1, 1982, beginning on page 54079, and as amended in the *Federal Register*, Vol. 49, No. 51, March 14, 1984, beginning on page 9685, and as amended in the *Federal Register*, Vol. 51, No. 177, September 12, 1986, beginning on page 32455.

- (iii) Determination of Sulfur Dioxide Emissions from Stationary Sources (Instrumental Analyzer Procedure)

Sulfur dioxide emissions from stationary source shall be determined by an instrumental analyzer procedure by Method 6C outlined in the *Federal Register*, Vol. 49, No. 248, December 24, 1984, beginning on page 49965,



(Rule 1200-03-16-.01, continued)

and as amended in the *Federal Register*, Vol. 51, No. 112, June 11, 1986, beginning on page 21167.

7. Determination of Nitrogen Oxide Emissions from Stationary Sources

Nitrogen oxide emissions from stationary sources shall be determined by Method 7 outline in the *Federal Register*, Vol. 42, No. 160, August 18, 1977, as amended in the *Federal Register*, Vol. 43, No. 57, March 23, 1978, beginning on page 11985, and as amended in the *Federal Register*, Vol. 49, No. 125, June 27, 1984, beginning on page 26524, or by one of the following alternative methods:

(i) Determination of Nitrogen Oxide Emissions from Stationary Sources (Ion Chromatographic Method)

Nitrogen oxide emissions from stationary sources shall be determined by an ion chromatographic method by Method 7A outlined in the *Federal Register*, Vol. 48, No. 237, December 8, 1983, beginning on page 55073.

(ii) Determination of Nitrogen Oxide Emissions from Stationary Sources (Ultraviolet Spectrophotometric Method).

Nitrogen oxide emissions from stationary sources shall be determined by an ultraviolet spectrophotometric method by Method 7B outlined in the *Federal Register*, Vol. 50, No. 78, April 23, 1985, beginning on page 15894.

(iii) Determination of Nitrogen Oxide Emissions from Stationary Sources (Alkaline-Permanganate/Colorimetric Method)

Nitrogen oxide emissions from stationary sources shall be determined by an alkaline-permanganate/colorimetric method by Method 7C outlined in the *Federal Register*, Vol. 49, No. 189, September 27, 1984, beginning on page 38234.

(iv) Determination of Nitrogen Oxide Emissions from Stationary Sources (Alkaline-Permanganate/Ion Chromatographic Method)

Nitrogen oxide emissions from stationary sources shall be determined by alkaline-permanganate/ion chromatographic method by Method 7D outlined in the *Federal Register*, Vol. 49, No. 189, September 27, 1984, beginning on page 38237.

(v) Determination of Nitrogen Oxides Emissions from Stationary Sources (Instrumental Analyzer Procedure)

Nitrogen oxides emissions from stationary sources shall be determined by an instrumental analyzer procedure by Method 7E outlined in the *Federal Register*, Vol. 49, No. 248, December 24, 1984, beginning on page 49971, and as amended in the *Federal Register*, Vol. 51, No. 112, June 11, 1986, beginning on page 21171.

8. Determination of Sulfuric Acid Mist and Sulfur Dioxide Emissions from Stationary Sources.

Sulfuric acid mist and sulfur dioxide emissions from stationary sources shall be determined by Method 8 outlined in the *Federal Register*, Vol. 42, No. 160,

(Rule 1200-03-16-.01, continued)

August 18, 1977, beginning on page 41786, and as amended in the *Federal Register*, Vol. 43, No. 57, March 25, 1978, on page 11986.

9. Visual Determination of the Opacity of Emissions from Stationary Sources

The opacity of emissions from stationary sources shall be determined either visually by Method 9 outlined in the *Federal Register*, Vol. 39, No. 219, November 12, 1974, beginning on page 39874, or by the following alternative methods:

(i) Determination of the Opacity of Emissions from Stationary Sources Remotely by Lidar.

The opacity of emissions from stationary sources shall be determined remotely by a mobile lidar system (laser radar; Light Detection and Ranging) by Alternate Method 1 to Method 9 outlined in the *Federal Register*, Vol. 46, No. 208, October 28, 1981, beginning on page 53144, and as amended in the *Federal Register*, Vol. 47, No. 127, July 1, 1982, beginning on page 28624.

10. Determination of Carbon Monoxide Emissions from Stationary Sources

Carbon monoxide emissions from stationary sources shall be determined by Method 10 outlined in the *Federal Register*, Vol. 39, No. 47, March 8, 1974, beginning on page 9319.

11. Determination of Hydrogen Sulfide Content of Fuel Gas Streams in Petroleum Refineries

Hydrogen sulfide content of fuel gas streams in petroleum refineries shall be determined by Method 11 outlined in the *Federal Register*, Vol. 43, No. 6, January 10, 1978, beginning on page 1494.

12. Determination of Inorganic Lead Emissions from Stationary Sources

Inorganic lead emissions from stationary sources shall be determined by Method 12 outlined in the *Federal Register*, Vol. 47, No. 74, April 16, 1982, beginning on page 16564, as amended in the *Federal Register*, Vol. 49, No. 166, August 24, 1984, beginning on page 33842, and as amended in the *Federal Register*, Vol. 49, No. 186, September 24, 1984, on page 37384.

13. Determination of Total Fluoride Emissions from Stationary Sources

Total fluoride emissions from stationary sources shall be determined by either one of the following methods:

(i) Determination of Total Fluoride Emissions from Stationary Sources, SPADNS Zirconium Lake Method

Total fluoride emissions from stationary sources shall be determined by the SPADNS Zirconium Lake method by Method 13A outlined in the *Federal Register*, Vol. 45, No. 121, June 20, 1980, beginning on page 41852, and as amended in the *Federal Register*, Vol. 45, No. 249, December 24, 1980, on page 85016, or

(Rule 1200-03-16-.01, continued)

- (ii) Determination of Total Fluoride Emissions from Stationary Sources; Specific Ion Electrode Method

Total Fluoride emissions from stationary sources shall be determined by the specific ion electrode method by Method 13B outlined in the *Federal Register*, Vol. 45, No. 121, June 20, 1980, beginning on page 41852, and as amended in the *Federal Register*, Vol. 45, No. 249, December 24, 1980, on page 85016.

14. Determination of Fluoride Emissions from Potroom Roof Monitors for Primary Aluminum Plants

Fluoride emissions from potroom roof monitors for primary aluminum plants shall be determined by Method 14 outlined in the *Federal Register*, Vol. 45, No. 127, June 30, 1980, beginning on page 44202.

15. Determination of Hydrogen Sulfide, Carbonyl Sulfide, and Carbon Disulfide Emissions from Stationary Sources

Hydrogen sulfide, carbonyl sulfide, and carbon disulfide emissions from stationary sources shall be determined by either Method 15 outlined in the *Federal Register*, Vol. 43, No. 51, March 15, 1978, beginning on page 10866, or by the following alternative method:

- (i) Determination of Total Reduced Sulfur emissions from sulfur recovery plants in petroleum refineries shall be determined by Method 15A outlined in the *Federal Register*, Vol. 52, No. 104, June 1, 1987, beginning on page 20391.

Nonsulfate particulate matter emissions from stationary sources shall be determined by Method 5F outlined in the *Federal Register*, Vol. 51, No. 228, November 26, 1986, beginning on page 42842.

16. Semicontinuous Determination of Sulfur Emissions from Stationary Sources

Sulfur emissions from stationary sources shall be determined by either a semicontinuous procedure by Method 16 outlined in the *Federal Register*, Vol. 43, No. 37, February 23, 1978 beginning on page 7575, as amended in the *Federal Register*, Vol. 43, No. 152, August 7, 1978, beginning on page 34785, and as amended in the *Federal Register*, Vol. 44, No. 9, January 12, 1979, beginning on page 2579, or by the following alternative method:

- (i) Determination of Total Reduced Sulfur Emissions from Stationary Sources (Impinger Technique)

Total reduced sulfur emissions from stationary sources shall be determined by an impinger technique by Method 16A outlined in the *Federal Register*, Vol. 50, No. 46, March 8, 1985, beginning on page 9597.

17. Determination of Particulate Emissions from Stationary Sources (In-Stack Filtration Method)

Particulate emissions from stationary sources shall be determined by an in-stack filtration method by Method 17 outlined in the *Federal Register*, Vol. 43, No. 37, February 23, 1978, beginning on page 7568.

18. Measurement of Gaseous Organic Compound Emissions by Gas Chromatography

(Rule 1200-03-16-.01, continued)

Gaseous organic compound emissions shall be determined by gas chromatography by Method 18 outlined in the *Federal Register*, Vol. 48, No. 202, October 18, 1983, beginning on page 48344, and as amended in the *Federal Register*, Vol. 49, No. 105, May 30, 1984, on page 22608, and as amended in the *Federal Register*, Vol. 52, No. 33, February 19, 1987 beginning on page 5105.

19. Determination of Sulfur Dioxide Removal Efficiency and Particulate, Sulfur Dioxide and Nitrogen Oxides Emissions Rates from Electric Utility Steam Generators

Sulfur dioxide removal efficiency and particulate, sulfur dioxide, and nitrogen oxides emission rates from electric utility steam generators shall be determined by Method 19 outlined in the *Federal Register*, Vol. 44, No. 113, June 11, 1979, beginning on page 33580, and as amended in the *Federal Register*, Vol. 48, No. 207, October 25, 1983, on page 49460.

20. Determination of Nitrogen Oxides, Sulfur Dioxide, and Oxygen Emissions From Stationary Gas Turbines

Nitrogen oxides, sulfur dioxide, and oxygen emissions from stationary gas turbines shall be determined by Method 20 outlined in the *Federal Register*, Vol. 44, No. 176, September 10, 1979, beginning on page 52792, and as amended in the *Federal Register*, Vol. 47, No. 135, July 14, 1982, beginning on page 30480, and as amended in the *Federal Register*, Vol. 51, No. 177, September 12, 1986, beginning on page 32456.

21. Determination of Volatile Organic Compound Leaks

Volatile organic compound leaks shall be determined by Method 21 outlined in the *Federal Register*, Vol. 48, No. 161, August 18, 1983, beginning on page 37600, and as amended in the *Federal Register*, Vol. 48, No. 247, December 22, 1983, beginning on page 56580.

22. Visual Determination of Fugitive Emissions from Material Sources and Smoke Emissions from Flares

Fugitive emissions from material sources and smoke emissions from flares shall be determined by Method 22 outlined in the *Federal Register*, vol. 47, No. 152, August 5, 1982, beginning on page 84146, and as amended in the *Federal Register*, Vol. 48, No. 202, October 18, 1983, beginning on page 48360.

23. (Reserved)

24. Determination of Volatile Matter Content, Water Content, Density, Volume Solids, and Weight Solids of Surface Coatings

Volatile matter content, water content, density, volume solids, and weight solids of surface coatings shall be determined by either Method 24 outlined in the *Federal Register*, Vol. 45, No. 194, October 3, 1980, beginning on page 65958, or by the following alternative method:

- (i) Determination of Volatile Matter Content and Density of Printing Inks and Related Coatings

Volatile matter content and density of printing inks and related coatings shall be determined by Method 24A outlined in the *Federal Register*, Vol.

(Rule 1200-03-16-.01, continued)

47, No. 216, November 8, 1982, on page 50655, and as amended in the *Federal Register*, Vol. 48, No. 6, January 10, 1983, on page 1056.

25. Determination of Total Gaseous Nonmethane Organic Emissions as Carbon

Total gaseous nonmethane organic emissions shall be determined as carbon by Method 25 outlined in the *Federal Register*, Vol. 45, No. 194, October 3, 1980, beginning on page 65959, or by one of the following alternative methods:

(i) Determination of Total Gaseous Organic Concentration Using a Flame Ionization Analyzer

Total gaseous organic concentration shall be determined using a flame ionization analyzer by Method 25A outlined in the *Federal Register*, Vol. 48, No. 161, August 18, 1983, beginning on page 37595.

(ii) Determination of Total Gaseous Organic Concentration Using a Nondispersive Infrared Analyzer

Total gaseous organic concentration shall be determined using a nondispersive infrared analyzer by Method 25B outlined in the *Federal Register*, Vol. 48, No. 161, August 18, 1983, on page 37597.

26. (Reserved)

27. Determination of Vapor Vapor tightness of gasoline delivery tank shall be determined using a pressure-vacuum test by Method 27 as outlined in the *Federal Register*, Vol. 48, No. 161, August 18, 1983, beginning on page 37597. Tightness of Gasoline Delivery Tank Using Pressure-Vacuum Test

(6) Compliance with standards and maintenance requirements:

- (a) Compliance with standards in this chapter, other than opacity standards, shall be determined only by performance tests established by paragraph (5) of this rule unless otherwise specified in the applicable standard. Noncompliance may be established by these tests, or by the results of the monitoring (including fuel data) required in accordance with the provisions of these regulations.
- (b) Compliance with opacity standards in this chapter shall be determined by conducting observations in accordance with the reference method or by equivalent or alternate methods specified by the Technical Secretary. Noncompliance may be demonstrated by these methods or by monitoring with transmissometers. Opacity readings of portions of plumes which contained condensed, uncombined water vapor shall not be used for purposes of determining compliance with opacity standards. The results of continuous monitoring by transmissometers which indicate that the opacity at the time visual observations were made was not in excess of the standard are probative but not conclusive evidence of the actual opacity of an emission, provided that the source shall meet the burden of proving that the instrument used meets (at the time of the alleged violation), performance specification as required by the Technical Secretary, has been properly maintained and (at the time of the alleged violation) calibrated, and that the resulting data have not been tampered with in any way.
- (c) The opacity standards set forth in this chapter shall apply at all times except during periods of startup, shutdown, malfunction, and as otherwise provided in the applicable standard.

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- (d) At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Technical Secretary which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.
- (e)
  - 1. An owner or operator of an affected facility may request the Technical Secretary to determine opacity of emissions from the affected facility during the initial performance tests required by paragraph 1200-03-16-.01(5).
  - 2. Upon receipt from such owner or operator of the written report of the results of the performance test required by paragraph 1200-03-16-.01(5), the Technical Secretary will make a finding concerning compliance with opacity and other applicable standards. If the Technical Secretary finds that an affected facility is in compliance with all applicable standards for which performance tests are conducted in accordance with paragraph 1200-03-16-.01(5) but during the time such performance tests are being conducted fails to meet any applicable opacity standards, he shall notify the owner or operator and advise him that he may petition the Technical Secretary within 10 days of receipt of notification to make appropriate adjustment to the opacity standard for the affected facility.
  - 3. The Technical Secretary will grant such a petition upon a demonstration by the owner or operator that the affected facility and associated air pollution control equipment was operated and maintained in a manner to minimize the opacity of emissions during the performance tests; that the performance tests were performed under conditions established by the Technical Secretary; and that the affected facility and associated air pollution control equipment were incapable of being adjusted or operated to meet the applicable opacity standard.
  - 4. The Technical Secretary will establish an opacity standard for the affected facility meeting the above requirements at a level at which the source will be able, as indicated by the performance and opacity tests, to meet the opacity standard at all times during which the source is meeting the mass or concentration emission standard.
- (7) Notification and Record Keeping
  - (a) Any owner or operator subject to the provisions of this chapter shall furnish the Technical Secretary written notification as follows:
    - 1. A notification of the date construction (or reconstruction as defined under subparagraph (9)(b) of this rule) of an affected facility is commenced postmarked no later than 30 days after such date. This requirement shall not apply in the case of mass-produced facilities which are purchased in completed form.
    - 2. A notification of the anticipated date of initial startup of an affected facility postmarked not more than 60 days nor less than 30 days prior to such date.
    - 3. A notification of the actual date of initial startup of an affected facility postmarked within 15 days after such date.
    - 4. A notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies,

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unless the change is specifically exempted under an applicable rule or in part (9)(a)6. of this rule and the exemption is not denied under subpart (9)(a)5.(v) of this rule. This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The Technical Secretary may request additional relevant information subsequent to this notice.

5. A notification of the date upon which demonstration of the continuous monitoring system performance commences in accordance with subparagraph (8)(c). Notification shall be postmarked not less than 30 days prior to such date.
- (b) Any owner or operator subject to the provisions of this chapter shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative.
  - (c) Reserved.
  - (d) Any owner or operator subject to the provisions of this chapter shall maintain a file on all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this chapter recorded in a permanent form suitable for inspection. The file shall be retained for at least two years following the date of such measurements, maintenance, reports, and records.
- (8) Monitoring Requirements
- (a) All in-stack monitoring systems shall meet the performance specifications referenced by the various parts of this subparagraph unless otherwise specified in the specific rule that required the in-stack monitoring system to be installed.
    1. Continuous in-stack monitoring systems for the measurement of opacity shall meet the requirements of Performance Specification 1 outlined in the *Federal Register*, Volume 48, Number 62, Wednesday, March 30, 1983, beginning on page 13327.
    2. Continuous in-stack monitoring systems for the measurements of either sulfur dioxide or nitrogen oxides shall meet the requirements of Performance Specification 2 outlined in the *Federal Register*, Volume 48, Number 102, Wednesday, May 25, 1983, beginning on page 23611.
    3. Continuous in-stack monitoring systems for the measurement of either oxygen or carbon dioxide shall meet the requirements of Performance Specification 3 outlined in the *Federal Register*, Volume 48, Number 102, Wednesday, May 25, 1983, on page 23616.
    4. Continuous in-stack monitoring systems for the measurement of carbon monoxide shall meet the requirements of Performance Specification 4 outlined in the *Federal Register*, Volume 50, Number 150, Monday, August 5, 1985, beginning on page 31701.

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5. Continuous in-stack monitoring systems for the measurement of total reduced sulfur compounds shall meet the requirements of Performance Specification 5 outlined in the *Federal Register*, Volume 48, Number 140, Wednesday, July 20, 1983, on page 32986.
- (b) All continuous monitoring systems and monitoring devices shall be installed and operational prior to conducting performance tests required by paragraph (5) of this rule. Verification of operational status shall, as a minimum, consist of the following:
1. For continuous monitoring systems referenced in part (d)1. of this paragraph, completion of the conditioning period specified by the applicable performance specification referenced in subparagraph (a) above.
  2. For continuous monitoring systems referenced in part (d)2. of this paragraph, completion of seven days of operation.
  3. For monitoring devices referenced in applicable rules, completion of the manufacturer's written requirements or recommendations for checking the operation or calibration of the device.
- (c) It shall be demonstrated that the continuous in-stack opacity monitoring system meets the specifications in Performance Specification 1 as referenced in subparagraph (a) above, before the performance test required under paragraph (5) of this rule is conducted. Other continuous emission monitoring systems shall be evaluated during any performance tests required under paragraph (5) of this rule or within 30 days thereafter. The owner or operator of an affected facility shall conduct continuous emission monitoring system performance evaluations at such other times as may be required by the Technical Secretary and shall furnish the Technical Secretary within 60 days thereof two or, upon request, more copies of a written report of the results of all tests referenced in this subparagraph. These continuous monitoring system performance evaluations shall be conducted in accordance with the requirements and procedures contained in the applicable performance specification as referenced in subparagraph (a) above.
- (d) Owners or operators of all continuous emission monitoring systems installed in accordance with the provisions of this chapter shall check the zero and span calibration drifts at least once daily in accordance with the method prescribed by the manufacturer of such systems unless the manufacturer recommends adjustments at shorter intervals, in which case such recommendations shall be followed. The zero and span shall, as a minimum, be adjusted whenever the 24-hour zero drift or 24-hour span drift limits of the applicable performance specifications as referenced in subparagraph (a) above are exceeded. For continuous monitoring systems measuring opacity of emissions, the optical surfaces exposed to the effluent gases shall be cleaned prior to performing the zero or span drift adjustments except that for systems using automatic zero adjustments, the optical surfaces shall be cleaned when the cumulative automatic zero compensation exceeds four percent opacity. Unless otherwise approved by the Technical Secretary, the following procedures, as applicable, shall be followed.
1. For extractive continuous monitoring systems measuring gases, minimum procedures shall include introducing applicable zero and span gas mixtures into the measurement system as near the probe as is practical. Span and zero gases certified by their manufacturer to be traceable to National Bureau of Standards reference gases shall be used whenever these reference gases are available. The span and zero gas mixtures shall be the same composition as specified in the applicable performance specification as referenced in subparagraph (a) above. Every six months from date of manufacture, span and zero gases shall be



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reanalyzed by conducting triplicate analyses with Reference Method 6, as referenced by Part 1200-03-16-.01(5)(g)6., for sulfur dioxide; Reference Method 7, as referenced by Part 1200-03-16-.01(5)(g)7., for nitrogen oxides; and Reference Method 3, as referenced by Part 1200-03-16-.01(5)(g)3., for oxygen and carbon dioxide.

The gases may be analyzed at less frequent intervals if longer shelf lives are guaranteed by the manufacturer.

2. For non-extractive continuous monitoring systems measuring gases, minimum procedures shall include upscale check(s) using a certified calibration gas cell or test cell which is functionally equivalent to a known gas concentration. The zero check may be performed by computing the zero value from upscale measurements or by mechanically producing a zero condition.
  3. For continuous monitoring systems measuring opacity of emissions, minimum procedures shall include a method for producing a simulated zero opacity condition and an upscale (span) opacity condition using a certified neutral density filter or other related technique to produce a known obscuration of the light beam. Such procedures shall provide a system check of the analyzer internal optical surfaces and all electronic circuitry including the lamp and photodetector assembly.
- (e) Except for zero and span adjustments required under subparagraph (d) of this paragraph and system breakdowns, repairs, and calibration checks, all continuous monitoring systems shall be in continuous operation and shall meet minimum frequency of operation requirements as follows:
1. All continuous monitoring systems referenced by subparagraph (8)(c) for measuring opacity of emissions shall complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.
  2. All continuous monitoring systems referenced by subparagraph (c) of this paragraph for measuring emissions, except opacity, shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.
- (f) All continuous monitoring systems or monitoring devices shall be installed in such a manner that representative measurements of emissions or process parameters from the affected facility are obtained. Additional procedures for location of continuous monitoring systems contained in the applicable performance specifications are referenced in subparagraph (8)(a) of this rule.
- (g) When the effluents from a single affected facility or two or more affected facilities subject to the same emission standards are combined before being released to the atmosphere, the owner or operator may install applicable continuous monitoring systems on each effluent or on the combined effluent. When the affected facilities are not subject to the same emission standards, separate continuous monitoring systems shall be installed on each effluent. When the effluent from one affected facility is released to the atmosphere through more than one point, the owner or operator shall install applicable continuous monitoring systems on each separate effluent unless the installation of fewer systems is approved by the Technical Secretary.
- (h) 1. Owners or operators of all continuous monitoring systems for measurement of opacity shall reduce all data to six- minute averages and for systems other than

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opacity to one- hour averages for time periods as defined in paragraph (4) of this Rule. Six minute opacity averages shall be calculated from 24 or more data points equally spaced over each six-minute period. For systems other than opacity, one-hour averages shall be computed from four or more data points equally spaced over each one-hour period. Data recorded during periods of system breakdowns, repairs, calibration checks, and zero and span adjustments shall not be included in the data averages computed under this subparagraph. An arithmetic or integrated average of all data may be used. The data output of all continuous monitoring systems may be recorded in reduced or nonreduced form (e.g., ppm pollutant and percent O<sub>2</sub> or ng/J (lb/million Btu) of pollutant). All excess emissions shall be converted into units of the standard using the applicable conversion procedures specified in the rules of this chapter. After conversion into units of the standard, the data may be rounded to the same number of significant digits used in the following rules in this chapter to specify the applicable standard (e.g., rounded to the nearest one percent opacity).

2. Upon written application by an owner or operator, the Technical Secretary may approve alternatives to any monitoring procedures or requirements of this chapter including, but not limited to the following:
  - (i) Alternative monitoring requirements when installation of a continuous monitoring system or monitoring device specified by this chapter would not provide accurate measurements due to liquid water or other interferences caused by substances with the effluent gases.
  - (ii) Alternative monitoring requirements when the affected facility is infrequently operated.
  - (iii) Alternative monitoring requirements to accommodate continuous monitoring systems that require additional measurements to correct for stack moisture conditions.
  - (iv) Alternative locations for installing continuous monitoring systems or monitoring devices when the owner or operator can demonstrate that installation at alternative locations will enable accurate and representative measurements.
  - (v) Alternative methods of converting pollutant concentration measurements to units of the standards.
  - (vi) Alternative procedures for performing daily checks of zero and span drift that do not involve use of span gases or test cells.
  - (vii) Alternative to the A.S.T.M. test methods or sampling procedures specified by any rule. (Note: All references to ASTM in this rule refers to the American Society for Testing Materials. Copies of methods are available for purchase by writing to ASTM, 1916 Race Street, Philadelphia, PA 19103 or by writing to the Tennessee Division of Air Pollution Control, 701 Broadway, 4th Floor Customs House, Nashville, TN 37219. Be sure and specify which method is desired).
  - (viii) Alternative continuous monitoring systems that do not meet the design or performance requirements in Performance Specification 1, as referenced in subparagraph (a) above, but adequately demonstrate a definite and consistent relationship between its measurements and the measurements of opacity by a system complying with the requirements in Performance

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Specification 1. The Technical Secretary may require that such demonstration be performed for each affected facility.

- (ix) Alternative monitoring requirements when the effluent from a single affected facility or the combined effluent from two or more affected facilities are released to the atmosphere through more than one point.
  - (i) The reference methods for continuous monitoring systems for opacity, sulfur dioxide, nitrogen oxides, oxygen, and carbon dioxide are found in the *Federal Register*, Vol. 40, No. 194, of October 6, 1975.
- (9) (a) Modification
1. Modification as defined and used in this chapter shall have a less inclusive meaning than in the other chapters of these regulations. Therefore, an action not considered a modification for inclusion under the requirements of this chapter may be a modification as regards the permit requirements in chapter 1200-03-09 and other requirements for new and/or modified sources in other than this chapter 1200-03-16 of the regulations.
  2. Except as provided under parts 5. and 6. of this subparagraph and subparagraph (b) of this paragraph, any physical or operational change to an existing facility which results in an increase in the emission rate to the atmosphere of any pollutant to which a standard applies shall be considered a modification within the meaning of this chapter. Upon modification, an existing facility shall become an affected facility for each pollutant to which a standard applies and for which there is an increase in the emission rate to the atmosphere.
  3. Emission rate shall be expressed as kg/hr of any pollutant discharged into the atmosphere for which a standard is applicable. The Technical Secretary shall use the following to determine emission rate:
    - (i) Emission factors are specified in the latest issue of "Compilation of Air Pollution Emission Factors," EPA Publication No. AP-42, or other emission factors determined by the Technical Secretary to be superior to AP-42 emission factors, in cases where utilization of emission factors demonstrate that the emission level resulting from the physical or operational change will either clearly increase or not increase.
    - (ii) Material balances, continuous monitor data, or manual emission tests in cases where utilization of emission factors as referenced in subpart (i) of this part does not demonstrate to the Technical Secretary's satisfaction whether the emission level resulting from the physical or operational change will either clearly increase or clearly not increase, or where an owner or operator demonstrates to the Technical Secretary's satisfaction that there are reasonable grounds to dispute the results obtained by the Technical Secretary utilizing emission factors as referenced in subpart (i) of this part. When the emission rate is based on results from manual emission tests or continuous monitoring systems, the procedures specified in Appendix C as listed in the *Federal Register* (40 FR 58420, December 16, 1975) shall be used to determine whether an increase in emission rate has occurred. Tests shall be conducted under such conditions as the Technical Secretary shall specify to the owner or operator based on representative performance of the facility. At least three valid test runs must be conducted before and at least three after the physical or operational change. All operating parameters which may affect emissions must be held constant to the maximum feasible degree for all test runs.

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4. The addition of an affected facility to a stationary source as an expansion to that source or as a replacement for an existing facility shall not by itself bring within the applicability of this chapter any other facility within that source.
5.
  - (i) A modification shall not be deemed to occur if an existing facility undergoes a physical or operational change where the owner or operator demonstrates to the Technical Secretary's satisfaction (by any of the procedures prescribed under part 3. of this subparagraph) that the total emission rate of any pollutant has not increased from all facilities within the stationary source to which appropriate reference, equivalent, or alternative methods can be applied. An owner or operator may completely and permanently close any facility within a stationary source to prevent an increase in the total emission rate regardless of whether such reference, equivalent or alternative method can be applied, if the decrease in emission rate from such closure can be adequately determined by any of the procedures prescribed under part 3. of this subparagraph. The owner or operator of the source shall have the burden of demonstrating compliance with this paragraph.
  - (ii) Such demonstration shall be in writing and shall include:
    - (I) The name and address of the owner or operator.
    - (II) The location of the stationary source.
    - (III) A complete description of the existing facility undergoing the physical or operational change resulting in an increase in emission rate, any applicable control system, and the physical or operational change to such facility.
    - (IV) The emission rates into the atmosphere from the existing facility of each pollutant to which a standard applies physical or operational change takes place, to the extent such information is known or can be predicted.
    - (V) A complete description of each facility and the control systems, if any, for those facilities within the stationary source where the emission rate of each pollutant in question will be decreased to compensate for the increase in emission rate from the existing facility undergoing the physical or operational change.
    - (VI) The emission rates into the atmosphere of the pollutants in question from each facility described under item (V) of this subpart both before and after the improvement or installation of any applicable control system or any physical or operational changes to such facilities to reduce emission rate.
    - (VII) A complete description of the procedures and methods used to determine the emission rates.
  - (iii) Compliance with part 5. of this subparagraph may be demonstrated by the methods listed in part 3. of this subparagraph where appropriate. Decreases in emissions resulting from requirements of rules in other chapters of Tennessee Air Pollution Control Regulations will not be acceptable. The required reduction in emission rate may be accomplished

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- through the installation or improvement of a control system or through physical or operational changes to facilities including reducing the production of a facility or closing a facility.
- (iv) Emission rates established for the existing facility which is undergoing a physical or operational change resulting in an increase in the emission rate, and established for the facilities described under item 5.(ii)(V) of this subparagraph shall become the baseline for determining whether such facilities undergo a modification or are in compliance with standards.
  - (v) Any emission rate in excess of that rate established under subpart (iv) of this part shall be a violation of these regulations except as otherwise provided in part 6. of this subparagraph. However, any owner or operator electing to demonstrate compliance under this part 5. must apply to the Technical Secretary to obtain the use of any exemptions under subparts 6.(i), 6.(ii), and 6.(iv) of this subparagraph. The Technical Secretary will grant such under this paragraph will not be circumvented or nullified by the utilization of the exemption.
  - (vi) The Technical Secretary may require the use of continuous monitoring devices and compliance with necessary reporting procedures for each facility described in items 5.(ii)(III) and 5.(ii)(V) of this subparagraph.
6. The following shall not, by themselves, be considered modifications under this chapter:
- (i) Maintenance, repair, and replacement which the Technical Secretary determines to be routine for a source category, subject to the provisions of part 4. of this subparagraph and subparagraph (b) of this paragraph.
  - (ii) An increase in production rate of an existing facility, if that increase can be accomplished without a capital expenditure on the stationary source containing that facility.
  - (iii) An increase in the hours of operation.
  - (iv) Use of an alternative fuel or raw material if, prior to the date any standard under this part becomes applicable to that source type, provided the existing facility was designed to accommodate that alternative use. A facility shall be considered to be designed to accommodate an alternative fuel or raw material if that use could be accomplished under the facility's construction specifications, as amended, prior to the change. Conversion to coal required for energy considerations, shall not be considered a modification.
  - (v) The addition or use of any system or device whose primary function is the reduction of air pollutants, except when an emission control system is removed or is replaced by a system which the Technical Secretary determines to be less environmentally beneficial.
  - (vi) The relocation or change in ownership of an existing facility.
7. Special provisions set forth under an applicable rule of this chapter shall supersede any conflicting provisions of this paragraph.

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8. Within 180 days of the completion of any physical or operational change subject to the control measures specified in parts 2. or 5. of this subparagraph, compliance with all applicable standards must be achieved.

(b) Reconstruction.

1. An existing facility, upon reconstruction, becomes an affected facility, irrespective of any change in emission rate.
2. "Reconstruction" means the replacement of components of an existing facility to such an extent that:
  - (i) The fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new facility, and
  - (ii) It is technologically and economically feasible to meet the applicable standards set forth in this chapter.
3. "Fixed capital cost" means the capital needed to provide all the depreciable components.
4. If an owner or operator of an existing facility proposes to replace components, and the fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new facility, he shall notify the Technical Secretary of the proposed replacements. The notice must be postmarked 60 days (or as soon as practicable) before construction of the replacements is commenced and must include the following information:
  - (i) Name and address of the owner or operator.
  - (ii) The location of the existing facility.
  - (iii) A brief description of the existing facility and the components which are to be replaced.
  - (iv) A description of the existing air pollution control equipment and the proposed air pollution control equipment.
  - (v) An estimate of the fixed capital cost of the replacements and of constructing a comparable entirely new facility.
  - (vi) The estimated life of the existing facility after the replacements.
  - (vii) A discussion of any economic or technical limitations the facility may have in complying with the applicable standards of performance after the proposed replacements.
5. The Technical Secretary will determine, within a reasonable time after receipt of the notice required by part 4. of this subparagraph and any additional information he may reasonably require, whether the proposed replacement constitutes reconstruction.
6. The Technical Secretary's determination under part 5. of this subparagraph shall be based on:

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- (i) The fixed capital cost of the replacements in comparison to the fixed capital cost that would be required to construct a comparable entirely new facility;
    - (ii) The estimated life of the facility after the replacements compared to the life of a comparable entirely new facility;
    - (iii) The extent to which the components being replaced cause or contribute to the emissions from the facility; and
    - (iv) Any economic or technical limitations on compliance with applicable standards of performance which are inherent in the proposed replacements.
  7. Individual rules of this chapter may include specific provisions which refine and delimit the concept of reconstruction set forth in this subparagraph.
- (10) Upon mutual agreement of the owner or operator of any air contaminant source and the Technical Secretary, an emission limit more restrictive than that otherwise specified in this Chapter may be established. This emission limit shall be stated as a special condition for any permit or order issued concerning the source. Violation of this agreed to, more stringent emission standard is grounds for revocation of the issued permit and/or other enforcement measures provided for in the Tennessee Air Quality Act.
- (11) General Control Device Requirements
- (a) Introduction

This paragraph contains requirements for control devices used to comply with applicable rules of Chapter 0400-30-38 and this chapter. The requirements are placed here for administrative convenience and only apply to facilities covered by rules referring to this paragraph.
  - (b) Flares

Subparagraphs (c) through (f) of this paragraph apply to flares.
  - (c)
    1. Flares shall be designed for and operated with no visible emissions as determined by the methods specified in subparagraph (f) of this paragraph, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.
    2. Flares shall be operated with a flame present at all times, as determined by the methods specified in subparagraph (f) of this paragraph.
    3. Flares shall be used only with the net heating value of the gas being combusted being 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or with the net heating value of the gas being combusted being 7.45 MJ/scm (200 Btu/scf) or greater if the flare is nonassisted. The net heating value of the gas being combusted shall be determined by the methods specified in subparagraph (f) of this paragraph.
    4.
      - (i) Steam-assisted and nonassisted flares shall be designed for and operated with an exit velocity, as determined by the methods specified in part (f)4. of this paragraph less than 18.3 m/sec (60 ft/sec), except as provided in subpart (c)4.(ii) and (iii) of this paragraph.

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- (ii) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the methods specified in part (f)4. of this paragraph equal to or greater than 18.3 m/sec (60 ft/sec) but less than 122 m/sec (400 ft/sec) are allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf).
  - (iii) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the methods specified in part (f)4. of this paragraph less than velocity,  $V_{max}$ , as determined by the method specified in part (f)5. of this paragraph and less than 122 m/sec (400 ft/sec) are allowed.
5. Air-assisted flares shall be designed and operated with an exit velocity less than the velocity,  $V_{max}$ , as determined by the method specified in part (f)6 of this paragraph.
  6. Flares used to comply with this section shall be steam-assisted, air-assisted, or nonassisted.
- (d) Owners or operators of flares used to comply with the provisions of this rule shall monitor these control devices to ensure that they are operated and maintained in conformance with their designs. Applicable rules will provide provisions stating how owners or operators of flares shall monitor these control devices.
  - (e) Flares used to comply with provisions of this rule shall be operated at all times when emissions may be vented to them.
  - (f)
    1. Reference Method 22 as specified in 1200-03-16-.01(5)(g)22. shall be used to determine the compliance of flares with the visible emission provisions of this rule. The observation period is 2 hours and shall be used according to Method 22.
    2. The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.
    3. The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K \sum_{i=1}^n C_i H_i$$

Where:

$H_T$  = Net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25°C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20°C;

$K$  = Constant,  $\frac{(1)}{1.740 \times 10^{-7}}$   $\frac{(\text{g mole})}{\text{scm}}$   $\frac{(\text{MJ})}{\text{kcal}}$

where the standard temperature for  $\frac{(\text{g mole})}{\text{scm}}$  is 20°C;

$n$  = Number of components in the sample;



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$C_i$  = Concentration of sample component  $i$  in ppm on a wet basis, as measured for organics by Reference Method 18 (as specified in rule 1200-03-16-.01(5)(g)18.) and measured for hydrogen and carbon monoxide by ASTM D1946-77; and

$H_i$  = Net heat of combustion of sample component  $i$ , kcal/g mole at 25°C and 760 mm Hg. The heat of combustion may be determined using ASTM D2382-76 if published values are not available or cannot be calculated.

(Note: All references to ASTM in this rule refers to the American Society for Testing Materials. Copies of methods are available for purchase by writing to ASTM, 1916 Race Street, Philadelphia, PA 19103 or by writing to the Tennessee Division of Air Pollution Control, 701 Broadway, 4th Floor Customs House, Nashville, TN 37219. Be sure and specify which method is desired).

4. The actual exit velocity of a flare shall be determined by dividing the volumetric flowrate (in units of standard temperature and pressure) as determined either by Reference Method 2 or 2(A) as appropriate (as specified in 1200-03-16-.01(5)(g)2.); by the unobstructed (free) cross sectional area of the flare tip.
5. The maximum permitted velocity,  $V_{max}$ , for flares complying with subpart (c)4.(iii) of this paragraph shall be determined by the following equation.

$$\text{Log}_{10}(V_{max}) = (H_T + 28.8)/31.7$$

$V_{max}$  = Maximum permitted velocity, M/sec

28.8 = Constant

31.7 = Constant

$H_T$  = The net heating value as determined in part (f)3.

6. The maximum permitted velocity,  $V_{max}$ , for air-assisted flares shall be determined by the following equation.

$$V_{max} = 8.706 + 0.7084(H_T)$$

$V_{max}$  = Maximum permitted velocity, m/sec

8.706 = Constant

0.7084 = Constant

$H_T$  = The net heating value as determined in part (f)3 of his paragraph.

**Authority:** T.C.A. §§ 4-5-201, et seq.; 4-5-202; 68-25-105; and 68-201-101, et seq. **Administrative History:** Original rule filed January 10, 1977; effective February 9, 1977. Amendment filed February 5, 1979; effective March 21, 1979. Amendment filed effective May 7, 1979; effective June 21, 1979. Amendment filed November 19, 1981; effective January 4, 1982. Amendment filed December 2, 1981; effective January 18, 1982. Amendment filed January 31, 1983; effective March 2, 1983. Amendment filed July 3, 1984; effective August 1, 1984. Amendment filed September 26, 1986; effective November 10, 1986. Amendment filed September 21, 1988; effective November 6, 1988. Amendment filed August

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29, 2011; effective November 27, 2011. Amendments filed September 29, 2022; effective December 28, 2022.

**1200-03-16-.02 FUEL FIRED STEAM GENERATORS FOR WHICH CONSTRUCTION IS COMMENCED AFTER APRIL 3, 1972.**

- (1) Applicability.
  - (a) The affected facilities to which the provisions of this rule apply are:
    1. Each fossil-fuel-fired steam generating unit of more than 73 mega watts heat input rate (250 million Btu per hour) commenced on or after April 3, 1972, and before November 6, 1988.
    2. Each fossil-fuel and each fossil-fuel and wood-residue-fired steam generating unit capable of firing fossil fuel at a heat input rate of more than 73 megawatts (250 million Btu per hour) that commenced construction or modification after November 6, 1988.
  - (b) Any change to an existing fossil-fuel-fired steam generating unit to accommodate the use of combustible materials, other than fossil fuels as defined in this rule, shall not bring that unit under the applicability of this rule.
  - (c) Reserved.
  - (d) Any facility covered under Rule 1200-03-16-.03 is not covered under this rule.
  - (e) Any affected facility meeting the applicability requirements of subparagraph (1)(a) of Rule 1200-03-16-.59 commencing construction, modification, or reconstruction after November 6, 1988 is not subject to this rule.
- (2) Reserved.

**Authority:** T.C.A. §§ 4-5-201, et seq.; 4-5-202; 68-25-105; and 68-201-101. **Administrative History:** Original rule filed January 10, 1977; effective February 9, 1977. Amendment filed March 13, 1978; effective April 12, 1978. Amendment filed July 21, 1980; effective September 8, 1980. Amendment filed September 21, 1988; effective November 6, 1988. Amendment filed January 21, 2009; effective April 6, 2009. Amendments filed March 7, 2016; effective June 5, 2016.

**1200-03-16-.03 ELECTRIC UTILITY STEAM GENERATING UNITS FOR WHICH CONSTRUCTION COMMENCED AFTER SEPTEMBER 18, 1978.**

- (1) Applicability.
  - (a) The affected facility to which this rule applies is each electric utility steam generating unit:
    1. That is capable of combusting more than 73 megawatts (250 million Btu/hour) heat input of fossil fuel (either alone or in combination with any other fuel); and
    2. For which construction or modification is commenced after September 18, 1978.
  - (b) This rule applies to electric utility combined cycle gas turbines that are capable of combusting more than 73 megawatts (250 million Btu/hour) heat input of fossil fuel in the steam generator. Only emissions resulting from combustion of fuels in the steam

(Rule 1200-03-16-.03, continued)

generating unit are subject to this rule. (The gas turbine emissions are subject to rule 1200-03-16-.31.)

- (c) Any change to an existing fossil fuel fired steam generating unit to accommodate the use of combustible materials, other than fossil fuels, shall not bring that unit under the applicability of this rule.
  - (d) Any change to an existing steam generating unit originally designed to fire gaseous or liquid fossil fuels, to accommodate the use of any other fuel (fossil or nonfossil) shall not bring that unit under the applicability of this rule.
- (2) Definitions.
- (a) "Steam generating unit" means any furnace, boiler, or other device used for combusting fuel for the purpose of producing steam (including fossil fuel fired steam generators associated with combined cycle gas turbines; nuclear steam generators are not included).
  - (b) "Electric utility steam generating unit" means any steam electric generating unit that is constructed for the purpose of supplying more than one-third of its potential electric output capacity and more than 25 MW electrical output to any utility power distribution system for sale. Any steam supplied to a steam distribution system for the purpose of providing steam to a steam-electric generator that would produce electrical energy for sale is also considered in determining the electrical energy output capacity of the affected facility.
  - (c) "Fossil fuel" means natural gas, petroleum, coal, and any form of solid, liquid, or gaseous fuel derived from such material for the purpose of creating useful heat.
  - (d) "Subbituminous coal" means coal that is classified as subbituminous A, B, or C according to the American Society of Testing and Materials' (ASTM) Standard Specification for Classification of Coals by Rank D388-77.
  - (e) "Coal refuse" means waste products of coal mining, physical coal cleaning, and coal preparation operations (e.g. culm, gob, etc.) containing coal, matrix material, clay, and other organic and inorganic material.
  - (f) "Potential combustion concentration" means the theoretical emissions (ng/J, lb/million Btu heat input) that would result from combustion of a fuel in an uncleaned state without emission control systems and:
    - 1. For particulate matter is:
      - (i) 3,000 ng/J (7.0 lb/million Btu) heat input for solid fuel; and
      - (ii) 75 ng/J (0.17 lb/million Btu) heat input for liquid fuels.
    - 2. For sulfur dioxide is determined under 1200-03-16-.03(9)(b).
    - 3. For nitrogen oxides is:
      - (i) 290 ng/J (0.67 lb/million Btu) heat input for gaseous fuels;
      - (ii) 310 ng/J (0.72 lb/million Btu) heat input for liquid fuels; and
      - (iii) 990 ng/J (2.30 lb/million Btu) heat input for solid fuels.

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- (g) “Combined cycle gas turbine” means a stationary turbine combustion system where heat from the turbine exhaust gases is recovered by a steam generating unit.
- (h) “Interconnected” means that two or more electric generating units are electrically tied together by a network of power transmission lines and other power transmission equipment.
- (i) “Electric utility company” means the largest interconnected organization, business, or governmental entity that generates electric power for sale (e.g., a holding company with operating subsidiary companies).
- (j) “Principal company” means the electric utility company or companies which own the affected facility.
- (k) “Neighboring company” means any one of those electric utility companies with one or more electric power interconnections to the principal company and which have geographically adjoining service areas.
- (l) “Net system capacity” means the sum of the net electric generating capability (not necessarily equal to rated capacity) of all electric generating equipment owned by an electric utility company (including steam generating units, internal combustion engines, gas turbines, nuclear units, hydroelectric units, and all other electric generating equipment) plus firm contractual purchases that are interconnected to the affected facility that has the malfunctioning flue gas desulfurization system. The electric generating capability of equipment under multiple ownership is prorated based on ownership unless the proportional entitlement to electric output is otherwise established by contractual arrangement.
- (m) “System load” means the entire electric demand of an electric utility company’s service area interconnected with the affected facility that has the malfunctioning flue gas desulfurization system plus firm contractual sales to other electric utility companies. Sales to other electric utility companies (e.g., emergency power) not on a firm contractual basis may also be included in the system load when no available system capacity exists in the electric utility company to which the power is supplied for sale.
- (n) “System emergency reserves” means an amount of electric generating capacity equivalent to the rated capacity of the single largest electric generating unit in the electric utility company (including steam generating units, internal combustion engines, gas turbines, nuclear units, hydroelectric units, and all other electric generating equipment) which is interconnected with the affected facility that has the malfunctioning flue gas desulfurization system. The electric generating capability of equipment under multiple ownership is prorated based on ownership unless the proportional entitlement to electric output is otherwise established by contractual arrangement.
- (o) “Available system capacity” means the capacity determined by subtracting the system load and the system emergency reserves from the net system capacity.
- (p) “Spinning reserve” means the sum of the unutilized net generating capability of all units of the electric utility company that are synchronized to the power distribution system and that are capable of immediately accepting additional load. The electric generating capability of equipment under multiple ownership is prorated based on ownership unless the proportional entitlement to electric output is otherwise established by contractual arrangement.
- (q) “Available purchase power” means the lesser of the following:

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1. The sum of available system capacity in all neighboring companies.
  2. The sum of the rated capacities of the power interconnection devices between the principal company and all neighboring companies, minus the sum of the electric power load on these interconnections.
  3. The rated capacity of the power transmission lines between the power interconnection devices and the electric generating units (the unit in the principal company that has the malfunctioning flue gas desulfurization system and the unit(s) in the neighboring company supplying replacement electrical power) less the electric power load on these transmission lines.
- (r) "Spare flue gas desulfurization system module" means a separate system of sulfur dioxide emission control equipment capable of treating an amount of flue gas equal to the total amount of flue gas generated by an affected facility when operated at maximum capacity divided by the total number of nonspare flue gas desulfurization modules in the system.
- (s) "Emergency condition" means that period of time when:
1. The electric generation output of an affected facility with a malfunctioning flue gas desulfurization system cannot be reduced or electrical output must be increased because:
    - (i) All available system capacity in the principal company interconnected with the affected facility is being operated, and
    - (ii) All available purchase power interconnected with the affected facility is being obtained, or
  2. The electric generation demand is being shifted as quickly as possible from an affected facility with a malfunctioning flue gas desulfurization system to one or more electrical generating units held in reserve by the principal company or by a neighboring company, or
  3. An affected facility with a malfunctioning flue gas desulfurization system becomes the only available unit to maintain a part or all of the principal company's system emergency reserves, and the unit is operated in spinning reserve at the lowest practical electric generation load consistent with not causing significant physical damage to the unit. If the unit is operated at a higher load to meet load demand, an emergency condition would not exist unless the conditions under part 1. of this definition apply.
- (t) "Electric utility combined cycle gas turbine" means any combined cycle gas turbine used for electric generation that is constructed for the purpose of supplying more than one-third of its potential electric output capacity and more than 25 MW electrical output to any utility power distribution system for sale. Any steam distribution system that is constructed for the purpose of providing steam to a steam electric generator that would produce electrical power for sale is also considered in determining the electrical energy output capacity of the affected facility.
- (u) "Potential electrical output capacity" is defined as 33 percent of the maximum design heat input capacity of the steam generating unit (e.g., a steam generating unit with a 100-MW (340 million Btu/hr) fossil fuel heat input capacity would have a 33-MW potential electrical output capacity). For electric utility combined cycle gas turbines, the

(Rule 1200-03-16-.03, continued)

potential electrical output capacity is determined on the basis of fossil fuel firing capacity of the steam generator exclusive of the heat input and electrical power contribution by the gas turbine.

- (v) "Anthracite" means coal that is classified as anthracite according to the American Society of Testing and Materials' (ASTM) Standard Specification for Classification of Coals by Rank D388-77.
  - (w) "Solid-derived fuel" means any solid, liquid, or gaseous fuel derived from solid fuel for the purpose of creating useful heat and includes, but is not limited to, solvent refined coal, liquified coal, and gasified coal.
  - (x) "24-hour period" means the period of time between 12:01 a.m. and 12:00 midnight.
  - (y) "Resource recovery unit" means a facility that combusts more than 75 percent non-fossil fuel on a quarterly (calendar) heat input basis.
  - (z) "Noncontinental area" means the State of Hawaii, the Virgin Islands, Guam, American Samoa, the Commonwealth of Puerto Rico, or the Northern Mariana Islands.
  - (aa) "Boiler operating day" means a 24-hour period during which fossil fuel is combusted in a steam generating unit for the entire 24 hours.
- (3) Standard for Particulate Matter.
- (a) On and after the date on which the performance test required to be conducted under paragraph 1200-03-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility any gases which contain particulate matter in excess of:
    - 1. 13 ng/J (0.03 lb/million Btu) heat input derived from the combustion of solid, liquid, or gaseous fuel;
    - 2. 1 percent of the potential combustion concentration (99 percent reduction) when combusting solid fuel; and
    - 3. 30 percent of potential combustion concentration (70 percent reduction) when combusting liquid fuel.
  - (b) On and after the date the particulate matter performance test required to be conducted under 1200-03-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility any gases which exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity.
- (4) Standard for Sulfur Dioxide.
- (a) On and after the date on which the initial performance test required to be conducted under 1200-03-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility which combusts solid fuel or solid-derived fuel, except as provided under subparagraphs (c), (d), (f), or (h) of this paragraph, any gases which contain sulfur dioxide in excess of:
    - 1. 520 ng/J (1.20 lb/million Btu) heat input and 10 percent of the potential combustion concentration (90 percent reduction), or

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2. 30 percent of the potential combustion concentration (70 percent reduction), when emissions are less than 260 ng/J (0.60 lb/million Btu) heat input.
- (b) On and after the date on which the initial performance test required to be conducted under 1200-03-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall cause to be from any affected facility which combusts liquid or gaseous fuels (except for liquid or gaseous fuels derived from solid fuels and as provided under subparagraphs (e) or (h) of this paragraph), any gases which contain sulfur dioxide in excess of:
1. 340 ng/J (0.80 lb/million Btu) heat input and 10 percent of the potential combustion concentration (90 percent reduction), or
  2. 100 percent of the potential combustion concentration (zero percent reduction) when emissions are less than 86 ng/J (0.20 lb/million Btu) heat input.
- (c) On and after the date on which the initial performance test required to be conducted under 1200-03-16-.01(5) is complete, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility which combusts solid solvent refined coal (SRC-I) any gases which contain sulfur dioxide in excess of 520 ng/J (1.20 lb/million Btu) heat input and 15 percent of the potential combustion concentration (85 percent reduction) except as provided under subparagraph (f) of this paragraph; compliance with the emission limitation is determined on a 30-day rolling average basis and compliance with the percent reduction requirement is determined on a 24-hour basis.
- (d) Sulfur dioxide emissions are limited to 520 ng/J (1.20 lb/million Btu) heat input from any affected facility which:
1. Combusts 100 percent anthracite, or
  2. Is classified as a resource recovery facility, or
  3. Is located in a noncontinental area and combusts solid fuel or solid-derived fuel.
- (e) Sulfur dioxide emissions are limited to 340 ng/J (0.80 lb/million Btu) heat input from any affected facility which is located in a noncontinental area and combusts liquid or gaseous fuels (excluding solid-derived fuels).
- (f) The emission reduction requirements under this paragraph do not apply to any affected facility that is operated under an SO<sub>2</sub> commercial demonstration permit issued in accordance with the provisions of 1200-03-16-.03(6).
- (g) Compliance with the emission limitation and percent reduction requirements under this paragraph are both determined on a 30-day rolling average basis except as provided under subparagraph (c) of this paragraph.
- (h) When different fuels are combusted simultaneously, the applicable standard is determined by proration using the following formula:
1. If emissions of sulfur dioxide to the atmosphere are greater than 260 ng/J (0.60 lb/million Btu) heat input:

$$E_{\text{SO}_2} = (340x + 520y)/100 \text{ and}$$

(Rule 1200-03-16-.03, continued)

$$P_{SO_2} = 10 \text{ percent}$$

2. If emissions of sulfur dioxide to the atmosphere are equal to or less than 260 ng/J (0.60 lb/million Btu) heat input:

$$E_{SO_2} = (340x + 520y)/100 \text{ and}$$

$$P_{SO_2} = (90x + 70y)/100$$

where:

$E_{SO_2}$  = is the prorated sulfur dioxide emission limit (ng/J heat input).

$P_{SO_2}$  = is the percentage of potential sulfur dioxide emission allowed (percent reduction required = 100 -  $P_{SO_2}$ ).

x is the percentage of total heat input derived from the combustion of liquid or gaseous fuels (excluding solid-derived fuels)

y is the percentage of total heat input derived from the combustion of solid fuel (including solid-derived fuels)

(5) Standard for Nitrogen Oxides.

- (a) On and after the date on which the initial performance test required to be conducted under 1200-03-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility, except as provided under subparagraph (b) of this paragraph, any gases which contain nitrogen oxides in excess of the following emission limits, based on a 30-day rolling average.

1. NO<sub>x</sub> Emission Limits –

| Fuel type  | Emission limit<br>ng/J   | Heat input<br>(lb/M Btu) |
|--|--|--------------------------|
| Gaseous Fuels:   |  |                          |
| Coal-derived fuels   | 210  | (0.50)                   |
| All other fuels  | 86   | (0.20)                   |
| Liquid Fuels:  |  |                          |
| Coal derived fuels   | 210  | (0.50)                   |
| Shale oil  | 210  | (0.50)                   |
| All other fuels  | 130  | (0.30)                   |
| Solid Fuels:   |  |                          |
| Coal derived fuels   | 210  | (0.50)                   |
| Any fuel containing more than 25%, by weight, coal refuse requirements | Exempt from NO <sub>x</sub> standards and NO <sub>x</sub> monitoring |                          |



(Rule 1200-03-16-.03, continued)

|  |     |        |
|--|-----|--------|
| Any fuel containing more than 25%, by weight, lignite if the lignite is mined in North Dakota, South Dakota, or Montana and is combusted in a slag tap furnace | 340 | (0.80) |
| Lignite not subject to the ng/J heat input emission limit  | 260 | (0.60) |
| Subbituminous coal   | 210 | (0.50) |
| Bituminous coal  | 260 | (0.60) |
| Anthracite coal  | 260 | (0.60) |
| All other fuels  | 260 | (0.60) |

2. NOx reduction requirements –

| Fuel type     | Percent reduction of potential combustion concentration |
|---------------|---|
| Gaseous fuels | 25%   |
| Liquid fuels  | 30%   |
| Solid fuels   | 65%   |

(b) The emission limitations under subparagraph (a) of this paragraph do not apply to any affected facility which is combusting coal-derived liquid fuel and is operating under a commercial demonstration permit issued in accordance with the provisions of 1200-03-16-.03(6).

(c) When two or more fuels are combusted simultaneously, the applicable standard is determined by proration using the following formula:

$$E_{NO_x} = (86 w + 130 x + 210 y + 260 z)/100$$

where:

- $E_{NO_x}$  is the applicable standard for nitrogen oxides when multiple fuels are combusted simultaneously (ng/J heat input);
- w is the percentage of total heat input derived from the combustion of fuels subject to the 86 ng/J heat input standard;
- x is the percentage of total heat input derived from the combustion of fuels subject to the 130 ng/J heat input standard;
- y is the percentage of total heat input derived from the combustion of fuels subject to the 210 ng/J heat input standard; and
- z is the percentage of total heat input derived from the combustion of fuels subject to the 260 ng/J heat input standard.

(6) Commercial demonstration permit.

(a) An owner or operator of an affected facility proposing to demonstrate an emerging technology may apply to the EPA Administrator for a commercial demonstration permit

(Rule 1200-03-16-.03, continued)

in accordance with section 60.45a, “Commerical demonstration permit,” as specified in the *Federal Register*, Vol. 44, No. 113, June 11, 1979.

- (b) An owner or operator of an affected facility that combusts solid solvent refined coal (SRC-I) and who is issued a commercial demonstration permit is not subject to the SO<sub>2</sub> emission reduction requirements under 1200-03-16-.03(4)(c) but must, as a minimum, reduce SO<sub>2</sub> emissions to 20 percent of the potential combustion concentration (80 percent reduction) for each 24-hour period of steam generator operation and to less than 520 ng/J (1.20 lb/million Btu) heat input on a 30-day rolling average basis.
- (c) An owner or operator of a fluidized bed combustion electric utility steam generator (atmospheric or pressurized) who is issued a commercial demonstration permit is not subject to the SO<sub>2</sub> emissions reduction requirements under 1200-03-16-.03(4)(a) but must, as a minimum, reduce SO<sub>2</sub> emissions to 15 percent of the potential combustion concentration (85 percent reduction) on a 30-day rolling average basis and to less than 520 ng/J (1.20 lb/million Btu) heat input on a 30-day rolling average basis.
- (d) The owner or operator of an affected facility that combusts coal-derived liquid fuel and who is issued a commercial demonstration permit is not subject to the applicable NO<sub>x</sub> emission limitation and percent reduction under 1200-03-16-.03(5)(a) but must, as a minimum, reduce emissions to less than 300 ng/J (0.70 lb/million Btu) heat input on a 30-day rolling average basis.
- (e) Commerical demonstration permits may not exceed the following equivalent MW electrical generation capacity for any one technology category, and the total equivalent MW electrical generation capacity for all commercial demonstration plants may not exceed 15,000 MW.

| Technology                             | Pollutant       | Equivalent electrical capacity (MW electrical output) |
|--|-----------------|---|
| Solid solvent refined coal (SRC-I)     | SO <sub>2</sub> | 6,000 10,000  |
| Fluidized bed combustion (atmospheric) | SO <sub>2</sub> | 400-3,000   |
| Fluidized bed combustion (pressurized) | SO <sub>2</sub> | 400-1,200   |
| Coal liquification                     | NO <sub>x</sub> | 750-10,000  |
| Total allowable for all technologies   |                 | 15,000  |

(7) Compliance provisions.

- (a) Compliance with the particulate matter emission limitation under 1200-03-16-.03(3)(a)1. constitutes compliance with the percent reduction requirements for particulate matter under 1200-03-16-.03(2) and (3).

(Rule 1200-03-16-.03, continued)

- (b) Compliance with the nitrogen oxides emission limitation under 1200-03-16-.03(5)(a) constitutes compliance with the percent reduction requirements under 1200-03-16-.03(5)(a)2.
- (c) The particulate matter emission standards under 1200-03-16-.03(3) and the nitrogen oxides emission standards under 1200-03-16-.03(5) apply at all times except during periods of startup, shutdown, or malfunction. The sulfur dioxide emission standards under 1200-03-16-.03(4) apply at all times except during periods of start-up, shutdown, or when both emergency conditions exist and the procedures under subparagraph (d) of this paragraph are implemented.
- (d) During emergency conditions in the principal company, an affected facility with a malfunctioning flue gas desulfurization system may be operated if sulfur dioxide emissions are minimized by:
  - 1. Operating all operable flue gas desulfurization system modules, and bringing back into operation any malfunctioned module as soon as repairs are completed,
  - 2. Bypassing flue gases around only those flue gas desulfurization system modules that have been taken out of operation because they were incapable of any sulfur dioxide emission reduction or which would have suffered significant physical damage if they had remained in operation, and
  - 3. Designing, constructing, and operating a spare flue gas desulfurization system module for an affected facility larger than 365 MW (1,250 million Btu/hr) heat input (approximately 125 MW electrical output capacity). The Technical Secretary may at his discretion require the owner or operator within 60 days of notification to demonstrate spare module capability. To demonstrate this capability, the owner or operator must demonstrate compliance with the appropriate requirements under subparagraphs (a), (b), (d), (e), and (i) under 1200-03-16-.03(4) for any period of operation lasting from 24 hours to 30 days when:
    - (i) Any one flue gas desulfurization module is not operated,
    - (ii) The affected facility is operating at the maximum heat input rate,
    - (iii) The fuel fired during the 24-hour to 30-day period is representative of the type and average sulfur content of fuel used over a typical 30-day period, and
    - (iv) The owner or operator has given the Technical Secretary at least 30 days notice of the date and period of time over which the demonstration will be performed.
- (e) After the initial performance test required under 1200-03-16-.01(5) compliance with the sulfur dioxide emission limitations and percentage reduction requirements under 1200-03-16-.03(4) and the nitrogen oxides emission limitations under 1200-03-16-.03(5) is based on the average emission rate for 30 successive boiler operating days. A separate performance test is completed at the end of each boiler operating day after the initial performance test, and a new 30 day average emission rate for both sulfur dioxide and nitrogen oxides and a new percent reduction for sulfur dioxide are calculated to show compliance with the standards.
- (f) For the initial performance test required under 1200-03-16-.01(5), compliance with the sulfur dioxide emission limitations and percent reduction requirements under 1200-03-

(Rule 1200-03-16-.03, continued)

16-.03(4) and the nitrogen oxides emission limitation under 1200-03-16-.03(5) is based on the average emission rates for sulfur dioxide, nitrogen oxides, and percent reduction for sulfur dioxide for the first 30 successive boiler operating days. The initial performance test is the only test in which at least 30 days prior notice is required unless otherwise specified by the Technical Secretary. The initial performance test is to be scheduled so that the first boiler operating day of the 30 successive boiler operating days is completed within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of the facility.

- (g) Compliance is determined by calculating the arithmetic average of all hourly emission rates for SO<sub>2</sub> and NO<sub>x</sub> for the 30 successive boiler operating days, except for data obtained during startup, shutdown, malfunction (NO<sub>x</sub> only), or emergency conditions (SO<sub>2</sub> only). Compliance with the percentage reduction requirement for SO<sub>2</sub> is determined based on the average inlet and average outlet SO<sub>2</sub> emission rates for the 30 successive boiler operating days.
  - (h) If an owner or operator has not obtained the minimum quantity of emission data as required under 1200-03-16-.03(8) of this rule, compliance of the affected facility with the emission requirements under 1200-03-16-.03(4) and (5) of this rule for the day on which the 30-day period ends may be determined by the Technical Secretary by following the applicable procedures in sections 6.0 and 7.0 of Reference Method 19 as specified in 1200-03-16-.01(5)(g)19.
- (8) Emission monitoring.
- (a) The owner or operator of an affected facility shall install, calibrate, maintain, and operate a continuous monitoring system, and record the output of the system, for measuring the opacity of emissions discharged to the atmosphere, except where gaseous fuel is the only fuel combusted. If opacity interference due to water droplets exists in the stack (for example, from the use of an FGD system), the opacity is monitored upstream of the interference (at the inlet to the FGD system). If opacity interference is experienced at all locations (both at the inlet and outlet of the sulfur dioxide control system), alternate parameters indicative of the particulate matter control system's performance are monitored (subject to the approval of the Technical Secretary).
  - (b) The owner or operator of an affected facility shall install, calibrate, maintain, and operate a continuous monitoring system, and record the output of the system, for measuring sulfur dioxide emissions, except where natural gas is the only fuel combusted, as follows:
    - 1. Sulfur dioxide emissions are monitored at both the inlet and outlet of the sulfur dioxide control device.
    - 2. For a facility which qualifies under the provisions of 1200-03-16-.03(4)(d), sulfur dioxide emissions are only monitored as discharged to the atmosphere.
    - 3. An "as fired" fuel monitoring system (upstream of coal pulverizers) meeting the requirements of Method 19 may be used to determine potential sulfur dioxide emissions in place of a continuous sulfur dioxide emission monitor at the inlet to the sulfur dioxide control device as required under part (b)1. of this paragraph.
  - (c) The owner or operator of an affected facility shall install, calibrate, maintain, and operate a continuous monitoring system, and record the output of the system, for measuring nitrogen oxides emissions discharged to the atmosphere.

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- (d) The owner or operator of an affected facility shall install, calibrate, maintain, and operate a continuous monitoring system, and record the output of the system, for measuring the oxygen or carbon dioxide content of the flue gases at each location where sulfur dioxide or nitrogen oxides emissions are monitored.
- (e) The continuous monitoring systems under subparagraphs (b), (c), and (d) of this paragraph are operated and data recorded during all periods of operation of the affected facility including periods of startup, shutdown, malfunction, or emergency conditions, except for continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments.
- (f) When emission data are not obtained because of continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments, emission data will be obtained by using other monitoring systems as approved by the Technical Secretary or the reference methods as described in subparagraph (h) of this paragraph to provide emission data for a minimum of 18 hours in at least 22 out of 30 successive boiler operating days.
- (g) The 1-hour averages required under 1200-03-16-.01(8)(h) are expressed in ng/J (lbs/million Btu) heat input and used to calculate the average emission rates under 1200-03-16-.03(7). The 1-hour averages are calculated using the data points required under 1200-03-16-.01(8)(b). At least two data points must be used to calculate the 1-hour averages.
- (h) Reference methods used to supplement continuous monitoring system data to meet the minimum data requirements in 1200-03-16-.03(8)(f) will be used as specified below or otherwise approved by the Technical Secretary.
  - 1. Reference Methods 3, 6, and 7, as specified in 1200-03-16-.01(5)(g)3., 6., and 7., as applicable are used. The sampling location(s) are the same as those used for the continuous monitoring system.
  - 2. For Method 6, the minimum sampling time is 20 minutes and the minimum sampling volume is 0.02 dscm (0.71 dscf) for each sample. Samples are taken at approximately 60-minute intervals. Each sample represents a 1-hour average.
  - 3. For Method 7, samples are taken at approximately 30-minute intervals. The arithmetic average of these two consecutive samples represents a 1-hour average.
  - 4. For Method 3, the oxygen or carbon dioxide sample is to be taken for each hour when continuous SO<sub>2</sub> and NO<sub>x</sub> data are taken or when Methods 6 and 7 are required. Each sample shall be taken for a minimum of 30 minutes in each hour using the integrated bag method specified in Method 3. Each sample represents a 1-hour average.
  - 5. For each 1-hour average, the emissions expressed in ng/J (lb/million Btu) heat input are determined and used as needed to achieve the minimum data requirements of subparagraph (f) of this paragraph.
- (i) The following procedures are used to conduct monitoring system performance evaluations under 1200-03-16-.01(8)(c) and calibration checks under 1200-03-16-.01(8)(d).

(Rule 1200-03-16-.03, continued)

1. Reference Method 6 or 7, as applicable, is used for conducting performance evaluations of sulfur dioxide and nitrogen oxides continuous monitoring systems.
2. (Reserved)
3. For affected facilities burning only fossil fuel, the span value for a continuous monitoring system for measuring opacity is between 60 and 80 percent and for a continuous monitoring system measuring nitrogen oxides is determined as follows:

| Fossil fuel<br>nitrogen oxides (ppm) | Span value for        |
|--------------------------------------|-----------------------|
| Gas                                  | 500                   |
| Liquid                               | 500                   |
| Solid                                | 1,000                 |
| Combination                          | $500(x + y) + 1,000z$ |

where:

x is the fraction of total heat input derived from gaseous fossil fuel,

y is the fraction of total heat input derived from liquid fossil fuel, and

z is the fraction of total heat input derived from solid fossil fuel.

4. All span values computed under subparagraph (b)3. of this paragraph for burning combinations of fossil fuels are rounded to the nearest 500 ppm.
  5. For affected facilities burning fossil fuel, alone or in combination with non-fossil fuel, the span value of the sulfur monitoring system at the inlet to the sulfur dioxide control device is 125 percent of the maximum estimated hourly potential emissions of the fuel fired, and the outlet of the sulfur dioxide control device is 50 percent of maximum estimated hourly potential emissions of the fuel fired.
- (9) Compliance determination procedures and methods.
- (a) The following procedures and reference methods are used to determine compliance with the standards for particulate matter under 1200-03-16-.03(3).
    1. Method 3 is used for gas analysis when applying Method 5, 5B, or 17.
    2. Method 5, 5B, or 17 is used for determining particulate matter emissions and associated moisture content as follows: Method 5 is to be used at affected facilities without wet FGD systems; Method 5B is to be used only after wet FGD systems; and Method 17 may be used at facilities with or without wet FGD systems provided that the stack gas temperature at the sampling location does not exceed a temperature of 160° C (320° F). The procedures of sections 2.1 and 2.3 of Method 5B may be used in Method 17 only if it is used after wet FGD systems. Do not use Method 17 after wet FGD systems if the effluent is saturated or laden with water droplets.
    3. For Method 5, 5B, or 17, Method 1 is used to select the sampling site and the number of traverse sampling points. The sampling time for each run is at least

(Rule 1200-03-16-.03, continued)

- 120 minutes and the minimum sampling volume is 1.7 dscm (60 dscf) except that small sampling times or volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.
4. For Method 5 or 5B the probe and filter holder heating system in the sampling train is set to provide an average gas temperature of 160°C (320°F).
  5. For determination of particulate emissions, the oxygen or carbon dioxide sample is obtained simultaneously with each run of Method 5, 5B, or 17 by traversing the duct at the same sampling location. Method 1 is used for selection of the number of oxygen or carbon dioxide traverse points except that no more than 12 sample points are required.
  6. For each run using Method 5, 5B, or 17, the emission rate expressed in ng/J heat input is determined using the oxygen or carbon-dioxide measurement and particulate matter measurements obtained under this section, the dry basis Fc-factor and the dry basis emission rate calculation procedure contained in Method 19 (1200-03-16-.01(5)(g)19).
  7. Prior to the Technical Secretary's issuance of a particulate matter reference method that does not experience sulfuric acid mist interference problems, particulate matter emissions may be sampled prior to a wet flue gas desulfurization system.
- (b) The following procedures and methods are used to determine compliance with the sulfur dioxide standards under 1200-03-16-.03(4).
1. Determine the percent of potential combustion concentration (percent PCC) emitted to the atmosphere as follows:
    - (i) Fuel Pretreatment (%Rf): Determine the percent reduction achieved by any fuel pretreatment using the procedures in Method 19. Calculate the average percent reduction for fuel pretreatment on a quarterly basis using fuel analysis data. The determination of percent Rf to calculate the percent of potential combustion concentration emitted to the atmosphere is optional. For purposes of determining compliance with any percent reduction requirements under 1200-03-16-.03(4), any reduction in potential SO<sub>2</sub> emissions resulting from the following processes may be credited:
      - (I) Fuel pretreatment (physical coal cleaning), hydrodesulfurization of fuel oil, etc.).
      - (II) Coal pulverizers, and
      - (III) Bottom and flyash interactions.
    - (ii) Sulfur Dioxide Control System (%Rg): Determine the percent sulfur dioxide reduction achieved by any sulfur dioxide control system using emission rates measured before and after the control system, following the procedures in Method 19 or, a combination of an "as fired" fuel monitor and emission rates measured after the control system, following the procedures in Method 19. When the "as fired" fuel monitor is used, the percent reduction is calculated using the average emission rate from the sulfur dioxide control device and the average SO<sub>2</sub> input rate from the "as fired" fuel analysis for 30 successive boiler operating days.

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- (iii) Overall percent reduction (% Ro): Determine the overall percent reduction using the results obtained in subparts (b)1.(i) and (ii) of this paragraph following the procedures in Method 19. Results are calculated for each 30-day period using the quarterly average percent sulfur reduction determined for fuel pretreatment from the previous quarter and the sulfur dioxide reduction achieved by a sulfur dioxide control system for each 30-day period in the current quarter.
- (iv) Percent emitted (% PCC): Calculate the percent of potential combustion concentration emitted to the atmosphere using the following equation:  
Percent PCC = 100-Percent Ro.

2. Determine the sulfur dioxide emission rates following the procedures in Method 19.

- (c) The procedures and methods outlined in Method 19 are used in conjunction with the 30-day nitrogen-oxides emission data collected under 1200-03-16-.03(8) to determine compliance with the applicable nitrogen oxides standard under 1200-03-16-.03(5).
- (d) Electric utility combined cycle gas turbines are performance tested for particulate matter, sulfur dioxide, and nitrogen oxides using Method 19. The sulfur dioxide and nitrogen oxides emission rates from the gas turbine used in Method 19 calculations are determined when the gas turbine is performance tested under 1200-03-16-.31. The potential uncontrolled particulate matter emission rate from a gas turbine is defined as 17 ng/J (0.04 lb/million Btu) heat input.

(10) Reporting Requirements.

- (a) For sulfur dioxide, nitrogen oxides, and particulate matter emissions, the performance test data from the initial performance test and from the performance evaluation of the continuous monitors (including the transmissometer) are submitted to the Technical Secretary.
- (b) For sulfur dioxide and nitrogen oxides the following information is reported to the Technical Secretary for each 24-hour period.
  - 1. Calendar date.
  - 2. The average sulfur dioxide and nitrogen oxide emission rates (ng/J or lb/million Btu) for each 30 successive boiler operating days, ending with the last 30-day period in the quarter; reasons for non-compliance with the emission standards; and description of corrective actions taken.
  - 3. Percent reduction of the potential combustion concentration of sulfur dioxide for each 30 successive boiler operating days, ending with the last 30-day period in the quarter; reasons for non-compliance with the standard; and description of corrective actions taken.
  - 4. Identification of the boiler operating days for which pollutant or diluent data have not been obtained by an approved method for at least 18 hours of operation of the facility; justification for not obtaining sufficient data; and description of corrective actions taken.
  - 5. Identification of the times when emissions data have been excluded from the calculation of average emission rates because of startup, shutdown, malfunction (NO<sub>x</sub> only), emergency conditions (SO<sub>2</sub> only), or other reasons, and justification



(Rule 1200-03-16-.03, continued)

- for excluding data for reasons other than startup, shutdown, malfunction, or emergency conditions.
6. Identification of "F" factor used for calculations, method of determination, and type of fuel combusted.
  7. Identification of times when hourly averages have been obtained based on manual sampling methods.
  8. Identification of the times when the pollutant concentration exceeded full span of the continuous monitoring system.
  9. Description of any modifications to the continuous monitoring system which could affect the ability of the continuous monitoring system to comply with Performance Specifications 2 or 3.
- (c) If the minimum quantity of emission data as required by 1200-03-16-.03(8) is not obtained for any 30 successive boiler operating days, the following information obtained under the requirements of 1200-03-16-.03(7)(h) is reported to the Technical Secretary for that 30-day period:
1. The number of hourly averages available for outlet emission rates ( $n_o$ ) and inlet emission rates ( $n_i$ ) as applicable.
  2. The standard deviation of hourly averages for outlet emission rates ( $s_o$ ) and inlet emission rates ( $s_i$ ) as applicable.
  3. The lower confidence limit for the mean outlet emission rate ( $E_o^*$ ) and the upper confidence limit for the mean inlet emission rate ( $E_i^*$ ) as applicable.
  4. The applicable potential combustion concentration.
  5. The ratio of the upper confidence limit for the mean outlet emission rate ( $E_o^*$ ) and the allowable emission rate ( $E_{std}$ ) as applicable.
- (d) If any standards under 1200-03-16-.03(4) are exceeded during emergency conditions because of control system malfunction, the owner or operator of the affected facility shall submit a signed statement:
1. Indicating if emergency conditions existed and requirements under 1200-03-16-.03(7)(d) were met during each period and
  2. Listing the following information:
    - (i) Time periods the emergency condition existed;
    - (ii) Electrical output and demand on the owner or operator's electric utility system and the affected facility;
    - (iii) Amount of power purchased from interconnected neighboring utility companies during the emergency period;
    - (iv) Percent reduction in emissions achieved;
    - (v) Atmospheric emission rate (ng/J) of the pollutant discharged; and

(Rule 1200-03-16-.03, continued)

- (vi) Actions taken to correct control system malfunction.
- (e) If fuel pretreatment credit toward the sulfur dioxide emission standard under 1200-03-16-.03(4) is claimed, the owner or operator of the affected facility shall submit a signed statement:
  - 1. Indicating what percentage cleaning credit was taken for the calendar quarter, and whether the credit was determined in accordance with the provisions of 1200-03-16-.03(9) and Method 19; and
  - 2. Listing the quantity, heat content, and date each pretreated fuel shipment was received during the previous quarter; the name and location of the fuel pretreatment facility; and the total quantity and total heat content of all fuels received at the affected facility during the previous quarter.
- (f) For any periods for which opacity, sulfur dioxide, or nitrogen oxides emissions data are not available, the owner or operator of the affected facility shall submit a signed statement indicating if any changes were made in operation of the emission control system during the period of data unavailability. Operations of the control system and affected facility during periods of data unavailability are to be compared with operation of the control system and affected facility before and following the period of data unavailability.
- (g) The owner or operator of the affected facility shall submit a signed statement indicating whether:
  - 1. The required continuous monitoring system calibration, span, and drift checks or other periodic audits have or have not been performed as specified.
  - 2. The data used to show compliance was or was not obtained in accordance with approved methods and procedures of this part and is representative of plant performance.
  - 3. The minimum data requirements have or have not been met; or the minimum data requirements have not been met for errors that were unavoidable.
  - 4. Compliance with the standards has or has not been achieved during the reporting period.
- (h) For the purposes of the reports required under 1200-03-16-.01(7), periods of excess emissions are defined as all 6-minute periods during which the average opacity exceeds the applicable opacity standards under 1200-03-16-.03(3)(b). Opacity levels in excess of the applicable opacity standard and the date of such excesses are to be submitted to the Technical Secretary each calendar quarter.
- (i) The owner or operator of an affected facility shall submit the written reports required under this paragraph and rule 1200-03-16-.01 to the Technical Secretary for every calendar quarter. All quarterly reports shall be postmarked by the 30th day following the end of each calendar quarter.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed July 21, 1980; effective September 8, 1980. Amendment filed September 21, 1988; effective November 6, 1988.

**1200-03-16-.04 INCINERATORS.**

- (1) Applicability and designation of affected facility. The provisions of this rule are applicable to each incinerator of more than 50 tons per day charging rate, commenced on or after April 3, 1972, which is the affected facility.
- (2) Definitions.
  - (a) "Incinerator" means any furnace used in the process of burning solid waste for the purpose of reducing the volume of the waste by removing combustible matter.
  - (b) "Solid waste" means refuse, more than 50 percent of which is municipal type waste consisting of a mixture of paper, wood, yard wastes, food wastes, plastic, leather, rubber, and other combustibles, and noncombustible materials such as glass and rock.
  - (c) "Day" means 24 hours.
  - (d) "Particulate matter" means any finely divided liquid or solid material, other than uncombined water, as measured by methods specified by the Technical Secretary.

- (3) Standard for particulate matter.

On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere of particulate matter which is in excess of 0.18 g./dscm (0.08 gr./dscf) corrected to 12 percent CO<sub>2</sub>.

- (4) Monitoring of operations. The owner or operator of any incinerator of more than forty-five (45) metric tons per day charging rate (50 tons per day) subject to the provisions of this rule shall record the daily charging rates and hours of operation.
- (5) Test methods and procedures:
  - (a) The sampling time for each particulate run shall be at least sixty (60) minutes and the minimum sample volume shall be 0.85 dscm (30 dscf) except that smaller sampling times or sample volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.
  - (b) If a wet scrubber is used, the gas analysis sample shall reflect flue gas conditions after the scrubber, allowing for carbon dioxide absorption by sampling the gas on the scrubber inlet and outlet sides according to either the procedure under parts 1. through 5. of this subparagraph or the procedure under parts 1., 2., and 6. of this subparagraph as follows:
    1. The outlet sampling site shall be the same as for the particulate matter measurement. The inlet site shall be selected according to a method specified by the Technical Secretary.
    2. Randomly select nine (9) sampling points within the cross-section at both the inlet and outlet sampling sites. Use of the first set of three for the first run, the second set for the second run, and the third set for the third run.
    3. Simultaneously with each particulate matter run, extract and analyze for CO<sub>2</sub> an integrated gas sample, traversing the three (3) sample points and sampling at each point for equal increments of time. Conduct the runs at both inlet and outlet sampling sites.

(Rule 1200-03-16-.04, continued)

4. Measure the volumetric flow rate at the inlet during each particulate matter run using the full number of traverse points. For the inlet make two (2) full velocity traverses approximately one (1) hour apart during each run and average the results. The outlet volumetric flow rate may be determined from the particulate matter run.
5. Calculate the adjusted CO<sub>2</sub> percentage using the following equation:

$$(\%CO_2) \text{ adj} = (\%CO_2) \text{ di} (Q_{di}/Q_{do})$$

where:

(%CO<sub>2</sub>) adj is the adjusted CO<sub>2</sub> percentage which removes the effect of CO<sub>2</sub> absorption and dilution air.

(%CO<sub>2</sub>) di is the percentage of CO<sub>2</sub> measured before the scrubber, dry basis.

Q<sub>di</sub> is the volumetric flow rate before the scrubber, average of two (2) runs, dscf/min, and

Q<sub>do</sub> is the volumetric flow rate after the scrubber, dscf/min.

6. Alternatively, the following procedures may be substituted for the procedures under parts 3., 4., and 5. of this subparagraph.
  - (i) Simultaneously with each particulate matter run, extract and analyze for CO<sub>2</sub>, O<sub>2</sub>, and N<sub>2</sub> an integrated gas sample, traversing the three (3) sample points and sampling for equal increments of time at each point. Conduct the runs at both the inlet and outlet sampling sites.
  - (ii) After completing the analysis of the gas sample, calculate the percentage of excess air (%EA) for both the inlet and outlet sampling stations.

$$\%EA = \left[ \frac{\% O_2 - 0.5\% CO}{0.264\% N_2 - (\%O_2 - 0.5\% CO)} \right] \times 100$$

Where:

%EA = Percent excess air

%O<sub>2</sub> = Percent oxygen by volume, dry basis

%CO = Percent carbon monoxide by volume, dry basis

%N = Percent nitrogen by volume, dry basis

0.264 = Ratio of oxygen to nitrogen in air by volume.

- (iii) Calculate the adjusted CO<sub>2</sub> percentage using the following equation:

(Rule 1200-03-16-.04, continued)

$$(\%CO_2)_{adj} = (\%CO_2)_{di} \frac{100 + (\%EA)_i}{100 + (\%EA)_o}$$

Where:

- (%CO<sub>2</sub>)<sub>adj</sub> is the adjusted outlet CO<sub>2</sub> percentage,
- (%CO<sub>2</sub>)<sub>di</sub> is the percentage of CO<sub>2</sub> measured before the scrubber, dry basis,
- (%EA)<sub>i</sub> is the percentage of excess air at the inlet, and
- (%EA)<sub>o</sub> is the percentage of excess air at the outlet.

- (c) Particulate matter emissions, expressed in g/dscm, shall be corrected to twelve (12) percent CO<sub>2</sub> by using the following formula:

$$c_{12} = c \left( \frac{12}{\%CO} \right)$$

where:

- c<sub>12</sub> is the concentration of particulate matter corrected to twelve (12) percent CO<sub>2</sub>,
- c is the concentration of particulate matter, and
- %CO<sub>2</sub> is the percentage of measured CO<sub>2</sub> or when applicable, the adjusted outlet CO<sub>2</sub> percentage as determined by Method 3. in subparagraph .01(5)(g) of this chapter or by subparagraph (b) of this paragraph.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed June 7, 1974; effective February 9, 1977. Amendment filed September 4, 1981; effective October 19, 1981.

#### 1200-03-16-.05 PORTLAND CEMENT PLANTS.

- (1) Applicability. The provisions of this rule shall apply to the affected facilities commenced on or after April 3, 1972, in Portland cement plants as follows: kiln, clinker cooler, raw mill system, finish mill system, raw mill dryer, raw material storage, clinker storage, finished product storage, conveyor transfer points, bagging and bulk loading, and unloading systems.
- (2) "Portland Cement Plant" means any facility manufacturing portland cement by either the wet or dry process.
- (3) Standards for particulate matter and opacity.
  - (a) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any kiln any gases which:
    1. Contain particulate matter in excess of 0.15 kg per metric ton of feed (dry basis) to the kiln (0.30 lb. per ton).
    2. Exhibit greater than twenty (20) percent opacity.

(Rule 1200-03-16-.05, continued)

- (b) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any clinker cooler any gases which:
  - 1. Contain particulate matter in excess of 0.050 kg per metric ton of feed (dry basis) to the kiln (0.10 lb. per ton).
  - 2. Exhibit twenty (20) percent opacity, or greater.
- (c) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this part shall cause to be discharged into the atmosphere from any affected facility other than the kiln any gases which exhibit ten (10) percent opacity, or greater.
- (4) Monitoring of operations. The owner or operator of any portland cement plant subject to the provisions of this rule shall record the daily production rates and kiln feed rates.
- (5) Test methods and procedures:
  - (a) For determination of particulates, the minimum sampling time and minimum sample volume for each run, except when process variables or other factors justify otherwise to the satisfaction of the Technical Secretary shall be as follows:
    - 1. Sixty (60) minutes and 0.85 dscm (30.0 dscf) for the kiln.
    - 2. Sixty (60) minutes and 1.15 dscm (40.6 dscf) for the clinker cooler.
  - (b) Total kiln feed rate (except fuels), expressed in metric tons per hour on a dry basis, shall be determined during each testing period by suitable methods; and shall be confirmed by a material balance over the production system.
  - (c) For each run, particulate matter emissions expressed in g/metric ton of kiln feed, shall be determined by dividing the emission rate in g/hr by the kiln feed rate. The emission rate shall be determined by the equation,  $g/hr = Q_s \times c$ , where  $Q_s$  = volumetric flow rate of the total effluent in dscm/hr, and  $c$  = particulate concentration in g/dscm.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed January 10, 1977; effective February 9, 1977.

#### 1200-03-16-.06 SULFURIC ACID PLANTS.

- (1) Applicability. The provisions of this rule shall apply to each sulfuric acid production unit commenced on or after April 3, 1972, which is the affected facility.
- (2) Definitions.
  - (a) "Sulfuric acid production unit" means any facility producing sulfuric acid by the contact process by burning elemental sulfur, alkylation acid, hydrogen sulfide, organic sulfides and mercaptans, or acid sludge, but does not include facilities where conversion to sulfuric acid is utilized primarily as a means of preventing emissions to the atmosphere of sulfur dioxide or other sulfur compounds.
  - (b) "Acid mist" means sulfuric acid mist, as measured by test methods specified in subparagraph .01(5)(g) of this chapter.

(Rule 1200-03-16-.06, continued)

- (3) Standard for sulfur dioxide. On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility any gases which contain sulfur dioxide in excess of 2 kg per metric ton of acid produced (4 lbs/ton), the production being expressed as 100 percent H<sub>2</sub>SO<sub>4</sub>.
- (4) Standard for acid mist and opacity. On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility any gases which:
- (a) Contain acid mist, expressed as H<sub>2</sub>SO<sub>4</sub> in excess of 0.075 kg per metric ton of acid produced (0.15 lb per ton), the production being expressed as 100 percent H<sub>2</sub>SO<sub>4</sub>.
- (b) Exhibit ten (10) percent opacity, or greater.
- (5) Emission Monitoring.
- (a) A continuous monitoring system for the measurement of sulfur dioxide shall be installed, calibrated, maintained, and operated by the owner or operator. The pollutant gas used to prepare calibration gas mixtures under paragraph 2.1, Performance Specification 2, Appendix B, *Federal Register*, Vol. 40, No. 194, and for calibration checks under subparagraph .01(8)(d) of this chapter, shall be sulfur dioxide (SO<sub>2</sub>). The method for sulfuric acid mist and sulfur dioxide specified by paragraph .01(5) of this chapter shall be used for conducting monitoring system performance evaluations under subparagraph .01(8)(c) of this chapter, except that only the sulfur dioxide portion of the specified method results shall be used. The span shall be set at 1000 ppm of sulfur dioxide.
- (b) The owner or operator shall establish a conversion factor for the purpose of converting monitoring data into units of the standard (kg/metric ton, lb/short ton). The conversion factor shall be determined, as a minimum, three times daily by measuring the concentration of sulfur dioxide entering the converter using suitable methods (e.g., the Reich test, National Air Pollution Control Administration Publication No. 999-AP-13) and calculating the appropriate conversion factor for each eight-hour period as follows:

$$CF = k \left[ \frac{(1.000 - 0.015r)}{(r - s)} \right]$$

where:

- CF = conversion factor (kg/metric ton per ppm, lb/short ton per ppm).
- k = constant derived from material balance. For determining CF in metric units, k = 0.0653. For determining CF in English units, k = 0.1306.
- r = percentage of sulfur dioxide by volume entering the gas converter. Appropriate corrections must be made for air injection plants subject to the Technical Secretary's approval.
- s = percentage of sulfur dioxide by volume in the emissions to the atmosphere determined by the continuous monitoring system required under subparagraph (a) of this paragraph.
- (c) The owner or operator shall record all conversion factors and values under subparagraph (b) of this paragraph from which they were computed (i.e., CF, r, and s).

(Rule 1200-03-16-.06, continued)

- (d) For the purpose of reports under subparagraph .01(7)(c) of this chapter, periods of excess emissions shall be all three-hour periods (or the arithmetic average of three consecutive one-hour periods) during which the integrated average sulfur dioxide emissions exceed the applicable standards under paragraph (3).
- (6) Test methods and procedures:
  - (a) The moisture content can be considered to be zero. For determination of sulfur dioxide and acid mist the sampling time for each run shall be at least sixty (60) minutes and the minimum sample volume shall be 1.15 dscm (40.6 dscf) except that smaller sampling times or sample volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.
  - (b) Acid production rate, expressed in metric tons per hour of 100 percent H<sub>2</sub>SO<sub>4</sub>, shall be determined during each testing period by suitable methods and shall be confirmed by a material balance over the production system.
  - (c) Acid mist and sulfur dioxide emissions, expressed in g/metric ton of 100 percent H<sub>2</sub>SO<sub>4</sub>, shall be determined by dividing the emission rate in g/hr by the acid production rate. The emission rate shall be determined by the equation,  $g/hr = Q_s \times c$ , where  $Q_s$  = volumetric flow rate of the effluent in dscm/hr as determined in accordance with paragraph .01(5) of this chapter and  $c$  = acid mist and SO<sub>2</sub> concentrations in g/dscm as determined in accordance with paragraph .01(5) of this chapter.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed January 10, 1977; effective February 9, 1977.

#### 1200-03-16-.07 NITRIC ACID PLANTS.

- (1) Applicability. The provisions of this rule shall apply to each nitric acid production unit commenced on or after April 3, 1972, which is the affected facility.
- (2) Definitions.
  - (a) "Nitric acid production unit" means any facility producing weak nitric acid by either the pressure or atmospheric pressure process.
  - (b) "Weak acid production unit" means acid which is thirty (30) to seventy (70) percent in strength.
- (3) Standards for nitrogen oxides and opacity. On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility any gases which:
  - (a) Contain nitrogen oxides, expressed as NO<sub>2</sub>, in excess of 1.5 kg per metric ton of acid produced (3.0 lb. per ton), the production being expressed as 100 percent nitric acid.
  - (b) Exhibit ten (10) percent opacity, or greater.
- (4) Emission Monitoring.
  - (a) A continuous monitoring system for the measurement of nitrogen oxides shall be installed, calibrated, maintained, and operated by the owner or operator. The pollutant gas used to prepare calibration gas mixtures under paragraph 2.1, Performance



(Rule 1200-03-16-.07, continued)

Specification 2, Appendix B, *Federal Register*, Vol. 40, No. 194, and for calibration checks under subparagraph .01(8)(d) of this chapter, shall be nitrogen dioxide (NO<sub>2</sub>). The span shall be set at 500 ppm of nitrogen dioxide. The method for nitrogen oxides specified in accordance with the provisions of paragraph .01(5) of this chapter shall be used for conducting monitoring system performance evaluations under subparagraph .01(8)(c) of this chapter.

- (b) The owner or operator shall establish a conversion factor for the purpose of converting monitoring data into units of the applicable standard (kg/metric ton, lb/short ton). The conversion factor shall be established by measuring emissions with the continuous monitoring system concurrent with measuring emissions with the applicable reference method tests. Using only that portion of the continuous monitoring emission data that represents emission measurements concurrent with the reference method test periods, the conversion factor shall be determined by dividing the reference method test data averages by the monitoring data averages to obtain a ratio expressed in units of the applicable standard to units of the monitoring data, i.e., kg/metric ton per ppm (lb/short ton per ppm). The conversion factor shall be re-established during any performance test under paragraph .01(5) of this chapter or any other continuous monitoring system performance evaluation under subparagraph .01(8)(c) of this chapter.
  - (c) The owner or operator shall record the daily production rate and hours of operation.
  - (d) For the purpose of reports required under subparagraph .01(7)(c) of this chapter, periods of excess emissions that shall be reported are defined as any three-hour period during which the average nitrogen oxides emissions (arithmetic average of three contiguous one-hour periods) as measured by a continuous monitoring system exceed the standard under paragraph (3) of this rule.
- (5) Test methods and procedures:
- (a) The sampling point for nitrogen oxides shall be the centroid of the stack or duct if the cross-section area is less than 50 ft<sup>2</sup> or at a point no closer to the walls than 1 m (3.28 ft), if the area is 50 ft<sup>2</sup> or greater. Each run shall consist of at least four (4) grab samples taken at approximately fifteen (15) minute intervals. The arithmetic mean of the samples shall constitute the run value. A velocity traverse shall be performed once per run.
  - (b) Acid production rate, expressed in metric tons per hour of 100 percent nitric acid, shall be determined during each testing period by suitable methods and shall be confirmed by a material balance over the production system.
  - (c) For each run, nitrogen oxides, expressed in g/metric ton of 100 percent nitric acid, shall be determined by dividing the emission rate in g/hr by the acid production rate. The emission rate shall be determined by the equation:

$$\text{g/hr} = Q_s \times c$$

Where:

$Q_s$  = volumetric flow rate of the effluent in dscm/hr, and

$c$  = NO<sub>x</sub> concentration in g/dscm.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed January 10, 1977; effective February 9, 1977. Amendment filed September 10, 1981; effective October 19, 1981.

**1200-03-16-.08 HOT MIX ASPHALT FACILITIES.**

(1) Applicability. The provisions of this rule shall apply to each Hot Mix Asphalt facility commenced on or after April 21, 1976, which is the affected facility. For the purpose of this rule, a hot mix asphalt facility is comprised only of any combination of the following: dryers; systems for screening, handling, storing and weighing hot aggregate; systems for loading, transferring, and storing mineral filler; systems for mixing hot mix asphalt; and the loading, transfer and storage systems associated with emission control systems.

(2) Definitions

“Hot Mix Asphalt Facility” means any facility, as described in paragraph (1) of this rule, used to manufacture hot mix asphalt by heating and drying aggregate and mixing with asphalt cements.

(3) Standards for particulate matter and opacity. On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any affected facility any gases which:

(a) Contain particulate matter in excess of 90 mg/dscm (0.04 gr/dscf).

(b) Exhibit twenty (20) percent opacity, or greater.

(4) Test methods and procedures.

For determination of concentration of particulate matter, the sampling time for each run shall be at least sixty (60) minutes and the sampling rate shall be at least 0.9 dscm/hr (0.53 dscf/min) except that shorter sampling time, when necessitated by process variables or other factors, may be approved by the Technical Secretary.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed January 10, 1977; effective February 9, 1977. Amendment filed September 21, 1988; effective November 6, 1988.

**1200-03-16-.09 PETROLEUM REFINERIES.**

(1) Applicability.

(a) The provisions of this rule are applicable to the following affected facilities in petroleum refineries: fluid catalytic cracking unit catalyst regenerators, fuel gas combustion devices, and all Claus sulfur recovery plants except Claus plants of 20 long tons per day (LTD) or less. The Claus sulfur recovery plant need not be physically located within the boundaries of a petroleum refinery to be an affected facility, provided it processes gases produced within a petroleum refinery.

(b) Any fluid catalytic cracking unit catalyst regenerator or fuel gas combustion device under subparagraph (a) of this paragraph which commences construction or modification after April 21, 1976 or any Claus sulfur recovery plant under subparagraph (a) of this paragraph which commences construction or modification after November 6, 1988 is subject to the requirements of this rule.

(2) Definitions.

(a) “Petroleum refinery” means any facility engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants, or other products through distillation of

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- petroleum or through redistillation, cracking or reforming of unfinished petroleum derivatives.
- (b) "Petroleum" means the crude oil removed from the earth and the oils derived from tar sands, shale, and coal.
  - (c) "Process gas" means any gas generated by a petroleum refinery process unit, except fuel gas and process upset gas as defined in this paragraph.
  - (d) "Fuel gas" means any gas which is generated by a petroleum refinery process unit and which is combusted, including any gaseous mixture of natural gas and fuel gas which is combusted.
  - (e) "Process upset gas" means any gas generated by a petroleum refinery process unit as a result of start-up, shut-down, upset or malfunction.
  - (f) "Refinery process unit" means any segment of the petroleum refinery in which a specific processing operation is conducted.
  - (g) "Fuel gas combustion device" means any equipment, such as process heaters, boilers and flares used to combust fuel gas, but does not include fluid coking unit and fluid catalytic cracking unit incinerator-waste heat boilers or facilities in which gases are combusted to produce sulfur or sulfuric acid.
  - (h) "Coke burn-off" means the coke removed from the surface of the fluid catalytic cracking unit catalyst by combustion in the catalyst regenerator. The rate of coke burn-off is calculated by a formula specified in 1200-03-16-.09(7)(a)4.
  - (i) "Claus sulfur recovery plant" means a process unit which recovers sulfur from hydrogen sulfide by a vapor-phase catalytic reaction of sulfur dioxide and hydrogen sulfide.
  - (j) "Oxidation control system" means an emission control system which reduces emissions from sulfur recovery plants by converting these emissions to sulfur dioxide.
  - (k) "Reduction control system" means an emission control system which reduces emissions from sulfur recovery plants by converting these emissions to hydrogen sulfide.
  - (l) "Reduced sulfur compounds" means hydrogen sulfide (H<sub>2</sub>S), carbonyl sulfide (COS) and carbon disulfide (CS<sub>2</sub>).
  - (m) (Reserved)
- (3) Standards for particulate matter and opacity:
- (a) On and after the date on which the performance test required to be conducted by 1200-03-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any fluid catalytic cracking unit catalyst regenerator or from any fluid catalytic cracking unit regenerator:
    - 1. Particulate matter in excess of 1.0 kg/1000 kg (1.0 lb/1000 lb) of coke burn-off in the catalyst regenerator.
    - 2. Gases exhibiting thirty (30) percent opacity or greater, except for six (6) minutes in any one (1) hour.

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- (b) Where gases discharged by the fluid catalytic cracking unit catalyst regenerator pass through an incinerator or waste heat boiler in which auxiliary liquid or solid fossil fuel is burned, particulate matter in excess of that permitted by part (a)1. of this paragraph may be emitted to the atmosphere, except that the incremental rate of particulate emissions shall not exceed 0.043 g/MJ (0.10 lb/million Btu) of heat input attributable to such liquid or solid fossil fuel.
- (4) Standard for carbon monoxide. On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from the fluid catalytic cracking unit catalyst regenerator any gases which contain carbon monoxide in excess of 0.050 per cent by volume.
- (5) Standard for sulfur dioxide.
  - (a) On and after the date on which the performance test required to be conducted by 1200-03-16-.01(5) is completed, no owner or operator subject to the provisions of this paragraph shall:
    - 1. Burn in any fuel gas combustion device any fuel gas which contains hydrogen sulfide in excess of 230 mg/dscm (0.10 gr/dscf), except that the gases resulting from the combustion of fuel gas may be treated to control sulfur dioxide emissions provided the owner or operator demonstrates to the satisfaction of the Technical Secretary that this is as effective in preventing sulfur dioxide emissions to the atmosphere as restricting the H<sub>2</sub>S concentration in the fuel gas to 230 mg/dscm or less. The combustion in a flare of process upset gas, or fuel gas which is released to the flare as a result of relief valve leakage, is exempt from this subparagraph.
    - 2. Discharge or cause the discharge of any gases into the atmosphere from any Claus sulfur recovery plant containing in excess of:
      - (i) 0.025 percent by volume of sulfur dioxide at zero percent oxygen on a dry basis if emissions are controlled by a oxidation control system, or a reduction control system followed by incineration, or
      - (ii) 0.030 percent by volume of reduced sulfur compounds and 0.0010 percent by volume of hydrogen sulfide calculated as sulfur dioxide at zero percent oxygen on a dry basis if emissions are controlled by a reduction control system not followed by incineration.
  - (b) (Reserved)
- (6) Emission monitoring:
  - (a) Continuous monitoring systems shall be installed, calibrated, maintained, and operated by the owner or operator as follows:
    - 1. A continuous monitoring system for the measurement of the opacity of emissions discharged into the atmosphere from the fluid catalytic cracking unit catalyst regenerator. The continuous monitoring system shall be spanned at 60, 70, or 80 percent opacity.
    - 2. An instrument for continuously monitoring and recording the concentration of carbon monoxide in gases discharged into the atmosphere from fluid catalytic

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cracking unit catalyst regenerators. The span value of this continuous monitoring system shall be 1,000 ppm. Installation of carbon monoxide (CO) continuous monitoring systems is not required if the owner or operator files a written request for exemption to the Technical Secretary and demonstrates, by the exemption performance test described below, that the average CO emissions are less than 10 percent of the applicable standard listed in paragraph (4) of this rule. The exemption performance test shall consist of continuously monitoring CO emissions for 30 days using an instrument that meets the requirements of Performance Specification 4 as specified in the *Federal Register*, Vol. 50, No. 150, August 5, 1985, pp. 31701-31702, except the span value shall be 100 ppm instead of 1,000 ppm, and if required, the relative accuracy limit shall be 10 percent or 5 ppm, whichever is greater.

3. A continuous monitoring system for the measurement of sulfur dioxide in the gases discharged into the atmosphere from the combustion of fuel gases (except where a continuous monitoring system for the measurement of hydrogen sulfide is installed as specified under part (a)4. of this paragraph). The pollutant gas used to prepare calibration gas mixtures under paragraph 2.1, Performance Specifications 2 and Appendix B, *Federal Register*, Vol. 40, No. 194, and for calibration checks under subparagraph .01(8)(d) of this chapter, shall be sulfur dioxide (SO<sub>2</sub>). The span shall be set at 100 ppm. For conducting monitoring system performance evaluations under subparagraph .01(8)(c) of this chapter, the method for sulfur dioxide specified in accordance with paragraph .01(5) of this chapter shall be used.
  4. An instrument for continuously monitoring and recording concentrations of hydrogen sulfide in fuel gases burned in any fuel gas combustion device if compliance with part 1200-03-16-.09(5)(a)1. is achieved by removing H<sub>2</sub>S from the fuel gas before it is burned; fuel gas combustion devices having a common source of fuel may be monitored at one location, if monitoring at this location accurately represents the concentration of H<sub>2</sub>S in the fuel gas burned. The span of this continuous monitoring system shall be 300 ppm.
  5. An instrument for continuously monitoring and recording concentrations of SO<sub>2</sub> in the gases discharged into the atmosphere from any Claus sulfur recovery plant if compliance with part 1200-03-16-.09(5)(a)2. is achieved through the use of an oxidation control system or a reduction control system followed by incineration. The span of this continuous monitoring system shall be set at 500 ppm.
  6. An instrument(s) for continuously monitoring and recording the concentration of H<sub>2</sub>S and reduced sulfur compounds in the gases discharged into the atmosphere from any Claus sulfur recovery plant if compliance with part 1200-03-16-.09(5)(a)2. is achieved through the use of a reduction control system not followed by incineration. The span(s) of this continuous monitoring system(s) shall be set at 20 ppm for monitoring and recording the concentration of H<sub>2</sub>S and 600 ppm for monitoring and recording the concentration of reduced sulfur compounds.
- (b) (Reserved)
- (c) The average coke burn-off rate (thousands of kilogram/hr) and hours of operation for any fluid catalytic cracking unit catalyst regenerator subject to paragraphs (3) and (4) of this rule shall be recorded daily.
- (d) For any fluid catalytic cracking unit catalyst regenerator which is subject to paragraph (3) of this rule and which utilizes an incinerator-waste heat boiler to combust the exhaust gases from the catalyst regenerator, the owner or operator shall record daily

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the rate of combustion of liquid or solid fossil fuels (liters/hr or kilograms/hr) and the hours of operation during which liquid or solid fossil fuels are combusted in the incinerator-waste heat boiler.

(e) For the purpose of reports under subparagraph .01(7)(c) of this chapter periods of excess emissions that shall be reported are defined as follows:

1. Opacity. All one-hour periods which contain two or more six-minute periods during which the average opacity as measured by the continuous monitoring system exceeds 30 percent.
2. Carbon monoxide. All hourly periods during which the average carbon monoxide concentration in the gases discharged into the atmosphere from any fluid catalytic cracking unit catalyst regenerator subject to paragraph 1200-03-16-.09(4) exceeds 0.050 percent by volume.
3. Sulfur dioxide.
  - (i) Any three-hour period during which the average concentration of H<sub>2</sub>S in any fuel gas combusted in any fuel gas combustion device subject to part 1200-03-16-.09(5)(a)1. exceeds 230 mg/dscm (0.10 gr/dscf), if compliance is achieved by removing H<sub>2</sub>S from the fuel gas before it is burned; or any three-hour period during which the average concentration of SO<sub>2</sub> in the gases discharged into the atmosphere from any fuel gas combustion device subject to part 1200-03-16-.09(5)(a)1. exceeds the level specified in part 1200-03-16-.09(5)(a)1., if compliance is achieved by removing SO<sub>2</sub> from the combusted fuel gases.
  - (ii) Any twelve-hour period during which the average concentration of SO<sub>2</sub> in the gases discharged into the atmosphere from any Claus sulfur recovery plant subject to part 1200-03-16-.09(5)(a)2. exceeds 250 ppm at zero percent oxygen on a dry basis if compliance with subparagraph 1200-03-16-.09(5)(a)2. is achieved through the use of an oxidation control system or a reduction control system followed by incineration; or any twelve-hour period during which the average concentration of H<sub>2</sub>S, or reduced sulfur compounds in the gases discharged into the atmosphere of any Claus sulfur plant subject to part 1200-03-16-.09(5)(a)2. exceeds 10 ppm or 300 ppm, respectively, at zero percent oxygen and on a dry basis if compliance is achieved through the use of a reduction control system not followed by incineration.
4. Any six-hour period during which the average emissions (arithmetic average of six contiguous one-hour periods) of sulfur dioxide as measured by a continuous monitoring system exceed the standard under 1200-03-16-.09(5).

(7) Test Methods and Procedures:

- (a) For the purpose of determining compliance with 1200-03-16-.09(3)(a)1., the following reference methods and calculation procedures shall be used:
  1. For gases released to the atmosphere from the fluid catalytic cracking unit catalyst regenerator:
    - (i) Method 5B or 5F as specified in rule 1200-03-16.01(5)(g) is to be used to determine particulate matter emissions and associated moisture content

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from affected facilities without wet FGD systems; only Method 5B is to be used after wet FGD systems.

- (ii) Method 1 for sample and velocity traverses, and
  - (iii) Method 2 for velocity and volumetric flow rate.
2. For Method 5B or 5F, the sampling time for each run shall be at least 60 minutes and the sampling rate shall be at least 0.015 dscm/min (0.53 dscf/min), except that shorter sampling times may be approved by the Technical Secretary when process variables or other factors preclude sampling for at least 60 minutes.
  3. For exhaust gases from the fluid catalytic cracking unit catalyst regenerator prior to the emission control system: the integrated sample techniques of Methods 3. and 4. of subparagraph .01(5)(g) of this chapter for gas analysis and moisture content determination respectively; Method 1 for velocity traverses; and Method 2 for velocity and volumetric flow rate shall be used.
  4. Coke burn-off rate shall be determined by the following formula:

$$R_c = 0.2982 Q_{re} (\%CO_2 + \%CO) + 2.088 Q_{ra} - 0.0994 Q_{re} \frac{(\%CO + \%CO_2 + \%O_2)}{2} \text{ (Metric Units)}$$

or

$$R_c = 0.0186 Q_{re} (\%CO_2 + \%CO) + 0.1303 Q_{ra} - 0.0062 Q_{re} \frac{(\%CO + \%CO_2 + \%O_2)}{2} \text{ (English Units)}$$

where:

|          |   |   |
|----------|---|---|
| $R_c$    | = | coke burn-off rate, kg/hr (English units: lb/hr).   |
| 0.2982   | = | metric units material balance factor divided by 100, kg-min/hr-m <sup>3</sup> .   |
| 0.0186   | = | English units material balance factor divided by 100, lb-min/hr-ft <sup>3</sup> .   |
| $Q_{re}$ | = | fluid catalytic cracking unit catalyst regenerator exhaust gas flow rate before entering the emission control system, as determined by Method 2., subparagraph .01(5)(g) of this chapter, dscm/min (English units: dscf/min). |
| $\%CO_2$ | = | percent carbon dioxide by volume, dry basis, as determined by Method 3., subparagraph .01(5)(g) of this chapter.  |
| $\%O_2$  | = | percent oxygen by volume dry basis, as determined by Method 3., subparagraph .01(5)(g) of this chapter.   |
| 2.088    | = | metric units material balance factor divided by 100, kg-min/hr-m <sup>3</sup> .   |
| 0.1303   | = | English units material balance factor divided by 100, lb-min/hr-ft <sup>3</sup> .   |
| $Q_{ra}$ | = | air rate to fluid catalytic cracking unit catalyst regenerator, as determined from fluid catalytic cracking unit control room instrumentation. dscm/min (English units: dscf/min).  |
| 0.0094   | = | metric units material balance factor divided by 100, kg-min/hr-m <sup>3</sup> .   |
| 0.0062   | = | English units material balance factor divided by 100, lb-min/hr-ft <sup>3</sup> .   |

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%CO = Percent carbon monoxide by volume, dry basis, as determined by Method 3., subparagraph .01(5)(g) of this chapter.

5. Particulate emissions shall be determined by the following equation:

$$\begin{aligned} \text{Re} &= (60 \times 10^{-6}) \text{QrvCs (Metric Units)} \\ &\text{or} \\ \text{Re} &= (8.57 \times 10^{-3}) \text{QrvCs (English Units)} \end{aligned}$$

where:

Re = particulate emission rate, kg/hr (English units: lb/hr)  
 $60 \times 10^{-6}$  = Metric units conversion factor, min-kg/hr-mg  
 $8.57 \times 10^{-3}$  = English units conversion factor, min-lb/hr-gr  
 Qrv = volumetric flow rate of gases discharged into the atmosphere from the fluid catalytic cracking unit catalyst regenerator following the emission control system, as determined by Method 2, dscm/min. (English units: dscf/min).  
 Cs = particulate emission concentration discharged into the atmosphere, as determined by Method 5, mg/dscm (English units: gr/dscf).

6. For each run, emissions expressed in kg/1000 kg (English units: lb/1000 lb) of coke burn-off in the catalyst regenerator shall be determined by the following equation:

$$\text{Rs} = 1000 \text{Re/Rc (Metric or English Units)}$$

where:

Rs = Particulate emission rate, kg/1000 kg, (English units: lb/1000 lb) of coke burn-off in the fluid catalytic cracking unit catalyst regenerator.  
 1000 = conversion factor, kg to 1000 kg (English units: lb to 1000 lb).  
 Re = particulate emission rate, kg/hr. (English units: lb/hr).  
 Rc = coke burn-off rate, kg/hr (English units: lb/hr).

7. In those instances in which auxiliary liquid or solid fossil fuels are burned in an incinerator-waste heat boiler, the rate of particulate matter emission permitted under subparagraph (3)(b) of this rule must be determined. Auxiliary fuel heat input expressed in millions of cal/hr (English units: Millions of Btu/hr) shall be calculated for each run by fuel flow rate measurement and analysis of the liquid or solid fossil auxiliary fuels. For each run, the rate of particulate emissions permitted under subparagraph (3)(b) of this rule shall be calculated from the following equation:

$$\begin{aligned} \text{Rs} &= 1.0 + \frac{0.18 \text{ H}}{\text{Rc}} \text{ (Metric Units)} \\ &\text{or} \\ \text{Rs} &= 1.0 + \frac{0.10 \text{ H}}{\text{Rc}} \text{ (English Units)} \end{aligned}$$

where:



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- Rs = allowable particulate emission rate, kg/1000 kg (English units: lb/1000 lb) of coke burn-off in the fluid catalytic cracking unit catalyst regenerator.
- 1.0 = emission standard, 1.0 kg/1000 kg (English units: 1.0 lb/1000 lb) of coke burn-off in the fluid catalytic cracking unit catalyst regenerator.
- 0.18 = metric units maximum allowable incremental rate of particulate emissions, g/million cal.
- 0.10 = English units maximum allowable incremental rate of particulate emissions, lb/million Btu.
- H = heat input from solid or liquid fossil fuel, million cal/hr (English units: million Btu/hr).
- Rc = coke burn-off rate, kg/hr (English units: lb/hr).
- (b) For the purpose of determining compliance with paragraph (4) of this rule, the integrated sample technique of Method 10 as specified in 1200-03-16-.01(5)(g)10. shall be used. The sample shall be extracted at a rate proportional to the gas velocity at a sampling point near the centroid of the duct. The sampling time shall not be less than sixty (60) minutes.
- (c) For the purpose of determining compliance with part 1200-03-16-.09(5)(a)1., Method 11 as specified in 1200-03-16-.01(5)(g)11. shall be used to determine the concentration of H<sub>2</sub>S and Method 6 as specified in 1200-03-16-.01(5)(g)6. shall be used to determine the concentration of SO<sub>2</sub>.
1. If Method 11 is used, the gases sampled shall be introduced into the sampling train at approximately atmospheric pressure. Where refinery fuel gas lines are operating at pressures substantially above atmosphere, this may be accomplished with a flow control valve. If the line pressure is high enough to operate the sampling train without a vacuum pump, the pump may be eliminated from the sampling train. The sample shall be drawn from a point near the centroid of the fuel gas line. The minimum sampling time shall be 10 minutes and the minimum sampling volume 0.01 dscm (0.35 dscf) for each sample. The arithmetic average of two samples of equal sampling time shall constitute one run. Samples shall be taken at approximately 1-hour intervals. For most fuel gases, sample times exceeding 20 minutes may result in depletion of the collecting solution, although fuel gases containing low concentrations of hydrogen sulfide may necessitate sampling for longer periods of time.
  2. If Method 6 is used, Method 1 as specified in 1200-03-16-.01(5)(g)1. shall be used for velocity traverses and Method 2 as specified in 1200-03-16-.01(5)(g)2. for determining velocity and volumetric flow rate. The sampling site for determining SO<sub>2</sub> concentration by Method 6 shall be the same as for determining volumetric flow rate by Method 2. The sampling point in the duct for determining SO<sub>2</sub> concentration by Method 6 shall be at the centroid of the cross section if the cross sectional area is less than 5 m<sup>2</sup> (54 ft<sup>2</sup>) or at a point no closer to the walls than 1 m (39 inches) if the cross sectional area is 5 m<sup>2</sup> or more and the centroid is more than one meter from the wall. The sample shall be extracted at a rate proportional to the gas velocity at the sampling point. The minimum sampling time shall be 10 minutes and the minimum sampling volume 0.01 dscm (0.35 dscf) for each sample. The arithmetic average of two samples of equal sampling

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time shall constitute one run. Samples shall be taken at approximately 1-hour intervals.

- (d) For the purpose of determining compliance with part 1200-03-16-.09(5)(a)2., Method 6 shall be used to determine the concentration of SO<sub>2</sub> and Method 15 as specified by 1200-03-16-.01(5)(g)15. shall be used to determine the concentration of H<sub>2</sub>S and reduced sulfur compounds.

As an alternative, Method 15A as specified by 1200-03-16-.01(5)(g)15. may be used for determining reduced sulfur compounds.

1. If Method 6 is used, the procedure outlined in subparagraph (c)(2) of this paragraph shall be followed except that each run shall span a minimum of four consecutive hours of continuous sampling. A number of separate samples may be taken for each run, provided the total sampling time of these samples adds up to a minimum of four consecutive hours. Where more than one sample is used, the average SO<sub>2</sub> concentration for the run shall be calculated as the time weighted average of the SO<sub>2</sub> concentration for each sample according to the formula:

$$C_R = \sum_{i=1}^n \frac{C_{si} t_{si}}{T}$$

Where:

- C<sub>R</sub> = SO<sub>2</sub> concentration for the run.  
 N = Number of samples.  
 C<sub>si</sub> = SO<sub>2</sub> concentration for sample i.  
 t<sub>si</sub> = Continuous time of sample i.  
 T = Total continuous sampling time of all N samples.

2. If Method 15 is used, each run shall consist of 16 samples taken over a minimum of 3 hours. If Method 15A is used, each run shall consist of one 3-hour sample or three 1-hour samples. The sampling point shall be at the centroid of the cross-section of the duct if the cross-sectional area is less than 5 m<sup>2</sup> (54 ft<sup>2</sup>) or at a point no closer to the walls than 1 m (39 in.) if the cross-sectional area is 5 m<sup>2</sup> or more and the centroid is more than 1 m from the wall. For Method 15, to ensure minimum residence time for the sample inside the sample lines, the sampling rate shall be at least 3 liters/min (0.1 ft<sup>3</sup>/min). The SO<sub>2</sub> equivalent for each run shall be calculated as the arithmetic average of the SO<sub>2</sub> equivalent of each sample during the run. Method 4 shall be used to determine the moisture content of the gases when using Method 15. The sampling point for Method 4 shall be adjacent to the sampling point for Method 15. The sample shall be extracted at a rate proportional to the gas velocity at the sampling point. Each run shall span a minimum of 4 consecutive hours of continuous sampling. A number of separate samples may be taken for each run provided the total sampling time of these samples adds up to a minimum of 4 consecutive hours. Where more than one sample is used, the average moisture content for the run shall be calculated as the time weighted average of the moisture content of each sample according to the formula:

$$B_{wo} = \sum_{i=1}^n \frac{B_{si} t_{si}}{T}$$

Where:

(Rule 1200-03-16-.09, continued)

|                 |   |   |
|-----------------|---|---|
| B <sub>w</sub>  | = | Proportion by volume of water vapor in the gas stream for the run.      |
| N               | = | Number of samples.  |
| B <sub>si</sub> | = | Proportion by volume of water vapor in the gas stream for the sample i. |
| t <sub>si</sub> | = | Continuous sampling time for sample i.                                  |
| T               | = | Total continuous sampling time of all N samples.                        |

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed January 10, 1977; effective February 9, 1977. Amendment filed May 17, 1978; effective June 16, 1978. Amendment filed June 3, 1981; effective July 20, 1981. Amendment filed September 4, 1981; effective October 19, 1981. Amendment filed September 21, 1988; effective November 6, 1988.

#### 1200-03-16-.10 RESERVED.

**Authority:** T.C.A. §§ 4-5-201, et seq.; 4-5-202; 68-25-105; and 68-201-101, et seq. **Administrative History:** Original rule filed January 10, 1977; effective February 9, 1977. Amendment filed June 2, 1981; effective July 17, 1981. Amendment filed April 18, 1990; effective June 2, 1990. Amendments filed March 7, 2016; effective June 5, 2016.

#### 1200-03-16-.11 RESERVED.

**Authority:** T.C.A. §§ 4-5-201, et seq.; 4-5-202; 68-25-105; and 68-201-101, et seq. **Administrative History:** Original rule filed March 12, 1982; effective April 26, 1982. Amendment filed April 18, 1990; effective June 2, 1990. Amendment filed April 23, 1998; effective July 7, 1998. Amendments filed March 7, 2016; effective June 5, 2016.

#### 1200-03-16-.12 SECONDARY LEAD SMELTERS.

- (1) Applicability. The provisions of this rule shall apply to the following affected facilities commenced on or after April 21, 1976 in secondary lead smelters: pot furnaces of more than 250 kg (550 lb) charging capacity, blast (cupola) furnaces, and reverberatory furnaces.
- (2) Definitions.
  - (a) "Reverberatory furnace" includes the following types of reverberatory furnaces: stationary, rotating, rocking and tilting.
  - (b) "Secondary lead smelter" means any facility producing lead from a lead-bearing scrap material by smelting to the metallic form.
  - (c) "Lead" means elemental lead or alloys in which the predominant component is lead.
- (3) Standards for particulate matter and opacity:
  - (a) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from a blast (cupola) or reverberatory furnace any gases which:
    1. Contain particulate matter in excess of 50 mg/dscm (0.022 gr/dscf).
    2. Exhibit twenty (20) percent opacity or greater.
  - (b) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any pot furnace any gases which exhibit ten (10) percent opacity or greater.

(Rule 1200-03-16-.12, continued)

(4) Test methods and procedures:

For determining of the concentration of particulate matter and associated moisture content, the sampling time for each run shall be at least sixty (60) minutes and the sampling rate shall be at least 0.9 dscm/hr (0.53 dscf/min) except that shorter sampling times, when necessitated by process variables or other factors, may be approved by the Technical Secretary. Particulate sampling shall be conducted during representative periods of furnace operation, including charging and tapping.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed January 10, 1977; effective February 9, 1977.

**1200-03-16-.13 SECONDARY BRASS AND BRONZE INGOT PRODUCTION PLANTS.**

(1) Applicability. The provisions of this rule shall apply to the following affected facilities commenced on or after April 21, 1976, in secondary brass or bronze ingot production plants: reverberatory and electric furnaces of 1,000 kg (2,205 lb) or greater production capacity and blast (cupola) furnaces of 250 kg/hr (550 lb/hr) or greater production capacity.

(2) Definitions.

(a) "Brass or bronze" means any metal alloy containing copper as its predominant constituent and lesser amounts of zinc, tin, lead, or other metals.

(b) "Reverberatory furnace" includes the following types of reverberatory furnaces: stationary, rotating, rocking, and tilting.

(c) "Electric furnace" means any furnace which uses electricity to produce over fifty (50) percent of the heat required in the production of refined brass or bronze.

(d) "Blast furnace" means any furnace used to recover metal from slag.

(3) Standard for particulate matter:

(a) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from a reverberatory furnace any gases which:

1. Contain particulate matter in excess of 50 mg/dscm (0.022 gr/dscf).

2. Exhibit twenty (20) percent opacity or greater.

(b) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any blast (cupola) or electric furnace any gases which exhibit ten (10) percent opacity or greater.

(4) Test methods and procedures;

For determining the concentration of particulate matter and the associated moisture content, the sampling time for each run shall be at least 120 minutes and the sampling rate shall be at least 0.9 dscm/hr (0.53 dscf/min) except that shorter sampling times, when necessitated by process variables or other factors, may be approved by the Technical Secretary. Particulate

(Rule 1200-03-16-.13, continued)

matter sampling shall be conducted during representative periods of charging and refining, but not during pouring of the heat.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed January 10, 1977; effective February 9, 1977.

#### 1200-03-16-.14 IRON AND STEEL PLANTS.

- (1) Applicability. The provisions of this rule shall apply to each basic oxygen process furnace commenced on or after April 21, 1976.
- (2) Definitions
  - (a) “Basic oxygen process furnace” (BOPF) means any furnace with a refractory lining in which molten steel is produced by charging scrap metal, molten iron, and flux materials or alloy additions into a vessel and introducing a high volume of oxygen-rich gas. Open hearth, blast, and reverberatory furnaces are not included in this definition.
  - (b) “Primary emissions” means particulate matter emissions from the BOPF generated during the steel production cycle and captured by the BOPF primary control system.
  - (c) “Primary oxygen blow” means the period in the steel production cycle of a BOPF during which a high volume of oxygen-rich gas is introduced to the bath of molten iron by means of a lance inserted from the top of the vessel or through tuyeres in the bottom or through the bottom and sides of the vessel. This definition does not include any additional or secondary oxygen blows made after the primary blow or the introduction of nitrogen or other inert gas through tuyeres in the bottom or bottom and sides of the vessel.
  - (d) “Steel production cycle” means the operations conducted within the BOPF steelmaking facility that are required to produce each batch of steel and includes the following operations: scrap charging, preheating (when used), hot metal charging, primary oxygen blowing, sampling (vessel turndown and turnup), additional oxygen blowing (when used), tapping, and deslagging. This definition applies to an affected facility constructed, modified, or reconstructed after November 6, 1988. For an affected facility constructed, modified, or reconstructed after April 21, 1976, but on or before November 6, 1988, “steel production cycle” means the operations conducted within the BOPF steelmaking facility that are required to produce each batch of steel and includes the following operations: scrap charging, preheating (when used), hot metal charging, primary oxygen blowing, sampling (vessel turndown and turnup), additional oxygen blowing (when used), and tapping.
- (3) Standard for particulate matter
  - (a) Except as provided under subparagraph (b) of this paragraph, on and after the date on which the performance test required to be conducted by paragraph 1200-03-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any affected facility any gases which:
    1. Contain particulate matter in excess of 50 mg/dscm (0.022 gr/dscf).
    2. Exit from a control device and exhibit 10 percent opacity or greater, except that an opacity of greater than 10 percent but less than 20 percent may occur once per steel production cycle.

(Rule 1200-03-16-.14, continued)

- (b) For affected facilities constructed, modified, or reconstructed after November 6, 1988, the following limits shall apply:
    - 1. On or after the date on which the performance test under paragraph 1200-03-16-.01(5) is required to be completed, no owner or operator of an affected facility for which open hooding is the method for controlling primary emissions shall cause to be discharged to the atmosphere any gases that:
      - (i) Contain particulate matter in excess of 50 mg/dscm (0.022 gr/dscf), as measured for the primary oxygen blow.
      - (ii) Exit from a control device not used solely for the collection of secondary emissions, as defined in paragraph (2) of rule 1200-03-16-.55, and exhibit 10 percent opacity or greater, except that an opacity greater than 10 percent but less than 20 percent may occur once per steel production cycle.
    - 2. On or after the date on which the performance test required by 1200-03-16-.01(5) is completed, no owner or operator of an affected facility for which closed hooding is the method for controlling primary emissions shall cause to be discharged into the atmosphere any gases that:
      - (i) Contain particulate matter in excess of 68 mg/dscm (0.030 gr/dscf), as measured for the primary oxygen blow.
      - (ii) Exit from a control device not used solely for the collection of secondary emissions, as defined in paragraph (2) of rule 1200-03-16-.55, and exhibit 10 percent opacity or greater, except that an opacity greater than 10 percent but less than 20 percent may occur once per steel production cycle.
  - (c) On and after the date on which the performance test required by 1200-03-16-.01(5) is completed, each owner or operator of an affected facility subject to subparagraph (b) of this paragraph shall operate the primary gas cleaning system during any reblow in a manner identical to operation during the primary oxygen blow.
- (4) Monitoring of operations.
- (a) The owner or operator of an affected facility shall maintain a single time-measuring instrument which shall be used in recording daily the time and duration of each steel production cycle, and the time and duration of any diversion of exhaust gases from the main stack servicing the BOPF.
  - (b) The owner or operator of any affected facility that uses venturi scrubber emission control equipment shall install, calibrate, maintain, and continuously operate monitoring devices as follows:
    - 1. A monitoring device for the continuous measurement of the pressure loss through the venturi constriction of the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within  $\pm 250$  Pa ( $\pm 1$  inch water).
    - 2. A monitoring device for the continual measurement of the water supply pressure to the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within  $\pm 5$  percent of the design water supply pressure. The monitoring device's pressure sensor or pressure tap must be

(Rule 1200-03-16-.14, continued)

located close to the water discharge point. The Technical Secretary must be consulted for approval in advance of selecting alternative locations for the pressure sensor or tap.

3. All monitoring devices shall be synchronized each day with the time measuring instrument used under subparagraph (a) of this paragraph. The chart recorder error directly after synchronization shall not exceed 0.08 cm (1/32 inch).
  4. All monitoring devices shall use chart recorders which are operated at a minimum chart speed of 3.8 cm/hr (1.5 in/hr).
  5. All monitoring devices are to be recalibrated annually, and at other times as the Technical Secretary may require, in accordance with the procedures under part .01(8)(b)3. of this chapter.
- (c) Any owner or operator subject to the requirements of subparagraph (b) of this paragraph shall report to the Technical Secretary, on a semiannual basis, all measurements over any 3-hour period that average more than 10 percent below the average levels maintained during the most recent performance test conducted under paragraph 1200-03-16-.01(5) in which the affected facility demonstrated compliance with the mass standards under 1200-03-16-.14(3)(a)1., (b)1.(i) or (b)2.(i). The accuracy of the respective measurements, not to exceed the values specified in parts (b)1. and (b)2. of this paragraph, may be taken into consideration when determining the measurement results that must be reported.

(5) Test Methods and Procedures

- (a) For determining the concentration of particulate matter and associated moisture content, the sampling for each run shall continue for an integral number of cycles with total duration of at least sixty (60) minutes. The sampling rate shall be at least 0.9 dscm/hr (0.53 dscf/min) except that shorter sampling times, when necessitated by process variables or other factors, may be approved by the Technical Secretary. A cycle shall start at the beginning of either the scrap preheat or the oxygen blow and shall terminate immediately prior to tapping.
- (b) For Method 5, the sampling time shall be as follows:
1. For affected facilities that commenced construction, modification, or reconstruction on or before November 6, 1988, the sampling for each run shall continue for an integral number of steel production cycles with total duration of at least 60 minutes. A cycle shall start at the beginning of either the scrap preheat or the oxygen blow and shall terminate immediately prior to tapping. The minimum sample volume shall be at least 1.5 dscm (53 dscf). Shorter sampling times and smaller sample volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.
  2. For affected facilities that commence construction, modification, or reconstruction after November 6, 1988, the sampling for each run shall continue for an integral number of primary oxygen blows, with total duration of at least 60 minutes. The minimum sample volume shall be at least 1.5 dscm (53 dscf). Shorter sampling times and smaller sample volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.
- (c) Sampling of flue gases during each steel production cycle shall be discontinued whenever all flue gases are diverted from the stack and shall be resumed after each diversion period.

(Rule 1200-03-16-.14, continued)

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed January 10, 1977; effective February 9, 1977. Amendment filed May 17, 1978; effective June 16, 1978. Amendment filed January 31, 1983; effective March 2, 1983. Amendment filed September 21, 1988; effective November 6, 1988.

#### **1200-03-16-.15 SEWAGE TREATMENT PLANT INCINERATORS.**

- (1) Applicability. The provisions of this rule shall apply to each incinerator commenced on or after April 21, 1976, which burns the sludge produced by municipal sewage treatment facilities.
- (2) Standards for particulate matter and opacity. On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator of any sewage sludge incinerator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere of:
  - (a) Particulate matter at a rate in excess of 0.65 g/kg dry sludge input (1.30 lb/ton dry sludge input).
  - (b) Any gases which exhibit twenty (20) percent opacity or greater.
- (3) Monitoring of operations. The owner or operator of any sludge incinerator subject to the provisions of this rule shall:
  - (a) Install, calibrate, maintain, and operate a flow measuring device which can be used to determine either the mass or volume of sludge charged to the incinerator. The flow measuring device shall have an accuracy of +5 percent over its operating range.
  - (b) Provide access to the sludge charged so that a well-mixed representative grab sample of the sludge can be obtained.
- (4) Test methods and procedures:
  - (a) For determining the concentration of particulate matter and associated moisture content, the sampling time for each run shall be at least sixty (60) minutes and the sampling rate shall be at least 0.015 dscm/min (0.53 dscf/min), except that shorter sampling times, when necessitated by process variables or other factors may be approved by the Technical Secretary.
  - (b) Dry sludge charging rate shall be determined as follows:
    1. Determine the mass (Sm) or volume (Sv) of sludge charged to the incinerator during each run using a flow measuring device meeting the requirements of subparagraph (3)(a) of this rule. If total input during a run is measured by a flow measuring device, such readings shall be used. Otherwise, record the flow measuring device readings at five (5) minute intervals during a run. Determine the quantity charged during each interval by averaging the flow rates at the beginning and end of the interval and then multiplying the average for each interval by the time for each interval. Then add the quantity for each interval to determine the total quantity charged during the entire run, (Sm) or (Sv).
    2. Collect samples of the sludge charged to the incinerator in non-porous collecting jars at the beginning of each run and at approximately one (1) hour intervals thereafter until the test ends, and determine for each sample the dry sludge content (total solids residue) in accordance with the method specified in "244 G. Method for Solid and Semisolid Samples," Standard Methods for the



(Rule 1200-03-16-.15, continued)

Examination of Water and Wastewater, Thirteenth Edition, American Public Health Association, Inc., New York, N.Y., 1971, pp. 539-41, except that:

- (i) Evaporating dishes shall be ignited to at least 103° C rather than the 550° C specified in step 3(a)(1).
  - (ii) Determination of volatile residue, step 3(b) may be deleted.
  - (iii) The quantity of dry sludge per unit sludge charged shall be determined in terms of either Rdv (metric units; mg dry sludge/liter sludge charged or English units: lb/ft<sup>3</sup>) or Rdm (metric units: mg dry sludge/mg sludge charged or English units: lb/lb).
3. Determine the quantity of dry sludge per unit sludge charged in terms of either Rdv or Rdm.
- (i) If the volume of sludge charged is used:

$$S_d = \frac{(60 \times 10^{-3}) R_{dv} S_v}{T} \quad (\text{Metric Units})$$

or

$$S_d = \frac{(8.021) R_{dv} S_v}{T} \quad (\text{English Units})$$

where:

$S_d$  = average dry sludge charging rate during the run, kg/hr (English units: lb/hr).

$R_{dv}$  = average quantity of dry sludge per unit volume of sludge charged to the incinerator, mg/l (English units: lb/ft<sup>3</sup>).

$S_v$  = sludge charged to the incinerator during the run, m<sup>3</sup> (English units: gal).

$T$  = duration of run, min (English units: min).

$60 \times 10^{-3}$  = metric units conversion factor, 1-kg-min/m<sup>3</sup>-mg-hr.

8.021 = English units conversion factor, ft<sup>3</sup>-min/gal/hr.

- (ii) If the mass of sludge charged is used:

$$S_d = \frac{(60 R_{dm} S_m)}{T} \quad (\text{Metric or English Units})$$

where:

$S_d$  = average dry sludge charging rate during the run, kg/hr (English units: lb/hr).

$R_{dm}$  = average ratio of quantity of dry sludge to quantity of sludge charged to the incinerator, mg/mg (English units: lb/lb).

$S_m$  = sludge charged during the run, kg (English units: lb).

$T$  = duration of run, min (Metric or English units).

(Rule 1200-03-16-.15, continued)

60 = conversion factor, min/hr (Metric or English units).

- (c) Particulate emission rate shall be determined by:

$$C_{aw} = C_s Q_s \text{ (Metric or English Units)}$$

where:

C<sub>aw</sub> = particulate matter mass emissions, mg/3hr (English units: lb/hr).C<sub>s</sub> = particulate matter concentration, mg/m<sup>3</sup> (English units: lb/dscf).Q<sub>s</sub> = volumetric stack gas flow rate, dscm/hr (English units: dscf/hr). Q<sub>s</sub> and C<sub>s</sub> shall be determined using Method 2 and 5, respectively.

- (d) To check compliance, particulate emissions shall be determined as follows:

$$C_{ds} = \frac{(10^{-3}) C_{aw} \text{ (Metric Units)}}{S_d}$$

or

$$C_{ds} = \frac{(2000) C_{aw} \text{ (English Units)}}{S_d}$$

where:

C<sub>ds</sub> = particulate emission discharge, g/kg dry sludge (English units: lb/ton dry sludge).10<sup>-3</sup> = Metric conversion factor, g/mg.

2000 = English conversion factor, lb/ton.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule effective February 9, 1977. Amended June 16, 1978.

### 1200-03-16-.16 PHOSPHATE FERTILIZER INDUSTRY: WET-PROCESS PHOSPHORIC ACID PLANTS.

- (1) Applicability

The provisions of this rule shall apply to each wet-process phosphoric acid plant having a design capacity of more than 15 tons of equivalent P<sub>2</sub>O<sub>5</sub> feed per calendar day. For the purpose of this rule, the affected facility includes any combination of reactors, filters, evaporators, and hotwells commenced on or after February 9, 1977.

- (2) Definitions.

(a) "Wet-process phosphoric acid plant" means any facility manufacturing phosphoric acid by reacting phosphate rock and acid.

(b) "Total fluorides" means elemental fluorine and all fluoride compounds as measured by reference methods specified in subparagraph .01(5)(g) or equivalent or alternative methods.

(c) "Equivalent P<sub>2</sub>O<sub>5</sub> feed" means the quantity of phosphorous, expressed as phosphorous pentoxide, fed to the process.

- (3) Standard for Fluorides. On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to

(Rule 1200-03-16-.16, continued)

the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility any gases which contain total fluorides in excess of 10.0 g/metric ton equivalent P<sub>2</sub>O<sub>5</sub> feed (0.020 lb/ton).

(4) Monitoring of Operations. The owner or operator of any wet-process phosphoric acid plant, subject to the provisions of this rule shall:

- (a) Install, calibrate, maintain, and operate a monitoring device which can be used to determine the mass flow of phosphorus-bearing feed material to the process. The monitoring device shall have an accuracy of ±5 percent over its operating range.
- (b) Maintain a daily record of equivalent P<sub>2</sub>O<sub>5</sub> feed by first determining the total mass rate in metric ton/hr of phosphorus-bearing feed using a monitoring device for measuring mass flow rate which meets the requirements of subparagraph (a) of this paragraph and then by proceeding according to part (5)(c)2. of this rule.
- (c) Install, calibrate, maintain, and operate a monitoring device which continuously measures and permanently records the total pressure drop across the process scrubbing system. The monitoring device shall have an accuracy of ±5 percent over its operating range.

(5) Test Methods and Procedures

- (a) For determining the concentration of total fluorides and the associated moisture content, the sampling for each run shall be at least 60 minutes and the minimum sampling volume shall be 0.85 dscm (30 dscf) except that shorter sampling times or smaller volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.
- (b) The air pollution control system for the affected facility shall be constructed so that volumetric flow rates and total fluoride emissions can be accurately determined by applicable test methods and procedures.
- (c) Equivalent P<sub>2</sub>O<sub>5</sub> feed shall be determined as follows:
  - 1. Determine the total mass rate in metric ton/hr of phosphorus-bearing feed during each run using a flow monitoring device meeting the requirements of subparagraph (4)(a) of this rule.
  - 2. Calculate the equivalent P<sub>2</sub>O<sub>5</sub> feed by multiplying the percentage P<sub>2</sub>O<sub>5</sub> content, as measured by the spectrophotometric molybdovanadophosphate method (AOAC Method 9), times the total mass rate of phosphorus-bearing feed. AOAC Method 9 is published in the Official Methods of Analysis of the Association of Official Analytical Chemists, 11th edition, 1970, pp. 11-12. Other methods may be approved by the Technical Secretary.
- (d) For each run, emissions expressed in g/metric ton of equivalent P<sub>2</sub>O<sub>5</sub> feed shall be determined using the following equation:

$$E = \frac{(CsQs) 10^{-3}}{M P_2O_5}$$

where:

E = Emissions of total fluorides in g/metric ton of equivalent P<sub>2</sub>O<sub>5</sub> feed.

(Rule 1200-03-16-.16, continued)

- Cs = Concentration of total fluorides in mg/dscm.
- Qs = Volumetric flow rate of the effluent gas stream in dscm/hr.
- $10^{-3}$  = Conversion factor for mg to g.
- M P<sub>2</sub>O<sub>5</sub> = Equivalent P<sub>2</sub>O<sub>5</sub> feed in metric ton/hr.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule effective February 9, 1977. Amendment filed September 21, 1988; effective November 6, 1988.

#### 1200-03-16-.17 PHOSPHATE FERTILIZER INDUSTRY: SUPERPHOSPHORIC ACID PLANTS.

(1) Applicability

The provisions of this rule shall apply to each superphosphoric acid phosphate plant having a design capacity of more than 15 tons of equivalent P<sub>2</sub>O<sub>5</sub> feed per calendar day. For the purpose of this rule, the affected facility includes any combination of evaporators, hotwells, acid sumps and cooling tanks commenced on or after February 9, 1977.

(2) Definitions.

- (a) "Superphosphoric acid plant" means any facility which concentrates wet-process phosphoric acid to 66 percent or greater P<sub>2</sub>O<sub>5</sub> content by weight for eventual consumption as a fertilizer.
- (b) "Total fluorides" means elemental fluorine and all fluoride compounds as measured by reference methods specified in subparagraph .01(5)(g) of this chapter, or equivalent or alternative methods.
- (c) "Equivalent P<sub>2</sub>O<sub>5</sub> feed" means the quantity of phosphorus, expressed as phosphorous pentoxide, fed to the process.

(3) Standard for Fluorides. On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility any gases which contain total fluorides in excess of 5.0 g/metric ton of equivalent P<sub>2</sub>O<sub>5</sub> feed (0.010 lb/ton).

(4) Monitoring of Operations. The owner or operator of any granular diammonium phosphate plant subject to the provisions of this rule shall:

- (a) Install, calibrate, maintain, and operate a flow monitoring device which can be used to determine the mass flow of phosphorus-bearing feed material to the process. The flow monitoring device shall have an accuracy of ±5 percent over its operating range.
- (b) Maintain a daily record of equivalent P<sub>2</sub>O<sub>5</sub> feed by first determining the total mass rate in metric ton/hr of phosphorus-bearing feed using a flow monitoring device meeting the requirements of subparagraph (a) of this paragraph and then by proceeding according to part (5)(c)2. of this rule.
- (c) Install, calibrate, maintain, and operate a monitoring device which continuously measures and permanently records the total pressure drop across the scrubbing system. The monitoring device shall have an accuracy of ±5 percent over its operating range.

(Rule 1200-03-16-.17, continued)

## (5) Test Methods and Procedures.

- (a) For determining the concentration of total fluorides and the associated moisture content, the sampling time for each run shall be at least 60 minutes and the minimum sample volume shall be at least 0.85 dscm (30 dscf) except that at shorter necessitated by process variables or other factors, may be approved by the Technical Secretary.
- (b) The air pollution control system for the affected facility shall be constructed so that volumetric flow rates and total fluoride emissions can be accurately determined by applicable test methods and procedures.
- (c) Equivalent P<sub>2</sub>O<sub>5</sub> feed shall be determined as follows:
1. Determine the total mass rate in metric ton/hr of phosphorus-bearing feed during each run using a flow monitoring device meeting the requirements of subparagraph (4)(a) of this rule.
  2. Calculate the equivalent P<sub>2</sub>O<sub>5</sub> feed by multiplying the percentage P<sub>2</sub>O<sub>5</sub> content, as measured by the spectrophotometric molybdovanadophosphate method (AOAC Method 9), times the total mass rate of phosphorus-bearing feed. AOAC Method 9 is published in the Official Methods of Analysis of the Association of Official Analytical Chemists, 11th edition, 1970, pp. 11-12. Other methods may be approved by the Technical Secretary.
- (d) For each run, emissions expressed in g/metric ton of equivalent P<sub>2</sub>O<sub>5</sub> feed shall be determined using the following equation:

$$E = \frac{(CsQs) 10^{-3}}{MP_{2}O_{5}}$$

where:

- E = Emissions of total fluorides in g/metric ton of equivalent P<sub>2</sub>O<sub>5</sub> feed.
- Cs = Concentration of total fluorides in mg/dscm.
- Qs = Volumetric flow rate of the effluent gas stream in dscm/hr.
- 10<sup>-3</sup> = Conversion factor for mg to g.
- MP<sub>2</sub>O<sub>5</sub> = Equivalent P<sub>2</sub>O<sub>5</sub> feed in metric ton/hr.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule effective February 9, 1977. Amendment filed September 21, 1988; effective November 6, 1988.

**1200-03-16-.18 PHOSPHATE FERTILIZER INDUSTRY: DIAMMONIUM PHOSPHATE PLANTS.**

## (1) Applicability

The provisions of this rule shall apply to each granular diammonium phosphate plant having a design capacity of more than 15 tons of equivalent P<sub>2</sub>O<sub>5</sub> feed per calendar day. For the purpose of this rule, the affected facility includes any combination of reactors, granulators, dryers, coolers, screens and mills commenced on or after February 9, 1977.

(Rule 1200-03-16-.18, continued)

- (2) Definitions.
- (a) "Granular diammonium phosphate plant" means any plant manufacturing granular diammonium phosphate by reacting phosphoric acid with ammonia.
  - (b) "Total fluorides" means elemental fluorine and all fluoride compounds as measured by reference methods specified in subparagraph .01(5)(g) of this chapter or equivalent or alternative methods.
  - (c) "Equivalent P<sub>2</sub>O<sub>5</sub> feed" means the quantity of phosphorous, expressed as phosphorous pentoxide, fed to the process.
- (3) Standard for Fluorides. On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility any gases which contain total fluorides in excess of 30 g/metric ton of equivalent P<sub>2</sub>O<sub>5</sub> feed (0.060 lb/ton).
- (4) Monitoring of operations. The owner or operator of any granular diammonium phosphate plant subject to the provisions of this rule shall:
- (a) Install, calibrate, maintain and operate a flow monitoring device which can be used to determine the mass flow of phosphorus-bearing feed material to the process. The flow monitoring device shall have an accuracy of ±5 percent over its operating range.
  - (b) Maintain a daily record of equivalent P<sub>2</sub>O<sub>5</sub> feed by first determining the total mass rate in metric ton/hr of phosphorus-bearing feed using a flow monitoring device meeting the requirements of subparagraph (a) of this paragraph and then by proceeding according to part (5)(c)2. of this rule.
  - (c) Install, calibrate, maintain and operate a monitoring device which continuously measures and permanently records the total pressure drop across the process scrubbing system. The monitoring device shall have an accuracy of ±5 percent over its operating range.
- (5) Test Methods and Procedures.
- (a) For determining the concentration of total fluorides and the associated moisture content, the sampling time for each run shall be at least 60 minutes and the minimum sample volume shall be at least 0.85 dscm (30 dscf) except that shorter sampling times or smaller volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.
  - (b) The air pollution control system for the affected facility shall be constructed so that volumetric flow rates and total fluoride emissions can be accurately determined by applicable test methods and procedures.
  - (c) Equivalent P<sub>2</sub>O<sub>5</sub> feed shall be determined as follows:
    1. Determine the total mass rate in metric ton/hr of phosphorus-bearing feed during each run using a flow monitoring device meeting the requirements of subparagraph (4)(a) of this rule.
    2. Calculate the equivalent P<sub>2</sub>O<sub>5</sub> feed by multiplying the percentage P<sub>2</sub>O<sub>5</sub> content, as measured by the spectrophotometric molybdovanadophosphate method (AOAC Method 9), times the total mass rate of phosphorus-bearing feed. AOAC

(Rule 1200-03-16-.18, continued)

Method 9 is published in the Official Methods of Analysis of the Association of Official Analytical Chemists, 11th edition, 1970, pp. 11-12. Other methods may be approved by the Technical Secretary.

- (d) For each run, emissions expressed in g/metric ton of equivalent P<sub>2</sub>O<sub>5</sub> feed shall be determined using the following equation:

$$E = \frac{(CsQs) 10^{-3}}{MP_{2}O_{5}}$$

where:

- E = Emissions of total fluorides in g/metric ton of equivalent P<sub>2</sub>O<sub>5</sub> feed.  
 Cs = Concentration of total fluorides in mg/dscm.  
 Qs = Volumetric flow rate of the effluent gas stream in dscm/hr.  
 10<sup>-3</sup> = Conversion factor for mg to g.  
 MP<sub>2</sub>O<sub>5</sub> = Equivalent P<sub>2</sub>O<sub>5</sub> feed in metric ton/hr.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed January 10, 1977; effective February 9, 1977. Amendment filed May 17, 1978; effective June 16, 1978. Amendment filed September 21, 1988; effective November 6, 1988.

#### 1200-03-16-.19 PHOSPHATE FERTILIZER INDUSTRY: TRIPLE SUPERPHOSPHATE PLANTS.

- (1) Applicability

The provisions of this rule shall apply to each triple superphosphate plant having a design capacity of more than 15 tons of equivalent P<sub>2</sub>O<sub>5</sub> feed per calendar day. For the purpose of this rule, the affected facility includes any combination of mixers, curing belts (dens), reactors, granulators, dryers, cookers, screens, mills and facilities which store run-of-pile triple superphosphate commenced on or after February 9, 1977.

- (2) Definitions

- (a) "Triple superphosphate plant" means any facility manufacturing triple superphosphate by reacting phosphate rock with phosphoric acid. A run-of-pile triple superphosphate plant includes curing and storing.
- (b) "Run-of-pile triple superphosphate" means any triple phosphate that has not been processed in a granulator and is composed on particles at least 25 percent by weight of which (when not caked) will pass through a 16 mesh screen.
- (c) "Total fluorides" means elemental fluorine and all fluoride compounds as measured by reference methods specified in subparagraph .01(5)(g) of this chapter or equivalent or alternative methods.
- (d) "Equivalent P<sub>2</sub>O<sub>5</sub> feed" means the quantity of phosphorus, expressed as phosphorous pentoxide, fed to the process.

- (3) Standard for Fluorides. On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected

(Rule 1200-03-16-.19, continued)

facility any gases which contain total fluorides in excess of 100 g/metric ton of equivalent P<sub>2</sub>O<sub>5</sub> feed (0.20 lb/ton).

(4) Monitoring of Operations. The owner or operator of any triple superphosphate plant subject to the provisions of this rule shall:

(a) Install, calibrate, maintain, and operate a flow monitoring device which can be used to determine the mass flow of phosphorus-bearing feed material to the process. The flow monitoring device shall have an accuracy of ±5 percent over its operating range.

(b) Maintain a daily record of equivalent P<sub>2</sub>O<sub>5</sub> feed by first determining the total mass rate in metric ton/hr of phosphorus-bearing feed using a flow monitoring device meeting the requirements of subparagraph (a) of this paragraph and then by proceeding according to part (5)(c)2 of this rule.

(c) Install, calibrate, maintain, and operate a monitoring device which continuously measures and permanently records the total pressure drop across the process scrubbing system. The monitoring device shall have an accuracy of ±5 percent over its operating range.

(5) Test Methods and Procedures.

(a) For determining the concentration of total fluorides and the associated moisture content, the sampling time for each run shall be at least 60 minutes and the minimum sample volume shall be at least 0.85 dscm (30 dscf) except that shorter sampling times or smaller volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.

(b) The air pollution control system for the affected facility shall be constructed so that volumetric flow rates and total fluoride emissions can be accurately determined by applicable test methods and procedures.

(c) Equivalent P<sub>2</sub>O<sub>5</sub> feed shall be determined as follows:

1. Determine the total mass rate in metric ton/hr of phosphorus-bearing feed during each run using a flow monitoring device meeting the requirements of subparagraph (4)(a) of this rule.

2. Calculate the equivalent P<sub>2</sub>O<sub>5</sub> feed by multiplying the percentage P<sub>2</sub>O<sub>5</sub> content, as measured by the spectrophotometric molybdovanadophosphate method (AOAC Method 9), times the total mass rate of phosphorus-bearing feed. AOAC Method 9 is published in the Official Methods of Analysis of the Association of Official Analytical Chemists, 11th edition, 1970, pp. 11-12. Other methods may be approved by the Technical Secretary.

(d) For each run, emissions expressed in g/metric ton of equivalent P<sub>2</sub>O<sub>5</sub> feed shall be determined when using the following equation:

$$E = \frac{(CsQs) 10^{-3}}{MP_{2}O_{5}}$$

where:

E = Emissions of total fluorides in g/metric ton of equivalent feed.

Cs = Concentration of total fluorides in mg/dscm.



(Rule 1200-03-16-.19, continued)

- Qs = Volumetric flow rate of the effluent gas stream in dscm/hr.
- $10^{-3}$  = Conversion factor for mg to g.
- MP<sub>2</sub>O<sub>5</sub> = Equivalent P<sub>2</sub>O<sub>5</sub> feed in metric ton/hr.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed January 10, 1977; effective February 9, 1977. Amendment filed September 22, 1988; effective November 6, 1988.

**1200-03-16-.20 PHOSPHATE FERTILIZER INDUSTRY: GRANULAR TRIPLE SUPERPHOSPHATE STORAGE FACILITIES.**

- (1) Applicability. The provisions of this rule shall apply to each granular triple superphosphate storage facility. For the purpose of this rule, the affected facility includes any combination of storage or curing piles, conveyors, elevators, screens and mills commenced on or after February 9, 1977.
- (2) Definitions.
  - (a) "Granular triple superphosphate storage facility" means any facility curing or storing granular triple superphosphate.
  - (b) "Total fluorides" means elemental fluorine and all fluoride compounds as measured by reference methods specified in subparagraph .01(5)(g) of this chapter.
  - (c) "Equivalent P<sub>2</sub>O<sub>5</sub> stored" means the quantity of phosphorus, expressed as phosphorus pentoxide, being cured or stored in the affected facility.
  - (d) "Fresh granular triple superphosphate" means granular triple superphosphate produced no more than 10 days prior to the date of the performance test.
- (3) Standard for Fluorides. On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility any gases which contain total fluorides in excess of 0.25 g/hr/metric ton of equivalent P<sub>2</sub>O<sub>5</sub> stored ( $5.0 \times 10^{-4}$  lb/hr/ton of equivalent P<sub>2</sub>O<sub>5</sub> stored).
- (4) Monitoring of Operations. The owner or operator of any granular triple superphosphate storage facility subject to the provisions of this rule shall:
  - (a) Maintain an accurate account of triple superphosphate in storage to permit the determination of the amount of equivalent P<sub>2</sub>O<sub>5</sub> stored.
  - (b) Maintain a daily record of total equivalent P<sub>2</sub>O<sub>5</sub> stored by multiplying the percentage P<sub>2</sub>O<sub>5</sub> content, as determined by part (5)(e)(2) of this rule times the total mass of granular triple superphosphate stored.
  - (c) Install, calibrate, maintain, and operate a monitoring device which continuously measures and permanently records the total pressure drop across the process scrubbing system. The monitoring device shall have an accuracy of  $\pm 5$  percent over its operating range.
- (5) Test Methods and Procedures.

(Rule 1200-03-16-.20, continued)

- (a) For determining the concentration of total fluorides and the associated moisture content, the sampling time for each run shall be at least 60 minutes and the minimum sample volume shall be at least 0.85 dscm (30 dscf) except that shorter sampling times or smaller volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.
- (b) The air pollution control system for the affected facility shall be constructed so that volumetric flow rates and total fluoride emissions can be accurately determined by applicable test methods and procedures.
- (c) Except as provided under subparagraph (e) of this paragraph, all performance tests on granular triple superphosphate storage facilities shall be conducted only when the following quantities of product are being cured or stored in the facility:
  1. Total granular triple superphosphate - at least 10 percent of the building capacity.
  2. Fresh granular triple superphosphate - at least 20 percent of the amount of triple superphosphate in the building.
- (d) If the provisions set forth in part (c)2 of this paragraph exceed production capabilities for fresh granular triple superphosphate, the owner or operator shall have at least five days maximum production of fresh granular triple superphosphate in the building during a performance test.
- (e) Equivalent P<sub>2</sub>O<sub>5</sub> stored shall be determined as follows:
  1. Determine the total mass stored during each run using an accountability system meeting the requirements of subparagraph (4)(a) of this rule.
  2. Calculate the equivalent P<sub>2</sub>O<sub>5</sub> stored by multiplying the percentage P<sub>2</sub>O<sub>5</sub> content, as measured by the spectrophotometric molybdovanadophosphate method (AOAC Method 9), times the total mass stored. AOAC Method 9 is published in the Official Methods of Analysis of the Association of Official Analytical Chemists, 11th edition, 1970, pp. 11-12. Other methods may be approved by the Technical Secretary.
- (f) For each run, emissions expressed in g/hr/metric ton of equivalent P<sub>2</sub>O<sub>5</sub> stored shall be determined using the following equation:

$$E = \frac{(CsQs) 10^{-3}}{MP_{2}O_{5}}$$

where:

- E = Emissions of total fluorides in g/hr/metric ton of equivalent P<sub>2</sub>O<sub>5</sub> stored.
- Cs = Concentration of total fluorides in mg/dscm.
- Qs = Volumetric flow rate of the effluent gas stream in dscm/hr.
- 10<sup>-3</sup> = Conversion factor for mg to g.
- MP<sub>2</sub>O<sub>5</sub> = Equivalent P<sub>2</sub>O<sub>5</sub> stored in metric tons.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed January 10, 1977; effective February 9, 1977. Amendment filed May 17, 1978; effective June 16, 1978.

**1200-03-16-.21 PRIMARY ALUMINUM REDUCTION PLANTS.**

- (1) Applicability:
  - (a) The affected facilities in primary aluminum reduction plants to which this rule applies are potroom groups and anode baking plants.
  - (b) Any facility under subparagraph (a) of this paragraph that commences construction or modification after November 6, 1988 is subject to the requirements of this rule.
- (2) Definitions:
  - (a) "Aluminum equivalent" means an amount of aluminum which can be produced from a Mg of anodes produced by an anode bake plant as determined by subparagraph (6)(g) of this rule.
  - (b) "Anode bake plant" means a facility which produces carbon anodes for use in a primary aluminum reduction plant.
  - (c) "Potroom" means a building unit which houses a group of electrolytic cells in which aluminum is produced.
  - (d) "Potroom group" means an uncontrolled potroom, a potroom which is controlled individually, or a group of potrooms or potroom segments ducted to a common control system.
  - (e) "Primary aluminum reduction plant" means any facility manufacturing aluminum by electrolytic reduction.
  - (f) "Primary control system" means an air pollution control system designed to remove gaseous and particulate fluorides from exhaust gases which are captured at the cell.
  - (g) "Roof monitor" means that portion of the roof of a potroom where gases not captured at the cell exit from the potroom.
  - (h) "Total fluorides" means elemental fluorine and all fluoride compounds as measured by reference methods specified in paragraph (6) of this rule or by equivalent or alternative methods.
- (3) Standards for fluorides.
  - (a) On and after the date on which the initial performance test required to be conducted by 1200-03-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility any gases containing total fluorides as measured according to 1200-03-16-.01(5) above, in excess of:
    1. (i) 1.0 kg/Mg (2.0 lb/ton) of aluminum produced for potroom groups at Soderberg plants: except that emissions between 1.0 kg/Mg (2.0 lb/ton) and 1.3 kg/Mg (2.6 lb/ton) will be considered in compliance if the owner or operator demonstrates that exemplary operation and maintenance procedures were used with respect to the emission control system and that proper control equipment was operating at the affected facility during the performance tests;

(Rule 1200-03-16-.21, continued)

- (ii) 0.95 kg/Mg (1.9 lb/ton) of aluminum produced for potroom groups at prebake plants; except that emissions between 0.95 kg/Mg and 1.25 kg/Mg (2.5 lb/ton) will be considered in compliance if the owner or operator demonstrates that exemplary operation and maintenance procedures were used with respect to the emission control system and that proper control equipment was operating at the affected facility during the performance test;
- (iii) For the purpose of compliance with the alternative standards in subparts (i) and (ii), exemplary operation and maintenance procedures include the following:
  - (I) Hood covers should fit properly and be in good repair;
  - (II) If the exhaust system is equipped with an adjustable air damper system, the hood exhaust rate for individual pots should be increased whenever hood covers are removed from a pot (the exhaust system should not, however, be overloaded by placing too many pots on high exhaust);
  - (III) Hood covers should be replaced as soon as possible after each potroom operation;
  - (IV) Dust entrainment should be minimized during materials handling operations and sweeping of the working aisles;
  - (V) Only tapping crucibles with functional aspirator air return systems (for returning gases under the collection hooding) should be used;
  - (VI) The primary control system should be regularly inspected and properly maintained;
- 2. 0.05 kg/Mg (0.1 lb/ton) of aluminum equivalent for anode bake plants.
- (b) Within 30 days of any performance test which reveals emissions which fall between the 1.0 kg/Mg and 1.3 kg/Mg levels in part (a)1.(i) of this paragraph or between the 0.95 kg/Mg and 1.25 kg/Mg levels in part (a)1.(ii) of this paragraph, the owner or operator shall submit a report indicating whether all necessary control devices were on line and operating properly during the performance test, describing the operating and maintenance procedures followed, and setting forth any explanation for the excess emissions to the Technical Secretary.
- (4) Standard for visible emissions.
  - (a) On and after the date on which the performance test required to be conducted by 1200-03-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere:
    - 1. From any potroom group any gases which exhibit 10 percent opacity or greater, or
    - 2. From any anode bake plant any gases which exhibit 20 percent opacity or greater.
- (5) Monitoring of Operations.

(Rule 1200-03-16-.21, continued)

- (a) The owner or operator of any affected facility subject to the provisions of this rule shall install, calibrate, maintain and operate monitoring devices which can be used to determine daily the weight of aluminum and anode produced. The weighing devices shall have an accuracy of  $\pm 5$  percent over their operating range.
  - (b) The owner or operator of any affected facility shall maintain a record of daily production rates of aluminum and anodes, raw material feed rates, and cell or potline voltages.
- (6) Test methods and procedures.
- (a) Following the initial performance test as required under 1200-03-16-.01(5)(a) an owner or operator shall conduct a performance test at least once each month during the life of the affected facility, except when malfunctions prevent representative sampling, as provided under 1200-03-16-.01(5)(c). The owner or operator shall give the Technical Secretary at least 15 days notice of each test. The Technical Secretary may require additional testing.
  - (b) An owner or operator may petition the Technical Secretary to establish an alternative testing requirement that requires testing less frequently than once each month for a primary control system or an anode bake plant. If the owner or operator shows that emissions from the primary control system or the anode bake plant have low variability during day-to-day operations, the Technical Secretary may establish such an alternative testing requirement. The alternative testing requirement shall include a testing schedule and, in the case of a primary control system, the method to be used to determine primary control system emissions for the purpose of performance tests. The Technical Secretary shall establish alternative testing requirements on the applicable operating permit as a condition.
  - (c) Except as provided in 1200-03-16-.01(5)(b), reference methods in 1200-03-16-.01(5)(g) shall be used to determine compliance with the standards prescribed in paragraph (3) of this rule as follows:
    - 1. For sampling emissions from stacks:
      - (i) Method 1 as specified in 1200-03-16-.01(5)(g)1. for sample and velocity traverses.
      - (ii) Method 2 as specified in 1200-03-16-.01(5)(g)2. for velocity and volumetric flow rate.
      - (iii) Method 3 as specified in 1200-03-16-.01(5)(g)3. for gas analysis.
      - (iv) Method 13A and 13B as specified in 1200-03-16-.01(5)(g)13. for the concentration of total fluorides and the associated moisture content.
    - 2. For sampling emissions from roof monitors not employing stacks or pollutant collection systems:
      - (i) Method 1 as specified in 1200-03-16-.01(5)(g)1. for sample and velocity traverses,
      - (ii) Method 2 as specified in 1200-03-16-.01(5)(g)2. and Method 14 as specified in 1200-03-16-.01(5)(g)14. for velocity and volumetric flow rate,
      - (iii) Method 3 as specified in 1200-03-16-.01(5)(g)3. for gas analysis, and

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- (iv) Method 14 as specified in 1200-03-16-.01(5)(g)14. for the concentration of total fluorides and associated moisture content.
3. For sampling emissions from roof monitors not employing stacks but equipped with pollutant collection systems, the procedures under 1200-03-16-.01(5)(b) shall be followed.
- (d) For Method 13A or 13B as specified in 1200-03-16-.01(5)(g)13., the sampling time for each run shall be at least 8 hours for any potroom sample and at least 4 hours for any anode bake plant sample, and the minimum sample volume shall be 6.8 dscm (240 dscf) for any potroom sample and 3.4 dscm (120 dscf) for any anode bake plant sample except that shorter sampling times or smaller volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.
  - (e) The air pollution control system for each affected facility shall be constructed so that volumetric flow rates and total fluoride emissions can be accurately determined using applicable methods specified under subparagraph (c) of this paragraph.
  - (f) The rate of aluminum production is determined by dividing 720 hours into the weight of aluminum tapped from the affected facility during a period of 30 days prior to and including the final run of a performance test.
  - (g) For anode bake plants, the aluminum equivalent for anodes produced shall be determined as follows:
    1. Determine the average weight (Mg) of anode produced in anode bake plant during a representative oven cycle using a monitoring device which meets the requirements of subparagraph (5)(a) of this rule.
    2. Determine the average rate of anode production by dividing the total weight of anodes produced during the representative oven cycle by the length of the cycle in hours.
    3. Calculate the aluminum equivalent for anodes produced by multiplying the average rate of anode production by two. (Note: An owner or operator may establish a different multiplication factor by submitting production records of the Mg of aluminum produced and the concurrent Mg of anode consumed by potrooms).
  - (h) For each run, potroom group emissions expressed in kg/Mg of aluminum produced shall be determined using the following equation:

$$\text{Epg} = \frac{(\text{CsQs})_1 10^{-6} + (\text{CsQs})_2 10^{-6}}{\text{M}}$$

Where:

Epg = potroom group emissions of total fluorides in kg/Mg of aluminum produced.

Cs = concentration of total fluorides in mg/dscm as determined by Method 13A or 13B, as specified in 1200-03-16-.01(5)(g)13., or by Method 14 as specified in 1200-03-16-.01(5)(g)14., as applicable.

(Rule 1200-03-16-.21, continued)

- Qs = volumetric flow rate of the effluent gas stream in dscm/hr as determined by Method 2 as specified in 1200-03-16-.01(5)(g)2. and/or Method 14 as specified in 1200-03-16-.01(5)(g)14., as applicable.
- $10^{-6}$  = conversion factor from mg to kg.
- M = rate of aluminum production in Mg/hr as determined by subparagraph (6)(f) of this rule.
- (CsQs)<sub>1</sub> = product of Cs and Qs for measurements of primary control system effluent gas streams.
- (CsQs)<sub>2</sub> = product of Cs and Qs for measurements of secondary control system of roof monitor effluent gas streams.

Where an alternative testing requirement has been established for the primary control system, the calculated value (CsQs)<sub>1</sub> from the most recent performance test will be used.

- (i) For each run, as applicable, anode bake plant emissions expressed in kg/Mg of aluminum equivalent shall be determined using the following equation:

$$E_{bp} = \frac{(CsQs) 10^{-6}}{Me}$$

Where:

- $E_{bp}$  = anode bake plant emissions of total fluorides in kg/Mg of aluminum equivalent.
- Cs = concentration of total fluorides in mg/dscm as determined by Method 13A or 13B, as specified in 1200-03-16-.01(5)(g)13.
- Qs = volumetric flow rate of the effluent gas stream in dscm/hr as determined by Method 2, as specified in 1200-03-16-.01(5)(g)2.
- $10^{-6}$  = conversion factor from mg to kg.
- Me = aluminum equivalent for anodes produced by anode bake plants in Mg/hr as determined by subparagraph (6)(g) of this rule.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed January 10, 1977; effective February 9, 1977. Amendment filed September 4, 1981; effective October 19, 1981. Amendment filed March 24, 1986; effective April 23, 1986.

#### 1200-03-16-.22 RESERVED.

**Authority:** T.C.A. §§ 4-5-201, et seq.; 4-5-202; 68-25-105; and 68-201-101, et seq. **Administrative History:** Original rule filed January 10, 1977; effective February 9, 1977. Repeal and new rule filed August 29, 2011; effective November 27, 2011.

**1200-03-16-.23 PRIMARY COPPER SMELTERS.**

- (1) Applicability. The provisions of this rule shall apply to the following affected facilities commenced on or after February 9, 1977 in primary copper smelters: dryer roaster, smelting furnace, and copper converter.
- (2) Definitions.
  - (a) "Primary copper smelter" means any installation or any intermediate process engaged in the production of copper from copper sulfide ore concentrates through the use of pyrometallurgical techniques.
  - (b) "Dryer" means any facility in which a copper sulfide ore concentrate charge is heated in the presence of air to eliminate a portion of the moisture from the charge, provided less than 5 percent of the sulfur contained in the charge is eliminated in the facility.
  - (c) "Roaster" means any facility in which a copper sulfide ore concentrate charge is heated in the presence of air to eliminate a significant portion (5 percent or more) of the sulfur contained in the charge.
  - (d) "Calcine" means the solid materials produced by a roaster.
  - (e) "Smelting" means processing techniques for the melting of a copper sulfide ore concentrate or calcine charge leading to the formation of separate layers of molten slag, molten copper, and/or copper matte.
  - (f) "Smelting furnace" means any vessel in which the smelting of copper sulfide ore concentrates or calcines is performed and in which the heat necessary for smelting is provided by an electric current, rapid oxidation of a portion of the sulfur contained in the concentrate as it passes through an oxidizing atmosphere, or the combustion of a fossil fuel.
  - (g) "Copper converter" means any vessel to which copper matte is charged and oxidized to copper.
  - (h) "Sulfuric acid plant" means any facility producing sulfuric acid by the contact process.
  - (i) "Fossil fuel" means natural gas, petroleum, coal and any form of solid, liquid, or gaseous fuel derived from such materials for the purpose of creating useful heat.
  - (j) "Reverberatory smelting furnace" means any vessel in which the smelting of copper sulfide ore concentrates or calcines is performed and in which the heat necessary for smelting is provided primarily by combustion of a fossil fuel.
  - (k) "Total smelter charge" means the weight (dry basis) of all copper sulfides ore concentrates processed at a primary copper smelter, plus the weight of all other solid materials introduced into the roasters and smelting furnaces at a primary copper smelter, except calcine, over a one-month period.
  - (l) "High level of volatile impurities" means a total smelter charge containing more than 0.2 weight percent arsenic, 0.1 weight percent antimony, 4.5 weight percent lead or 5.5 weight percent zinc, on a dry basis.
- (3) Standard for particulate matter.



(Rule 1200-03-16-.23, continued)

On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any dryer any gases which contain particulate matter in excess of 50 mg/dscm (0.022 gr/dscf).

(4) Standard for Sulfur Dioxide.

- (a) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any roaster, smelting furnace, or copper converter any gases which contain sulfur dioxide in excess of 0.065 percent by volume, except as provided in subparagraphs (b) and (c) of this paragraph.
- (b) Reverberatory smelting furnaces shall be exempted from subparagraph (a) of this paragraph during periods when the total smelter charge at the primary copper smelter contains a high level of volatile impurities.
- (c) A change in the fuel combusted in a reverberatory smelting furnace shall not be considered a modification under this chapter.

(5) Standard for Visible Emissions.

- (a) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any dryer any visible emissions which exhibit greater than twenty (20%) percent opacity.
- (b) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any affected facility that uses a sulfuric acid plant to comply with the standard set forth in paragraph (4) of this rule, any visible emissions which exhibit greater than twenty percent (20%) opacity.

(6) Monitoring of Operations.

- (a) The owner or operator of any primary copper smelter subject to subparagraph (4)(b) of this rule, shall keep a monthly record of the total smelter charge and the weight percent (dry basis) of arsenic, antimony, lead and zinc contained in this charge. The analytical methods and procedures employed to determine the weight of the total smelter charge and the weight percent of arsenic, antimony, lead and zinc shall be approved by the Technical Secretary and shall be accurate to within plus or minus ten percent.
- (b) The owner or operator of any primary copper smelter subject to the provisions of this rule shall install and operate:
  - 1. A continuous monitoring system to monitor and record the opacity of gases discharged into the atmosphere from any dryer. The span of this system shall be set at 80 to 100 percent opacity.
  - 2. A continuous monitoring system to monitor and record sulfur dioxide emissions discharged into the atmosphere from any roaster, smelting furnace or copper converter subject to subparagraph (4)(a) of this rule. The span of this system shall be set at a sulfur dioxide concentration of 0.20 percent by volume.

(Rule 1200-03-16-.23, continued)

- (i) The continuous monitoring system performance evaluation required under paragraph .01(8) of this chapter shall be completed prior to the initial performance evaluation. During the performance evaluation the span of the continuous monitoring system may be set at a sulfur dioxide concentration of 0.15 percent by volume if necessary to maintain the system output between 20 percent and 90 percent of full scale. Upon completion of the continuous monitoring system performance evaluation, the span of the continuous monitoring system shall be set at a sulfur dioxide concentration of 0.20 percent by volume.
  - (ii) For the purpose of the continuous monitoring system performance evaluation required under paragraph .01(8) of this chapter, the reference method referred to under the Field Test for Accuracy (Relative) in Performance Specification 2 of Appendix B (*Federal Register*, Vol. 40, No. 194) to this part shall be as specified by the Technical Secretary. For the performance evaluation, each concentration measurement shall be of one hour duration. The pollutant gas used to prepare the calibration gas mixtures required under paragraph 2.1, Performance Specification 2 of Appendix B (*Federal Register*, Vol. 40, No. 194), and for calibration checks under paragraph .01(8) of this chapter, shall be sulfur dioxide.
- (c) Six-hour average sulfur dioxide concentrations shall be calculated and recorded daily for the four consecutive 6-hour periods of each operating day. Each six-hour average shall be determined as the arithmetic mean of the appropriate six contiguous one-hour average sulfur dioxide concentrations provided by the continuous monitoring system installed under subparagraph (b) of this paragraph.
- (d) For the purpose of reports required under subparagraph .01(7)(c) of this chapter periods of excess emissions that shall be reported are defined as follows:
- 1. Opacity. Any six-minute period during which the average opacity, as measured by the continuous monitoring system installed under subparagraph (b) of this paragraph, exceeds the standard under subparagraph (5)(a).
  - 2. Sulfur dioxide. Any six-hour period, as described in subparagraph (c) of this paragraph, during which the average emissions of sulfur dioxide, as measured by the continuous monitoring system installed under subparagraph (b) of this paragraph, exceeds the standard under paragraph (4).
- (7) Test Methods and Procedures:
- (a) Sulfur dioxide concentrations shall be determined using the continuous monitoring system installed in accordance with subparagraph (6)(b). One 6-hour average period shall constitute one run. The monitoring system drift during any run shall not exceed 2 percent of span.
  - (b) For determining the concentration of particulate matter and associated moisture content, the sampling time for each run shall be at least 60 minutes and the minimum sampling volume shall be 0.85 dscm (30 dscf) except that smaller times or volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed January 10, 1977; effective February 9, 1977.

**1200-03-16-.24 PRIMARY ZINC SMELTERS.**

- (1) Applicability. The provisions of this rule shall apply to the following affected facilities in primary zinc smelters: roaster and sintering machine commenced on or after February 9, 1977.
- (2) Definitions.
  - (a) "Primary zinc smelter" means any installation engaged in the production, or any intermediate process in the production, of zinc or zinc oxide from zinc sulfide ore concentrates through the use of pyrometallurgical techniques.
  - (b) "Roaster" means any facility in which a zinc sulfide ore concentrate charge is heated in the presence of air to eliminate a significant portion (more than 10 percent) of the sulfur contained in the charge.
  - (c) "Sintering machine" means any furnace in which calcines are heated in the presence of air to agglomerate the calcines into a hard porous mass called "sinter".
  - (d) "Sulfuric acid plant" means any facility producing sulfuric acid by the contact process.
- (3) Standard for Particulate Emissions.
  - (a) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any sintering machine any gases which contain particulate matter in excess of 50 mg/dscm (0.022 gr/dscf).
- (4) Standard for Sulfur Dioxide.
  - (a) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any roaster any gases which contain sulfur dioxide in excess of 0.065 percent by volume.
  - (b) Any sintering machine which eliminates more than 10 percent of the sulfur initially contained in the zinc sulfide ore concentrates will be considered as a roaster under subparagraph (a) of this paragraph.
- (5) Standard for Visible Emissions.
  - (a) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any sintering machine any visible emissions which exhibit greater than 20 percent opacity.
  - (b) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any affected facility that uses a sulfuric acid plant to comply with the standard set forth in paragraph (4), any visible emissions which exhibit greater than 20 percent opacity.
- (6) Monitoring of Operations.

(Rule 1200-03-16-.24, continued)

- (a) The owner or operator of any primary zinc smelter subject to the provisions of this rule shall install and operate:
1. A continuous monitoring system to monitor and record the opacity of gases discharged into the atmosphere from any sintering machine. The span of this system shall be set at 80 to 100 percent opacity.
  2. A continuous monitoring system to monitor and record sulfur dioxide emissions discharged into the atmosphere from any roaster subject to paragraph (4). The span of this system shall be set at a sulfur dioxide concentration of 0.20 percent by volume.
    - (i) The continuous monitoring system performance evaluation required under paragraph .01(8) of this chapter shall be completed prior to the initial performance test required under paragraph .01(5) of this chapter. During the performance evaluation, the span of the continuous monitoring system may be set at a sulfur dioxide concentration of 0.15 percent by volume if necessary to maintain the system output between 20 percent and 90 percent of full scale. Upon completion of the continuous monitoring system performance evaluation, the span of the continuous monitoring system shall be set at a sulfur dioxide concentration of 0.20 percent by volume.
    - (ii) For the purpose of the continuous monitoring system performance evaluation required under paragraph .01(8) of this chapter the reference method referred to under the Field Test for Accuracy (Relative) in Performance Specification 2 of Appendix B (*Federal Register*, Vol. 40, No. 194) shall be as specified by the Technical Secretary.
    - (iii) For the performance evaluation, each concentration measurement shall be of one hour duration. The pollutant gas used to prepare the calibration gas mixtures required under paragraph 2.1, Performance Specifications 2 of Appendix B (*Federal Register*, Vol. 40, No. 194) and for calibration checks under paragraph .01(8) of this chapter shall be sulfur dioxide.
- (b) Two-hour average sulfur dioxide concentrations shall be calculated and recorded daily for the twelve consecutive 2-hour periods of each operating day. Each two-hour average shall be determined as the arithmetic mean of the appropriate two contiguous one-hour average sulfur dioxide concentrations provided by the continuous monitoring system installed under subparagraph (a) of this paragraph.
- (c) For the purpose of reports required under subparagraph .01(7)(c) of this chapter, periods of excess emissions that shall be reported are defined as follows:
1. Opacity. Any six-minute period during which the average opacity, as measured by the continuous monitoring system installed under subparagraph (a) of this paragraph, exceeds the standard in subparagraph (5)(a) of this rule.
  2. Sulfur dioxide. Any two-hour period, as described in subparagraph (b) of this paragraph, during which the average emissions of sulfur dioxide, as measured by the continuous monitoring system installed under subparagraph (a) of this paragraph, exceeds the standard under paragraph (4).

(7) Test Methods and Procedures.

(Rule 1200-03-16-.24, continued)

- (a) Sulfur dioxide concentrations shall be determined using the continuous monitoring system installed in accordance with subparagraph (6)(a). One 2-hour average period shall constitute one run.
- (b) The sampling time for each run shall be at least 60 minutes and the minimum sampling volume shall be 0.85 dscm (30 dscf) except that smaller times or volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed January 10, 1977; effective February 9, 1977. Amendment filed September 4, 1981; effective October 19, 1981.

#### 1200-03-16-.25 PRIMARY LEAD SMELTERS.

- (1) Applicability. The provisions of this rule shall apply to the following affected facilities in primary lead smelters: sintering machine, sintering machine discharge end, blast furnace, dross reverberatory furnace, electric smelting furnace, and converter commenced on or after February 9, 1977.
- (2) Definitions.
  - (a) "Primary lead smelter" means any installation or any intermediate process engaged in the production of lead from lead sulfide ore concentrates through the use of pyrometallurgical techniques.
  - (b) "Sintering machine" means any furnace in which a lead sulfide ore concentrate charge is heated in the presence of air to eliminate sulfur contained in the charge and to agglomerate the charge into a hard porous mass called "sinter".
  - (c) "Sinter bed" means the lead sulfide ore concentrate charge within a sintering machine.
  - (d) "Sintering machine discharge end" means any apparatus which receives sinter as it is discharged from the conveying grate of a sintering machine.
  - (e) "Blast furnace" means any reduction furnace to which sinter is charged and which forms separate layers of molten slag and lead bullion.
  - (f) "Dross reverberatory furnace" means any furnace used for the removal or refining of impurities from lead bullion.
  - (g) "Electric smelting furnace" means any furnace in which the heat necessary for smelting of the lead sulfide ore concentrate charge is generated by passing an electric current through a portion of the molten mass in the furnace.
  - (h) "Converter" means any vessel to which lead concentrate or bullion is charged and refined.
  - (i) "Sulfuric acid plant" means any facility producing sulfuric acid by the contact process.
- (3) Standard for Particulate Matter.

On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any blast furnace, dross reverberatory furnace, or sintering machine discharge end any gases which contain particulate matter in excess of 50 mg/dscm (0.022 gr/dscf).

(Rule 1200-03-16-.25, continued)

(4) Standard for Sulfur Dioxide.

On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any sintering machine, electric smelting furnace, or converter gases which contain sulfur dioxide in excess of 0.065 percent by volume.

(5) Standard for Visible Emissions.

(a) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any blast furnace, dross reverberatory furnace, or sintering machine discharge end any visible emissions which exhibit greater than 20 percent opacity.

(b) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any affected facility that uses a sulfuric acid plant to comply with the standard set forth in paragraph (4), any visible emissions which exhibit greater than 20 percent opacity.

(6) Monitoring of Operations.

(a) The owner or operator of any primary lead smelter subject to the provisions of this rule shall install and operate:

1. A continuous monitoring system to monitor and record the opacity of gases discharged into the atmosphere from any blast furnace, dross reverberatory furnace, or sintering machine discharge end. The span of this system shall be set at 80 to 100 percent opacity.

2. A continuous monitoring system to monitor and record sulfur dioxide emissions discharged into the atmosphere from any sintering machine, electric furnace or converter subject to paragraph (4). The span of this system shall be set at a sulfur dioxide concentration of 0.20 percent by volume.

(i) The continuous monitoring system performance evaluation required under paragraph .01(8) of this chapter shall be completed prior to the initial performance test required under paragraph .01(5) of this chapter. During the performance evaluation, the span of the continuous monitoring system may be set at a sulfur dioxide concentration of 0.15 percent by volume if necessary to maintain the system output between 20 percent and 90 percent of full scale. Upon completion of the continuous monitoring system performance evaluation, the span of the continuous monitoring system shall be set at a sulfur dioxide concentration of 0.20 percent by volume.

(ii) For the purpose of the continuous monitoring system performance evaluation required under paragraph .01(8) of this chapter, the reference method referred to under the Field Test for Accuracy (Relative) in Performance Specification 2 of Appendix B (*Federal Register*, Vol. 40, No. 194) shall be as specified by the Technical Secretary.

(iii) For the performance evaluation, each concentration measurement shall be of one hour duration. The pollutant gases used to prepare the calibration

(Rule 1200-03-16-.25, continued)

gas mixtures required under paragraph 2.1, Performance Specification 2 of Appendix B (*Federal Register*, Vol. 40, No. 194) and for calibration checks under paragraph .01(8) of this chapter shall be sulfur dioxide.

- (b) Two-hour average sulfur dioxide concentrations shall be calculated and recorded daily for the twelve consecutive two-hour periods of each operating day. Each two-hour average shall be determined as the arithmetic mean of the appropriate two continuous one-hour average sulfur dioxide concentrations provided by the continuous monitoring system installed under subparagraph (a) of this paragraph.
  - (c) For the purpose of reports required under subparagraph .01(7)(c) of this chapter, periods of excess emissions that shall be reported are defined as follows:
    - 1. Opacity. Any six-minute period during which the average opacity, as measured by the continuous monitoring system installed under subparagraph (a) of this paragraph, exceeds the standard under subparagraph (5)(a).
    - 2. Sulfur dioxide. Any two-hour period, as described in subparagraph (b) of this paragraph, during which the average emissions of sulfur dioxide, as measured by the continuous monitoring system installed under subparagraph (a) of this paragraph, exceeds the standard under subparagraph (4)(a).
- (7) Test Methods and Procedures.
- (a) Sulfur dioxide concentrations shall be determined using the continuous monitoring system installed in accordance with subparagraph (6)(a) of this rule. One 2-hour average period shall constitute one run.
  - (b) The sampling time for each run shall be at least 60 minutes and the minimum sampling volume shall be 0.85 dscm (30 dscf) except that smaller times or volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed January 10, 1977; effective February 9, 1977. Amendment filed September 4, 1981; effective October 18, 1981.

**1200-03-16-.26 STEEL PLANTS: ELECTRIC ARC FURNACES CONSTRUCTED AFTER FEBRUARY 9, 1977, AND ON OR BEFORE AUGUST 17, 1983.**

- (1) Applicability and designation of affected facility.
  - (a) The provisions of this rule are applicable to the following affected facilities in steel plants that produce carbon, alloy, or specialty steels: electric arc furnaces and dust-handling systems.
  - (b) The provisions of this rule apply to each affected facility identified in subparagraph (a) of this paragraph that commenced construction, modification, or reconstruction after February 9, 1977 and on or before August 17, 1983.
- (2) Definitions.
  - (a) "Electric Arc Furnace" (EAF) means a furnace that produces molten steel and heats the charge materials with electric arcs from carbon electrodes. Furnaces that continuously feed direct-reduced iron ore pellets as the primary source of iron are not affected facilities within the scope of this definition.

(Rule 1200-03-16-.26, continued)

- (b) "Dust-handling equipment" means any equipment used to handle particulate matter collected by the control device and located at or near the control device for an EAF subject to this rule.
  - (c) "Control device" means the air pollution control equipment used to remove particulate matter generated by an EAF(s) from the effluent gas stream.
  - (d) "Capture system" means the equipment (including ducts, hoods, fans, dampers, etc.) used to capture or transport particulate matter generated by an EAF to the air pollution control device.
  - (e) "Charge" means the addition of iron and steel scrap or other materials into the top of an electric arc furnace.
  - (f) "Charging period" means the time period commencing at the moment an EAF starts to open and ending either three minutes after the EAF roof is returned to its closed position or six minutes after commencement of opening of the roof, whichever is longer.
  - (g) "Tap" means the pouring of molten steel from an EAF.
  - (h) "Tapping period" means the time period commencing at the moment an EAF begins to tilt to pour and ending either three minutes after an EAF returns to an upright position or six minutes after commencing to tilt, whichever is longer.
  - (i) "Meltdown and refining" means that phase of the steel production cycle when charge material is melted and undesirable elements are removed from the metal.
  - (j) "Meltdown and refining period" means the time period commencing at the termination of the initial charging period and ending at the initiation of the tapping period, excluding any intermediate charging periods.
  - (k) "Shop opacity" means the arithmetic average of 24 or more opacity observations of emissions from the shop taken in accordance with Method 9 (as specified in 1200-03-16-.01(5)(g)9) for the applicable time periods.
  - (l) "Heat time" means the period commencing when scrap is charged to an empty EAF and terminating when the EAF tap is completed.
  - (m) "Shop" means the building which houses one or more EAF's.
  - (n) "Direct shell evacuation system (DEC System)" means any system that maintains a negative pressure within the EAF above the slag or metal and ducts these emissions to the control device.
- (3) Standards for Particulate Matter and Opacity:
- (a) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from an electric arc furnace any gases which:
    - 1. Exit from a control device and contain particulate matter in excess of 12 mg/dscm (0.0052 gr/dscf).
    - 2. Exit from a control device and exhibit three percent opacity or greater.



(Rule 1200-03-16-.26, continued)

3. Exit from a shop and, due solely to operations of any EAF(s), exhibit six percent opacity or greater except:
  - (i) Shop opacity less than 20 percent may occur during charging periods.
  - (ii) Shop opacity less than 40 percent may occur during tapping periods.
  - (iii) Opacity standards under part (a)3. of this paragraph shall apply only during periods when pressures and either control system fan motor amperes and damper positions or flow rates are being established under subparagraphs (5)(c) and (5)(g) of this rule.
  - (iv) Where the capture system is operated such that the roof of the shop is closed during the charge and the tap, and emissions to the atmosphere are prevented until the roof is opened after completion of the charge or tap, the shop opacity standards under part (a)3. of this paragraph shall apply when the roof is opened and shall continue to apply for the length of time defined by the charging and/or tapping periods.
- (b) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from dust-handling equipment any gases which exhibit 10 percent opacity or greater.
- (4) Emission Monitoring.
  - (a) A continuous monitoring system for the measurement of the opacity of emissions discharged into the atmosphere from the control device(s) shall be installed, calibrated, maintained, and operated by the owner or operator subject to the provisions of this rule.
  - (b) For the purpose of reports under 1200-03-16-.01(7)(c), periods of excess emissions that shall be reported are defined as all six- minutes periods during which the average opacity is three percent or greater.
  - (c) No continuous monitoring system shall be required on any modular, multiple-stack, negative-pressure or positive pressure fabric filters if observations of the opacity of the visible emissions from the control device are performed by a certified visible emission observer in accordance with subpart (6)(c)6.(i) of this rule.
- (5) Monitoring of Operations.
  - (a) The owner or operator subject to the provisions of this rule shall maintain records daily of the following information:
    1. Time and duration of each charge;
    2. Time and duration of each tap;
    3. All flow rate data obtained under subparagraph (b) of this paragraph, or equivalent obtained under subparagraph (d) of this paragraph; and
    4. All pressure data obtained under subparagraph (e) of this paragraph.

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- (b) Except as provided under subparagraph (d) of this paragraph, the owner or operator subject to the provisions of this rule shall check and record on a once-per-shift basis the furnace static pressure (if a Direct Shell Evacuation system is in use) and either:
1. check and record the control system fan motor amperes and damper positions on a once-per-shift basis; or
  2. install, calibrate, and maintain a monitoring device that continuously records the volumetric flow rate through each separately ducted hood. The monitoring device(s) may be installed in any appropriate location in the exhaust duct such that reproducible flow rate monitoring will result. The flow rate monitoring device(s) shall have an accuracy  $\pm 10$  percent over its normal operating range and shall be calibrated according to the manufacturer's instructions. The Technical Secretary may require the owner or operator to demonstrate the accuracy of the monitoring device(s) relative to Methods 1 and 2 (as specified in 1200-03-16-.01(5)(g)).
- (c) When the owner or operator of an EAF is required to demonstrate compliance with the standards under 1200-03-16-.26(3)(a)3. and at any other time the Technical Secretary may require that either the control system fan motor amperes and all damper positions or the volumetric flow rate through each separately ducted hood shall be determined during all periods in which a hood is operated for the purpose of capturing emissions from the EAF subject to parts (b)1. or (b)2. of this paragraph. The owner or operator may petition the Technical Secretary for reestablishment of these parameters whenever the owner or operator can demonstrate to the Technical Secretary's satisfaction that the EAF operating conditions upon which the parameters were previously established are no longer applicable. The values of these parameters as determined during the most recent demonstration of compliance shall be maintained at the appropriate level for each applicable period. Operation at other than baseline values may be subject to the requirements of 1200-03-16-.26(7)(a).
- (d) The owner or operator may petition the Technical Secretary to approve any alternative method that will provide a continuous record of operation of each emission capture system.
- (e) The owner or operator shall perform monthly operational status inspections of the equipment that is important to the performance of the total capture system (i.e., pressure sensors, dampers, and damper switches). This inspection shall include observations of the physical appearance of the equipment (e.g., presence of hole in ductwork or hoods, flow constrictions caused by dents or accumulated dust in ductwork, and fan erosion). Any deficiencies shall be noted and proper maintenance performed.
- (f) Where emissions during any phase of the heat time are controlled by use of a direct shell evacuation system, the owner or operator shall install, calibrate, and maintain a monitoring device that continuously records the pressure in the free space inside the EAF. The pressure shall be recorded as 15-minute integrated averages. The monitoring device may be installed in any appropriate location in the EAF such that reproducible results will be obtained. The pressure monitoring device shall have an accuracy of  $\pm 5$  mm of water gauge over its normal operating range and shall be calibrated according to the manufacturer's instructions.
- (g) When the owner or operator of an EAF is required to demonstrate compliance with the standard under 1200-03-16-.26(3)(a)3. and at any other time the Technical Secretary may require, the pressure in the free space inside the furnace shall be determined during the meltdown and refining period(s) using the monitoring device described in

(Rule 1200-03-16-.26, continued)

subparagraph (f) of this paragraph. The owner or operator may petition the Technical Secretary for reestablishment of the 15-minute integrated average pressure whenever the owner or operator can demonstrate to the Technical Secretary's satisfaction that the EAF operating conditions upon which the pressures were previously established are no longer applicable. The pressure determined during the most recent demonstration of compliance shall be maintained at all times the EAF is operating in a meltdown and refining period. Operation at higher pressures may be considered by the Technical Secretary to be unacceptable operation and maintenance of the affected facility.

- (h) Where the capture system is designed and operated such that all emissions are captured and ducted to a control device, the owner or operator shall not be subject to the requirements of this paragraph.
  - (i) During any performance test required under 1200-03-16-.01(5), and for any report thereof required by subparagraph (6)(c) of this rule or to determine compliance with 1200-03-16-.26(3)(a)3., the owner or operator shall monitor the following information for all heats covered by the test:
    - 1. Charge weights and materials, and tap weights and materials;
    - 2. Heat times, including start and stop times, and a log of process operation, including periods of no operation during testing and the pressure inside furnace where direct-shell evacuation systems are used;
    - 3. Control device operation log; and
    - 4. Continuous monitor or Method 9 (as specified in 1200-03-16-.01(5)(g)9.) data.
- (6) Test methods and procedures
- (a) Reference methods (as referenced in 1200-03-16-.01(5)(g)) except as provided under 1200-03-16-.01(5)(b), shall be used to determine compliance with standards prescribed under 1200-03-16-.26(3) as follows:
    - 1. Either Method 5 for negative-pressure fabric filters and other types of control devices or Method 5D for positive-pressure fabric filters for concentration of particulate matter and associated moisture content;
    - 2. Method 1 for sample and velocity traverses;
    - 3. Method 2 for velocity and volumetric flow rate;
    - 4. Method 3 for gas analysis; and
    - 5. Method 9 for the opacity of visible emissions.
  - (b) For Method 5 or 5D, the sampling time for each run shall be at least 4 hours. When a single EAF is sampled, the sampling time for each run shall also include an integral number of heats. Shorter sampling times, when necessitated by process variables or other factors, may be approved by the Technical Secretary. For Method 5 or 5D, the minimum sample volume shall be 4.5 dscm (160 dscf).
  - (c) For the purpose of this rule, the owner or operator shall conduct the demonstration of compliance with subparagraph (3)(a) of this rule and furnish the Technical Secretary a

(Rule 1200-03-16-.26, continued)

written report of the results of the test. This report shall include the following information:

1. Facility name and address;
2. Plant representative;
3. Make and model of process, control device, and continuous monitoring equipment;
4. Flow diagram of process and emission capture equipment including other equipment or process(es) ducted to the same control device;
5. Rated (design) capacity of process equipment;
6. Those data required under subparagraph (5)(i) of this rule;
  - (i) List of charge and tap weights and materials;
  - (ii) Heat times and process log;
  - (iii) Control device operation log; and
  - (iv) Continuous monitor or Reference Method 9 data.
7. Test dates and times;
8. Test company;
9. Test company representative;
10. Test observers from outside agency;
11. Description of test methodology used, including any deviation from standard reference methods;
12. Schematic of sampling location;
13. Number of sampling points;
14. Description of sampling equipment;
15. Listing of sampling equipment calibrations and procedures;
16. Field and laboratory data sheets;
17. Description of sample recovery procedures;
18. Sampling equipment leak check results;
19. Description of quality assurance procedures;
20. Description of analytical procedures;
21. Notation of sample blank corrections; and

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22. Sample emission calculations.

- (d) During any performance test required under 1200-03-16-.01(5)(g), no gaseous diluents may be added to the effluent gas stream after the fabric in any pressurized fabric filter collector, unless the amount of dilution is separately determined and considered in the determination of emissions.
- (e) When more than one control device serves the EAF(s) being tested, the concentration of particulate matter shall be determined using the following equation:

$$C_s = \frac{\left[ \sum_{n=1}^N (C_s Q_s)_n \right]}{\sum_{n=1}^N (Q_s)_n}$$

Where:

$C_s$  = concentration of particulate matter in mg/dscm (gr/dscf) as determined by Method 5.

$N$  = total number of control devices tested.

$Q_s$  = volumetric flow rate of the effluent gas stream in dscm/hr (dscf/hr) as determined by Method 2.

$(C_s Q_s)_n$  or  $(Q_s)_n$  = value of the applicable parameter for each control device tested.

- (f) Any control device subject to the provisions of this rule shall be designed and constructed to allow measurement of emissions using applicable test methods and procedures.
- (g) Where emissions from any EAF(s) are combined with emissions from facilities not subject to the provisions of this rule but controlled by a common capture system and control device, the owner or operator may use any of the following procedures during a performance test:
1. Base compliance on control of the combined emissions.
  2. Utilize a method acceptable to the Technical Secretary which compensates for the emissions from the facilities not subject to this rule.
  3. Any combination of the criteria of parts (g)1. and (g)2. of this paragraph.
- (h) Where emissions from any EAF(s) are combined with emissions from facilities not subject to the provisions of this rule, the owner or operator may use any of the following procedures for demonstrating compliance with 1200-03-16-.26(3)(a)3.
1. Base compliance on control of the combined emissions.
  2. Shut down operation of facilities not subject to the provisions of this rule.
  3. Any combination of the criteria of parts (h)1. and (h)2. of this paragraph.

(Rule 1200-03-16-.26, continued)

- (i) Visible emissions observations of modular, multiple-stack, negative-pressure or positive-pressure fabric filters shall occur at least once per day of operation. The observations shall occur when the furnace is operating in the melting and refining period. These observations shall be taken in accordance with Method 9, and, for at least three 6-minute periods, the opacity shall be recorded for any point(s) where visible emissions are observed. Where it is possible to determine that a number of visible emission sites relate to only one incident of the visible emissions, only one set of three 6-minute observations will be required. In this case, Reference Method 9 observations must be made for the site of highest opacity that directly relates to the cause (or location) of visible emissions observed during a single incident. Records shall be maintained of any 6-minute average that is in excess of the emission limit specified in subparagraph (3)(a) of this rule.
  - (j) Unless the presence of inclement weather makes concurrent testing infeasible, the owner or operator shall conduct concurrently the performance tests required under 1200-03-16-.01(5)(g) to demonstrate compliance with parts 1., 2. and 3., of subparagraph 1200-03-16-.26(3)(a).
- (7) Recordkeeping and reporting requirements.
- (a) Operation at a furnace static pressure that exceeds the value established under subparagraph (5)(f) of this rule and either operation of control system fan motor amperes at values exceeding  $\pm 15$  percent of the value established under subparagraph (5)(c) of this rule or operation at flow rates lower than those established by subparagraph (5)(c) of this rule may be considered by the Technical Secretary to be unacceptable operation and maintenance of the affected facility. Operation at such values shall be reported to the Technical Secretary semiannually.
  - (b) When the owner or operator of an EAF is required to demonstrate compliance with the standard under parts (6)(g)2. and (6)(g)3. of this rule, the owner or operator shall obtain approval from the Technical Secretary of the procedure(s) that will be used to determine compliance. Notification of the procedure(s) to be used must be postmarked 30 days prior to the performance test.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed January 10, 1977; effective February 9, 1977. Amendment filed September 4, 1981; effective October 19, 1981. Amendment filed September 21, 1988; effective November 6, 1988.

#### 1200-03-16-.27 FERROALLOY PRODUCTION FACILITIES.

- (1) Applicability. The provisions of this rule are applicable to the following affected facilities commenced on or after February 9, 1977: Electric submerged arc furnaces which produce silicon metal, ferrosilicon, calcium silicon, silicomanganese zirconium, ferrochrome silicon, silvery iron, high-carbon ferrochrome, charge chrome, standard ferromanganese, silicomanganese, ferromanganese silicon, or calcium carbide; and dust handling equipment.
- (2) Definitions.
  - (a) "Electric submerged arc furnace" means any furnace wherein electrical energy is converted to heat energy by transmission of current between electrodes partially submerged in the furnace charge.
  - (b) "Furnace charge" means any material introduced into the electric material arc furnace and may consist of, but is not limited to, ores, slag, carbonaceous material, and limestone.

(Rule 1200-03-16-.27, continued)

- (c) "Product change" means any change in the composition of the furnace charge that would cause the electric submerged arc furnace to become subject to a different mass standard applicable under this rule.
- (d) "Slag" means the more or less completely fused and vitrified matter separated during the reduction of a metal from its ore.
- (e) "Tapping" means the removal of slag or product from the electrical submerged arc furnace under normal operating conditions such as removal of metal under normal pressure and movement by gravity down the spout into the ladle.
- (f) "Tapping period" means the time duration from initiation of the process of opening tap until plugging of the tap hole is completed.
- (g) "Furnace cycle" means the time period from completion of a furnace product tap to the completion of the next consecutive product tap.
- (h) "Tapping station" means that general area where molten product or slag is removed from the electric submerged arc furnace.
- (i) "Blowing tap" means any tap in which an evolution of gas forces or projects jets of flame or metal sparks beyond the ladle, runner, or collection hood.
- (j) "Furnace power input" means the resistive electrical power consumption of an electric submerged arc furnace as measured in kilowatts.
- (k) "Dust-handling equipment" means any equipment used to handle particulate matter collected by the air pollution control device (and located at or near such device) serving any electric submerged arc furnace subject to this rule.
- (l) "Control device" means the air pollution control equipment used to remove particulate matter generated by an electric submerged arc furnace from an effluent gas stream.
- (m) "Capture system" means the equipment (including hoods, ducts, fans, dampers, etc.) used to capture or transport particulate matter generated by an affected electric submerged arc furnace to the control device.
- (n) "Standard ferromanganese" means that alloy as defined by A.S.T.M. designation A99-66.
- (o) "Silicomanganese" means that alloy as defined by A.S.T.M. designation A483-66.
- (p) "Calcium carbide" means material containing 70 to 85 percent calcium carbide by weight.
- (q) "High-carbon ferrochrome" means that alloy as defined by A.S.T.M. designation A101-66 grades HC1 through HC6.
- (r) "Charge chrome" means that alloy containing 52 to 70 percent by weight chromium, 5 to 8 percent by weight carbon, and 3 to 6 percent by weight silicon.
- (s) "Silvery iron" means any ferrosilicon, as defined by A.S.T.M. designation A100-69, which contains less than 30 percent silicon.
- (t) "Ferrochrome silicon" means that alloy as defined by A.S.T.M. designation A482-66.

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- (u) "Silicomanganese zirconium" means that alloy containing 60 to 65 percent by weight silicon, 1.5 to 2.5 percent by weight calcium, 5 to 7 percent by weight zirconium, 0.75 to 1.25 percent by weight aluminum, 5 to 7 percent by weight manganese, and 2 to 3 percent by weight barium.
  - (v) "Calcium silicon" means that alloy as defined by A.S.T.M. designation A495-64.
  - (w) "Ferrosilicon" means that alloy as defined by A.S.T.M. designation A100-69 grades A, B, C, D, and E which contains 50 or more percent silicon by weight.
  - (x) "Silicon metal" means any silicon alloy containing more than 96 percent silicon by weight.
  - (y) "Ferromanganese silicon" means that alloy containing 63 to 66 percent by weight manganese, 28 to 32 percent by weight silicon, and a maximum of 0.08 percent by weight carbon.
- (3) Standards for Particulate Matter and Opacity.
- (a) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any electric submerged arc furnace any gases which:
    - 1. Exit from a control device and contain particulate matter in excess of 0.45 kg/MW-hr (0.99 lb/MW-hr) while silicon metal, ferrosilicon, calcium silicon, or silicomanganese zirconium is being produced.
    - 2. Exit from a control device and contain particulate matter in excess of 0.23 kg/MW-hr (0.51 lb/MW-hr) while high-carbon ferrochrome, charge chrome, standard ferromanganese, silicomanganese, calcium carbide, ferrochrome silicon, ferromanganese silicon, or silvery iron is being produced.
    - 3. Exit from a control device and exhibit 15 percent opacity or greater.
    - 4. Exit from an electric submerged arc furnace and escape the capture system and are visible without the aid of instruments. The requirements under this part apply only during periods when flow rates are being established under subparagraph (6)(d) of this rule.
    - 5. Escape the capture system at the tapping station and are visible without the aid of instruments for more than 40 percent of each tapping period. There are no limitations on visible emissions under this part when a blowing tap occurs. The requirements under this subparagraph apply only during periods when flow rates are being established under subparagraph (6)(d) of this rule.
  - (b) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any dust-handling equipment any gases which exhibit 10 percent opacity or greater.
- (4) Standard for Carbon Monoxide.
- (a) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any



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electric submerged arc furnace any gases which contain, on a dry basis, 20 or greater volume percent of carbon monoxide. Combustion of such gases under conditions acceptable to the Technical Secretary constitutes compliance with this section. Acceptable conditions include, but are not limited to, flaring of gases or use of gases as fuel for other processes.

(5) Emission Monitoring.

- (a) The owner or operator subject to the provisions of this rule shall install, calibrate, maintain and operate a continuous monitoring system for measurement of the opacity of emissions discharged into the atmosphere from the control device(s).
- (b) For the purpose of reports required under subparagraph .01(7)(c) of this chapter, the owner or operator shall report as excess emissions all six-minute periods in which the average opacity is 15 percent or greater.
- (c) The owner or operator subject to the provisions of this subpart shall submit a written report of any product change to the Technical Secretary. Reports of product changes must be postmarked not later than 30 days after implementation of the product change.

(6) Monitoring of Operations.

- (a) The owner or operator of any electric submerged arc furnace subject to the provisions of this rule shall maintain daily records of the following information:
  - 1. Product being produced.
  - 2. Description of constituents of furnace charge, including the quantity, by weight.
  - 3. Time and duration of each tapping period and the identification of material tapped (slag or product).
  - 4. All furnace power input data obtained under subparagraph (b) of this paragraph.
  - 5. All flow rate data obtained under subparagraph (e) of this paragraph or all fan motor power consumption and pressure drop data obtained under subparagraph (e) of this paragraph.
- (b) The owner or operator subject to the provisions of this rule shall install, calibrate, maintain, and operate a device to measure and continuously record the furnace power input. The furnace power input may be measured at the output or input side of the transformer. The device must have an accuracy of  $\pm 5$  percent over its operating range.
- (c) The owner or operator subject to the provisions of this rule shall install, calibrate, and maintain a monitoring device that continuously measures and records the volumetric flow rate through each separately ducted hood of the capture system, except as provided under subparagraph (e) of this paragraph. The owner or operator of an electric submerged arc furnace that is equipped with a water cooled cover which is designed to contain and prevent escape of the generated gas and particulate matter shall monitor only the volumetric flow rate through the capture system for control of emissions from the tapping station. The owner or operator may install the monitoring device(s) in any appropriate location in the exhaust duct such that reproducible flow rate monitoring will result. The flow rate monitoring device must have an accuracy of  $\pm 10$  percent over its normal operating range and must be calibrated according to the manufacturer's instructions. The Technical Secretary may require the owner or

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operator to demonstrate the accuracy of the monitoring device relative to Methods 1. and 2. in subparagraph .01(5)(g) of this chapter.

- (d) When performance tests are conducted under the provisions of paragraph .01(5) of this chapter to demonstrate compliance with the standards under parts (3)(a)4. and (3)(a)5. of this rule, the volumetric flow rate through each separately ducted hood of the capture system must be determined using the monitoring device required under subparagraph (c) of this paragraph. The volumetric flow rates must be determined for furnace power input levels at 50 and 100 percent of the nominal rated capacity of the electric submerged arc furnace. At all times the electric submerged arc furnace is operated, the owner or operator shall maintain the volumetric flow rate at or above the appropriate levels for that furnace power input level determined during the most recent performance test. If emissions due to tapping are captured and ducted separately from emissions of the electric submerged arc furnace, during each tapping period the owner or operator shall maintain the exhaust flow rates through the capture system over the tapping station at or above the levels established during the most recent performance test. Operation at lower flow rates may be considered by the Technical Secretary to be unacceptable operation and maintenance of the affected facility. The owner or operator may request that these flow rates be reestablished by conducting new performance tests under paragraph .01(5) of this rule.
- (e) The owner or operator may as an alternative to subparagraph (c) of this paragraph determine the volumetric flow rate through each fan of the capture system from the fan power consumption, pressure drop across the fan and the fan performance curve. Only data specific to the operation of the affected electric submerged arc furnace are acceptable for demonstration of compliance with the requirements of this subparagraph. The owner or operator shall maintain a permanent record of the fan performance curve (prepared for a specific temperature) and shall:
1. Install, calibrate, maintain and operate a device to continuously measure and record the power consumption of the fan motor (measured in kilowatts), and
  2. Install, calibrate, maintain, and operate a device to continuously measure and record the pressure drop across the fan. The fan power consumption and pressure drop measurements must be synchronized to allow real time comparisons of the data. The monitoring devices must have an accuracy of  $\pm 5$  percent over their normal operating ranges.
- (f) The volumetric flow rate through each fan of the capture system must be determined from the fan power consumption, fan pressure drop, and fan performance curve specified under subparagraph (e) of this paragraph, during any performance test required under paragraph .01(5)(g) of this chapter to demonstrate compliance with the standards under parts (3)(a)4. and 5. of this rule. The owner or operator shall determine the volumetric flow rate at a representative temperature for furnace power input levels of 50 and 100 percent of the nominal rated capacity of the electric submerged arc furnace. At all times the electric submerged arc furnace is operated, the owner or operator shall maintain the fan power consumption and fan pressure drop at levels such that the volumetric flow rate is at or above the levels established during the most recent performance test for the furnace power input level.

If emissions due to tapping are captured and ducted separately from emissions of the electric submerged arc furnace, during each tapping period the owner or operator shall maintain the fan power consumption and fan pressure drop at levels such that the volumetric flow rate is at or above the levels established during the most recent performance test. Operation at lower flow rates may be considered by the Technical Secretary to be unacceptable operation and maintenance of the affected facility. The

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owner or operator may request that these flow rates be reestablished by conducting new performance tests under paragraph .01(5) of this chapter. The Technical Secretary may require the owner or operator to verify the fan performance curve by monitoring necessary fan operating parameters and determining the gas volume moved relative to Methods 1. and 2. of subparagraph .01(5)(g) of this chapter.

- (g) All monitoring devices required under subparagraphs (c) and (e) of this paragraph are to be checked for calibration annually in accordance with the procedures under paragraph .01(8) of this chapter.
- (7) Test Methods and Procedures.
- (a) When determining the concentration of particulate matter and the associated moisture content, the use of the heating system specified by the method outlined in part .01(5)(g) of this chapter are not to be used when the carbon monoxide content of the gas stream exceeds ten (10) percent by volume, dry basis.
- (b) The sampling time for each particulate run is to include an integral number of furnace cycles. The sampling time for each run must be at least 60 minutes and the minimum sample volume must be 1.8 dscm (64 dscf) when sampling emissions from open electric submerged arc furnaces with wet scrubber control devices, sealed electric submerged arc furnaces, or semi-enclosed electric submerged arc furnaces. When sampling emissions from other types of installations, the sampling time for each run must be at least 200 minutes and the minimum sample volume must be 5.7 dscm (200 dscf). Shorter sampling times or smaller sampling volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.
- (c) During the performance test, the owner or operator shall record the maximum open hood area (in hoods with segmented or otherwise moveable sides) under which the process is expected to be operated and remain in compliance with all standards. Any future operation of the hooding system with open areas in excess of the maximum is not permitted.
- (d) The owner or operator shall construct the control devices so that volumetric flow rates and particulate matter emissions can be accurately determined by applicable test methods and procedures.
- (e) During any performance test required under paragraph .01(5) of this chapter, the owner or operator shall not allow gaseous diluents to be added to the effluent gas stream after the fabric in an open pressurized fabric filter collector unless the total gas volume flow from the collector is accurately determined and considered in the determination of emissions.
- (f) When compliance with paragraph (4) of this rule is to be attained by combusting the gas stream in a flare, the location of the sampling site for particulate matter is to be upstream of the flare.
- (g) For each run, particulate matter emissions, expressed in kg/hr (lb/hr), must be determined for each exhaust stream at which emissions are quantified using the following equation:

$$E_n = C_s Q_s$$

where:

$$E_n = \text{Emissions of particulate matter in kg/hr (lb/hr).}$$

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- Cs = Concentration of particulate matter in kg/dscm (lb/dscf) as determined by Method 5 of subparagraph .01(5)(g) of this chapter.
- Qs = Volumetric flow rate of the effluent gas stream in dscm/hr (dscf/hr) as determined by Method 2 of subparagraph .01(5)(g) of this chapter.

- (h) For Method 5, particulate matter emissions from the affected facility, expressed in kg/MW-hr (lb/MW-hr) must be determined for each run using the following equation:

$$E = \frac{\sum_{n=1}^N E_n}{p}$$

where:

- E = Emissions of particulate matter from the affected facility, in kg/MW-hr (lb/MW-hr).
- N = Total number of exhaust streams at which emissions are quantified.
- En = Emission of particulate matter from each exhaust stream in kg/hr (lb/hr), as determined in subparagraph (g) of this subparagraph.
- p = Average furnace power input during the sampling period, in megawatts as determined according to subparagraph (6)(b) of this rule.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed January 10, 1977; effective February 9, 1977. Amendment filed September 4, 1981; effective October 19, 1981.

#### 1200-03-16-.28 LIME MANUFACTURING PLANTS.

- (1) Applicability and designation of the affected facility.
  - (a) The provisions of this rule are applicable to the following affected facilities commenced on or after November 6, 1988, used in the manufacture of lime: rotary lime kilns and lime hydrators.
  - (b) The provisions of this rule are not applicable to facilities used in the manufacture of lime at kraft pulp mills.
- (2) Definitions.
  - (a) "Lime manufacturing plant" includes any plant which produces a lime product from limestone by calcination. Hydration of the lime product is also considered to be part of the source.
  - (b) "Lime product" means the product of the calcination process including, but not limited to, calcitic lime, dolomitic lime, and dead-burned dolomite.
  - (c) "Rotary lime kiln" means a unit with an inclined rotating drum which is used to produce a lime product from limestone by calcination.
  - (d) "Lime hydrator" means a unit used to produce hydrated lime product.
- (3) Standard for particulate matter.

(Rule 1200-03-16-.28, continued)

- (a) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this Chapter is completed, no owner or operator subject to the provisions of this paragraph shall cause to be discharged into the atmosphere:
  - 1. from any rotary lime kiln any gases which contain particulate matter in excess of 0.15 kilogram per megagram of limestone feed (0.30 lb/ton).
  - 2. From any lime hydrator any gases which contain particulate matter in excess of 0.075 kilogram per megagram of lime feed (0.15 lb/ton).
- (4) Standard for visible emissions.
  - (a) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any rotary lime kiln any gases which exhibit ten (10) percent opacity or greater.
- (5) Monitoring of Emissions and Operations.
  - (a) The owner or operator subject to the provisions of this rule shall install, calibrate, maintain, and operate a continuous monitoring system, except as provided in subparagraph (b) of this paragraph, to monitor and record the opacity of a representative portion of the gases discharged into the atmosphere from any rotary lime kiln. The span of this system shall be set at forty (40%) percent opacity.
  - (b) The owner or operator of any rotary lime kiln using a positive-pressure fabric filter control device or a control device with a multiple stack exhaust or a roof monitor may, in lieu of the continuous opacity monitoring requirement of subparagraph (a) of this paragraph, monitor visible emissions at least once per day of operation by using a certified visible emissions observer who, for each site where visible emissions are observed, will perform three Method 9 tests and record the results. Visible emission observations shall occur during normal operation of the rotary lime kiln at least once per day. For at least three 6-minute periods, the opacity shall be recorded for any point(s) where visible emissions are observed, and the corresponding feed rate of the kiln shall also be recorded. Records shall be maintained of any 6-minute average that is in excess of the emissions specified in subparagraph (4)(a) of this rule.
  - (c) The owner or operator of any lime hydrator using a wet scrubbing emission control device subject to the provisions of this rule shall install, calibrate, maintain, and operate the following continuous monitoring devices:
    - 1. A monitoring device for the continuous measuring of the scrubbing liquid flow rate. The monitoring device must be accurate within  $\pm 5$  percent of design scrubbing liquid flow rate.
    - 2. A monitoring device for the continuous measurement of the electric current, in amperes, used by the scrubber. The monitoring device must be accurate within  $\pm 10$  percent over its normal operating range.
  - (d) For the purpose of conducting a performance test under paragraph .01(5) of this Chapter, the owner or operator of any lime manufacturing plant subject to the provisions of this rule shall install, calibrate, maintain, and operate a device for measuring the mass rate of limestone feed to any affected rotary lime kiln and the mass rate of lime feed to any affected lime hydrator. The measuring device used must be accurate to within  $\pm 5$  percent of the mass rate over its operating range.

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- (e) For the purpose of reports required under subparagraph .01(7)(c) of this chapter, periods of excess emissions that shall be reported are defined as all six-minute periods during which the average opacity of the plume from any lime kiln subject to subparagraph (a) of this paragraph is 10 percent or greater.
- (6) Test Methods and Procedures.
- (a) For determining the concentration of particulate matter and associated moisture content, the sampling time for each run shall be at least 60 minutes and the sampling rate shall be at least 0.85 std m<sup>3</sup>/h, dry basis (0.53 dscf/min), except that shorter sampling times, when necessitated by process variables or other factors, may be approved by the Technical Secretary.
  - (b) Because of the high moisture content (40 to 85 percent by volume) of the exhaust gases from hydrators, the Method 5 sample train may be modified to include a calibrated orifice immediately following the sample nozzle when testing lime hydrators. In this configuration, the sampling rate necessary for maintaining isokinetic conditions can be directly related to exhaust gas velocity without a correction for moisture content. Extra care should be exercised when cleaning the sample train with the orifice in this position with the following test runs.
  - (c) Visible emission observations of a control device with a multiple stack exhaust or a roof monitor shall occur during normal operation of the rotary lime kiln, at least once per day of operation. For at least three 6-minute periods, the opacity shall be recorded for any point(s) where visible emissions are observed, and the corresponding feed rate of the kiln shall also be recorded. These observations shall be taken in accordance with Method 9. Records shall be maintained of any 6-minute average that is in excess of the emissions limit specified in subparagraph (4)(a) of this rule.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed July 27, 1979; effective September 10, 1979. Amendment filed September 21, 1988; effective November 6, 1988.

#### 1200-03-16-.29 KRAFT PULP MILLS.

- (1) Applicability and Designation of Affected Facility.
  - (a) The provisions of this rule are applicable to the following affected facilities in kraft pulp mills: Digester system, brown stock washer system, multiple-effect evaporator system, recovery furnace, smelt dissolving tank, lime kiln, and condensate stripper system. In pulp mills where kraft pulping is combined with neutral sulfite semichemical pulping, the provisions of this rule are applicable when any portion of the material charged to an affected facility is produced by the kraft pulping operation.
  - (b) Except as noted in subpart (4)(a)1.(iv) of this rule, any facility under subparagraph (a) of this paragraph that commences construction or modification after November 6, 1988 is subject to the requirements of this rule.
- (2) Definitions.
  - (a) "Kraft pulp mill" means any stationary source which produces pulp from wood by cooking (digesting) wood chips in a water solution of sodium hydroxide and sodium sulfide (white liquor) at high temperature and pressure. Regeneration of the cooking chemicals through a recovery process is also considered part of the kraft pulp mill.

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- (b) "Neutral sulfite semichemical pulping operation" means any operation in which pulp is produced from wood by cooking (digesting) wood chips in a solution of sodium sulfite and sodium bicarbonate, followed by mechanical defibrating (grinding).
  - (c) "Total reduced sulfur (TRS)" means the sum of the sulfur compounds hydrogen sulfide, methyl mercaptan, dimethyl sulfide, and dimethyl disulfide, that are released during the kraft pulping operation and measured by Reference Method 16 (as referenced in 1200-03-16-.01(5)(g)).
  - (d) "Digester system" means each continuous digester or each batch digester used for the cooking of wood in white liquor, and associated flash tank(s), blow tank(s), chip steamer(s), and condenser(s).
  - (e) "Brown stock washer system" means brown stock washers and associated knotters, vacuum pumps, and filtrate tanks used to wash the pulp following the digestion system. Diffusion washers are excluded from this definition.
  - (f) "Multiple-effect evaporator system" means the multiple-effect evaporators and associated condenser(s) and hotwell(s) used to concentrate the spent cooking liquid that is separated from the pulp (black liquor).
  - (g) "Black liquor oxidation system" means the vessels used to oxidize, with air or oxygen, the black liquor, and associated storage tank(s).
  - (h) "Recovery furnace" means either a straight kraft recovery furnace, or a cross recovery furnace, and includes the direct-contact evaporator for a direct-contact furnace.
  - (i) "Straight kraft recovery furnace" means a furnace used to recover chemicals consisting primarily of sodium and sulfur compounds by burning black liquor which on a quarterly basis contains 7 weight percent or less of the total pulp solids from the neutral sulfite semichemical process or has green liquor sulfidity of 28 percent or less.
  - (j) "Cross recovery furnace" means a furnace used to recover chemicals consisting primarily of sodium and sulfur compounds by burning black liquor which on a quarterly basis contains more than 7 weight percent of the total pulp solids from the neutral sulfite semichemical process and has a green liquor sulfidity of more than 28 percent.
  - (k) "Black liquor solids" means the dry weight of the solids which enter the recovery furnace in the black liquor.
  - (l) "Green liquor sulfidity" means the sulfidity of the liquor which leaves the smelt dissolving tank.
  - (m) "Smelt dissolving tank" means a vessel used for dissolving the smelt collected from the recovery furnace.
  - (n) "Lime kiln" means a unit used to calcine lime mud, which consists primarily of calcium carbonate, into quicklime, which is calcium oxide.
  - (o) "Condensate stripper system" means a column, and associated condensers, used to strip, with air or steam, TRS compounds from condensate streams from various processes within a kraft pulp mill.
- (3) Standard for Particulate Matter and Opacity.

(Rule 1200-03-16-.29, continued)

- (a) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere:
  1. From any recovery furnace any gases which:
    - (i) Contain particulate matter in excess of 0.10 g/dscm (0.044 gr/dscf) corrected to 8 percent oxygen.
    - (ii) Exhibit 35 percent opacity or greater.
  2. From any smelt dissolving tank any gases which contain particulate matter in excess of 0.1 g/kg black liquor solids (dry weight) (0.2 lb/ton black liquor solids (dry weight)).
  3. From any lime kiln any gases which contain particulate matter in excess of:
    - (i) 0.15 g/dscm (0.067 gr/dscf) corrected to 10 percent oxygen, when gaseous fossil fuel is burned.
    - (ii) 0.30 g/dscm (0.13 gr/dscf) corrected to 10 percent oxygen when liquid fossil fuel is burned.
- (4) Standard for Total Reduced Sulfur (TRS).
  - (a) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere:
    1. From any digester system, brown stock washer system, multiple-effect evaporator system, or condensate stripper system any gases which contain TRS in excess of 5 ppm by volume on a dry basis, corrected to 10 percent oxygen, unless the following conditions are met:
      - (i) The gases are combusted in a lime kiln subject to the provisions of part (a)5 of this paragraph; or,
      - (ii) The gases are combusted in a recovery furnace subject to the provisions of parts (a)2. or (a)3. of this paragraph; or,
      - (iii) The gases are combusted with other waste gases in an incinerator or other device, or combusted in a lime kiln or recovery furnace not subject to the provisions of this rule, and are subjected to a minimum temperature of 1200°F for at least 0.5 second; or,
      - (iv) It has been demonstrated to the Technical Secretary's satisfaction by the owner or operator that incinerating the exhaust gases from a new, modified, or reconstructed brown stock washer system is technologically or economically unfeasible. Any exempt system will become subject to the provisions of this rule if the facility is changed so that the gases can be incinerated.
      - (v) The gases from the digester system, brown stock washer system, or condensate stripper system are controlled by a means other than combustion. In this case, this system shall not discharge any gases to the



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atmosphere which contain TRS in excess of 5 ppm by volume on a dry basis, corrected to the actual oxygen content of the untreated gas stream.

- (vi) The uncontrolled exhaust gases from a new, modified, or reconstructed digester system contain TRS less than 0.005 g/kg ADP (0.01 lb/ton ADP).
- 2. From any straight kraft recovery furnace any gases which contain TRS in excess of 5 ppm by volume on a dry basis, corrected to 8 percent oxygen.
- 3. From any cross recovery furnace any gases which contain TRS in excess of 25 ppm by volume on a dry basis, corrected to 8 percent oxygen.
- 4. From any smelt dissolving tank any gases which contain TRS in excess of 0.016 g/kg black liquor solids at H<sub>2</sub>S (0.033 lb/ton black liquor solids as H<sub>2</sub>S).
- 5. From any lime kiln any gases which contain TRS in excess of 8 ppm by volume on a dry basis, corrected to 10 percent oxygen.

(5) Monitoring of Emissions and Operations

- (a) Any owner or operator subject to the provisions of this rule shall install, calibrate, maintain, and operate the following continuous monitoring systems:
  - 1. A continuous monitoring system to monitor and record the opacity of the gases discharged into the atmosphere from any recovery furnace. The span of this system shall be set at 70 percent opacity.
  - 2. Continuous monitoring systems to monitor and record the concentration of TRS emissions on a dry basis and the percent of oxygen by volume on a dry basis in the gases discharged into the atmosphere from any lime kiln, recovery furnace, digester system, brown stock washer system, multiple-effect evaporator system, or condensate stripper system, except where the provisions of subpart (4)(a)1(iii) or (iv) of this rule apply. These systems shall be located downstream of the control device(s) and the spans of these continuous monitoring system(s) shall be set:
    - (i) At a TRS concentration of 30 ppm for the TRS continuous monitoring system, except that for any cross recovery furnace the span shall be set at 50 ppm.
    - (ii) At 20 percent oxygen for the continuous oxygen monitoring system.
- (b) Any owner or operator subject to the provisions of this rule shall install, calibrate, maintain, and operate the following continuous monitoring devices:
  - 1. For any incinerator, a monitoring device which measures and records the combustion temperature at the point of incineration of effluent gases which are emitted from any digester system, brown stock washer system, multiple-effect evaporator system, black liquor oxidation system, or condensate stripper system where the provisions of subpart (4)(a)1.(iii) of this rule apply. The monitoring device is to be certified by the manufacturer to be accurate within  $\pm 1$  percent of the temperature being measured.
  - 2. For any lime kiln or smelt dissolving tank using a scrubber emission control device:

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- (i) A monitoring device for the continuous measurement of the pressure loss of the gas stream through the control equipment. The monitoring device is to be certified by the manufacturer to be accurate to within a gauge pressure of  $\pm 500$  pascals (ca.  $\pm 2$  inches water gauge pressure).
  - (ii) A monitoring device for the continuous measurement of the scrubbing liquid supply pressure to the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within  $\pm 15$  percent of design scrubbing liquid supply pressure. The pressure sensor or tap is to be located close to the scrubber liquid discharge point. The Technical Secretary shall be consulted for approval of alternative locations.
- (c) Any owner or operator subject to the provisions of this rule shall, except where the provisions of subpart (4)(a)1.(iv) or part (4)(a)4. of this rule apply.

1. Calculate and record on a daily basis 12-hour average TRS concentrations for the two consecutive periods of each operating day. Each 12-hour average shall be determined as the arithmetic mean of the appropriate 12 contiguous 1-hour average total reduced sulfur concentrations provided by each continuous monitoring system installed under part (a)2. of this paragraph.
2. Calculate and record on a daily basis 12-hour average oxygen concentrations for the two consecutive periods of each operating day for the recovery furnace and lime kiln. These 12-hour averages shall correspond to the 12-hour average TRS concentrations under part (c)1. of this paragraph and shall be determined as an arithmetic mean of the appropriate 12 contiguous 1-hour average oxygen concentrations provided by each continuous monitoring system installed under part (a)2. of this paragraph.
3. Correct all 12-hour average TRS concentrations to 10 volume percent oxygen, except that all 12-hour average TRS concentration from a recovery furnace shall be corrected to 8 volume percent using the following equation:

$$C_{\text{corr}} = C_{\text{meas}} (21-X/21-Y)$$

where:

- $C_{\text{corr}}$  = the concentration corrected for oxygen.
- $C_{\text{meas}}$  = the concentration uncorrected for oxygen.
- $X$  = The volumetric oxygen concentration in percentage to be corrected to (8 percent for recovery furnaces and 10 percent for lime kilns, incinerators, or other devices).
- $Y$  = the measured 12-hour average volumetric oxygen concentration.

4. Record once per shift measurements obtained from the continuous monitoring devices installed under part (b)2. of this paragraph.
- (d) For the purpose of reports required under 1200-03-16-.01(7)(c), any owner or operator subject to the provisions of this rule shall report semiannually periods of excess emissions as follows:

1. For emissions from any recovery furnace periods of excess emissions are:
  - (i) All 12-hour averages of TRS concentrations above 5 ppm by volume for straight kraft recovery furnaces and above 25 ppm by volume for cross recovery furnaces.

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- (ii) All 6-minute average opacities that exceed 35 percent.
    - 2. For emissions from any lime kiln, periods of excess emissions are all 12-hour average TRS concentration above 8 ppm by volume.
    - 3. For emissions from any digester system, brown stock washer system, multiple-effect evaporator system, or condensate stripper system periods of excess emissions are:
      - (i) All 12-hour average TRS concentrations above 5 ppm by volume unless the provisions of subparts (4)(a)1.(i), (ii), or (iv) of this rule apply; or
      - (ii) All periods in excess of 5 minutes and their duration during which the combustion temperature at the point of incineration is less than 1200° F, where the provisions of subpart (4)(a)1.(iii) of this rule apply.
  - (e) The Technical Secretary will not consider periods of excess emissions reported under subparagraph (d) of this paragraph to be indicative of a violation of rule .01(6)(d) of this chapter provided that:
    - 1. The percent of the total number of possible contiguous periods of excess emissions in a quarter (excluding periods of startup, shutdown, or malfunction and periods when the facility is not operating) during which excess emissions occur does not exceed:
      - (i) One percent for TRS emissions from recovery furnaces.
      - (ii) Six percent for average opacities from recovery furnaces.
    - 2. The Technical Secretary determines that the affected facility, including air pollution control equipment, is maintained and operated in a manner which is consistent with good air pollution control practice for minimizing emissions during periods of excess emissions.
- (6) Test Methods and Procedures
- (a) For determining the concentration of particulate matter and associated moisture content, the sampling time for each run shall be at least 60 minutes and the sampling rate shall be at least 0.85 dscm/hr (0.53 dscf/min) except that shorter sampling times, when necessitated by process variables or other factors, may be approved by the Technical Secretary. Water shall be used as the cleanup solvent instead of acetone in the sample recovery procedure outlined in Method 5 (as specified in 1200-03-16-.01(5)(g)5.).
  - (b) In-stack filtration as specified in 1200-03-16-.01(5)(g)17. may be used for determining compliance with subpart (3)(a)1.(i) of this rule provided, that a constant value of 0.009 g/dscm (0.004 gr/dscf) is added to the results of Method 17 and the stack temperature is no greater than 205°C (ca. 400°F). Water shall be used as the cleanup solvent instead of acetone in the sample recovery procedure outlined in Method 17 (as referenced in 1200-03-16-.01(5)(g)17.).
  - (c) For the purpose of determining compliance with paragraph (4) of this rule, the following reference methods shall be used:

(Rule 1200-03-16-.29, continued)

1. Reference method listed in 1200-03-16-.01(5)(g)16. or at the discretion of the owner or operator, 1200-03-16-.01(5)(g)16., subpart (i) for the concentration of TRS.
2. The reference method listed in 1200-03-16-.01(5)(g)3. for gas analysis, and
3. When determining compliance with part (4)(a)4. of this rule, use the results of Method 2, Method 16 or Method 16A, and the black liquor solids feed rate in the following equation to determine the TRS emission rate on an equivalent hydrogen sulfide (H<sub>2</sub>S) basis.

$$E = (C_{\text{TRS}})(F)(Q_{\text{sd}})/\text{BLS}$$

Where:

- E = mass of TRS emitted per unit of black liquor solids (g/kg)(lb/ton)
- C<sub>TRS</sub> = average combined concentration of TRS as determined by Method 16 or 16A during the test period, PPM.
- F = 0.001417 g H<sub>2</sub>S/m<sup>3</sup> PPM for metric units  
0.08844 x<sup>2</sup> 10<sup>-6</sup> lb H<sub>2</sub>S/ft<sup>3</sup> PPM for English units
- Q<sub>sd</sub> = dry volumetric stack gas flow rate corrected to standard conditions, dscm/hr (dscf/hr)
- BLS = black liquor solids feed rate, kg/hr (ton/hr)

4. When determining whether a furnace is a straight kraft recovery furnace or a cross recovery furnace, TAPPI Method T.624 (note: All references to TAPPI refer to the Technical Association of the Pulp and Paper Industry, Dunwoody Park, Atlanta, Georgia 30341. Copies of the methods are available for purchase by writing TAPPI at the above address. Be sure and specify the desired method.) shall be used to determine sodium sulfide, sodium hydroxide and sodium carbonate. These determinations shall be made three times daily from the green liquor and the daily average values shall be converted to sodium oxide (Na<sub>2</sub>O) and substituted into the following equation to determine the green liquor sulfidity:

$$\text{GLS} = 100 \text{CN}_{\text{a2S}} / (\text{CN}_{\text{a2S}} + \text{CN}_{\text{aOH}} + \text{CN}_{\text{a2CO3}})$$

where:

- GLS = percent green liquor sulfidity
- CN<sub>a2S</sub> = average concentration of Na<sub>2</sub>S expressed as Na<sub>2</sub>O (mg/l)
- CNaOH = average concentration of NaOH expressed as Na<sub>2</sub>O (mg/l)
- CNa<sub>2</sub>CO<sub>3</sub> = average concentration of Na<sub>2</sub>CO<sub>3</sub> expressed as Na<sub>2</sub>O(mg/l)

5. When determining compliance with subpart (4)(a)1.(vi) of this rule, use the results of Method 2, Method 16 or Method 16A, and the pulp production rate in the equation specified in part (6)(c)3. of this rule, except substitute the pulp production rate (PPR) (kg/hr (tons/hr)) for the black liquor solids feed rate (BLS).

(Rule 1200-03-16-.29, continued)

- (d) All concentrations of particulate matter and TRS required to be measured by this paragraph from lime kilns or incinerators shall be corrected 10 volume percent oxygen and those concentrations from recovery furnaces shall be corrected to 8 volume percent oxygen. These corrections shall be made in the manner specified in part (5)(c)3. of this rule.

**Authority:** T.C.A. § 68-25-105. **Administrative History:** Original rule filed August 28, 1979; effective October 12, 1979. Amendment filed September 4, 1981; effective October 30, 1981. Amendment filed September 21, 1988; effective November 6, 1988.

### 1200-03-16-.30 GRAIN ELEVATORS.

- (1) Applicability and Designation of Affected Facility.
  - (a) The provisions of this rule apply to each affected facility at any grain terminal elevator or any grain storage elevator, except as provided under subparagraph (5)(a) of this rule. The affected facilities are each truck unloading station, truck loading station, barge and ship unloading station, barge and ship loading station, railcar loading station, railcar unloading station, grain dryer, and all grain handling operations.
  - (b) Any facility under subparagraph (a) of this paragraph which commences construction, modification, or reconstruction after December 10, 1979 is subject to the requirements of this rule.
- (2) Definitions.
  - (a) "Grain" means corn, wheat, sorghum, rice, rye, oats, barley, and soybeans.
  - (b) "Grain elevator" means any plant or installation at which grain is unloaded, handled, cleaned, dried, stored, or loaded.
  - (c) "Grain terminal elevator" means any grain elevator which has a permanent storage capacity of more than 88,100 m<sup>3</sup> (ca. 2.5 million U.S. bushels), except those located at animal food manufacturers, cereal manufacturers, breweries, and livestock feedlots.
  - (d) "Permanent storage capacity" means grain storage capacity which is inside a building, bin, or silo.
  - (e) "Railcar" means railroad hopper car or boxcar.
  - (f) "Grain storage elevator" means any grain elevator located at any wheat flour mill, wet corn mill, dry corn mill (human consumption), rice mill, or soybean oil extraction plant which has a permanent grain storage capacity of 35,200 m<sup>3</sup> (ca. 1 million bushels).
  - (g) "Process emission" means the particulate matter which is collected by a capture system.
  - (h) "Fugitive emission" means the particulate matter which is not collected by a capture system and is released directly into the atmosphere from an affected facility at a grain elevator.
  - (i) "Capture system" means the equipment such as sheds, hoods, ducts, fans, dampers, etc. used to collect particulate matter generated by an affected facility at a grain elevator.

(Rule 1200-03-16-.30, continued)

- (j) "Grain unloading station" means that portion of a grain elevator where the grain is transferred from a truck, railcar, barge, or ship to a receiving hopper.
  - (k) "Grain loading station" means that portion of a grain elevator where the grain is transferred from the elevator to a truck, railcar, barge, or ship.
  - (l) "Grain handling operations" include bucket elevators or legs (excluding legs used to unload barges or ships), scale hoppers and surge bins (garners), turn heads, scalpers, cleaners, trippers, and the headhouse and other such structures.
  - (m) "Column dryer" means any equipment used to reduce the moisture content of grain in which the grain flows from the top to the bottom in one or more continuous packed columns between two perforated metal sheets.
  - (n) "Rack dryer" means any equipment used to reduce the moisture content of grain in which the grain flows from the top to the bottom in a cascading flow around rows of baffles (racks).
  - (o) "Unloading leg" means a device which includes a bucket-type elevator which is used to remove grain from a barge or ship.
- (3) Standards for Particulate Matter and Opacity.
- (a) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere any gases which exhibit greater than 0 percent opacity from any:
    - 1. Column dryer with column plate perforation exceeding 2.4 mm diameter (ca. 0.094 inch).
    - 2. Rack dryer in which exhaust gases pass through a screen filter coarser than 50 mesh.
  - (b) On and after the date on which the performance test required to be conducted in paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility except a grain dryer any process emission which:
    - 1. Contains particulate matter in excess of 0.023 g/dscm (ca. 0.01 gr/dscf).
    - 2. Exhibits greater than 0 percent opacity.
  - (c) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this Chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere any fugitive emissions from:
    - 1. Any individual truck unloading station, railcar unloading station, or railcar loading station, which exhibits greater than 5 percent opacity.
    - 2. Any grain handling operation which exhibits greater than 0 percent opacity.
    - 3. Any truck loading station which exhibits greater than 10 percent opacity.
    - 4. Any barge or ship loading station which exhibits greater than 20 percent opacity.

(Rule 1200-03-16-.30, continued)

- (d) The owner or operator of any barge or ship unloading station shall operate as follows:
1. The unloading leg shall be enclosed from the top (including the receiving hopper) to the center line of the bottom pulley and ventilation to a control device shall be maintained on both sides of the leg and the grain receiving hopper.
  2. The total rate of air ventilated shall be at least 32.1 actual cubic meters per cubic meter of grain handling capacity (ca. 40 ft<sup>3</sup>/bu).
  3. Rather than meet the requirements of subparagraphs (1) and (2), of this paragraph the owner or operator may use other methods of emission control if it is demonstrated to the Technical Secretary's satisfaction that they would reduce emissions of particulate matter to the same level or less.

(4) Test Methods and Procedures.

For determination of concentration of particulate matter, the sampling time for each run shall be at least 60 minutes and the sample volume shall be 1.7 dscm (ca. 60 dscf). If the method 5 sampling procedure is used, the sampling probe and filter holder shall be operated without heaters.

(5) Modifications.

- (a) The following physical changes or changes in the method of operation shall not by themselves be considered a modification of any existing facility:
1. The addition of gravity loadout spouts to existing grain storage or grain transfer bins.
  2. The installation of automatic weighing scales.
  3. Replacement of motor and drive units driving existing grain handling equipment.
  4. The installation of permanent storage capacity with no increase in hourly grain handling capacity.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed April 26, 1979; effective December 10, 1979.

**1200-03-16-.31 RESERVED.**

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed March 9, 1981; effective May 15, 1981. Amendment filed September 21, 1988; effective November 6, 1988. Amendment filed January 31, 1997; effective April 16, 1997. Repeal of rule filed January 21, 2009; effective April 6, 2009.

**1200-03-16-.32 AMMONIUM SULFATE MANUFACTURE.**

(1) Applicability.

- (a) The affected facility to which the provisions of this rule apply is each ammonium sulfate dryer within an ammonium sulfate manufacturing plant in the caprolactam by-product, synthetic, and coke oven by-product sectors of the ammonium sulfate industry.

(Rule 1200-03-16-.32, continued)

- (b) Any facility under subparagraph (a) of this paragraph that commences construction or modification after February 28, 1983 is subject to the requirements of this rule.

(2) Definitions.

“Ammonium sulfate dryer” means a unit or vessel into which ammonium sulfate is charged for the purpose of reducing the moisture content of the product using a heated gas stream. The unit includes foundations, superstructure, material charger systems, exhaust systems, and integral control systems and instrumentation.

“Ammonium sulfate feed material streams” means the sulfuric acid feed stream to the reactor/crystallizer for synthetic and coke oven by-product ammonium sulfate manufacturing plants; and means the total or combined feed streams (the oximation ammonium sulfate stream and the rearrangement reaction ammonium sulfate stream) to the crystallizer stage, prior to any recycle streams.

“Ammonium sulfate manufacturing plant” means any plant which produces ammonium sulfate.

“Caprolactam by-product ammonium sulfate manufacturing plant” means any plant which produces ammonium sulfate as a by-product from process streams generated during caprolactam manufacture.

“Coke oven by-product ammonium sulfate manufacturing plant” means any plant which produces ammonium sulfate by reacting sulfuric acid with ammonia recovered as a by-product from the manufacture of coke.

“Synthetic ammonium sulfate manufacturing plant” means any plant which produces ammonium sulfate by direct combination of ammonia and sulfuric acid.

(3) Standards for particulate matter.

On or after the date on which the performance test required to be conducted by 1200-03-16-.01(5) is completed, no owner or operator of an ammonium sulfate dryer subject to the provisions of this rule shall cause to be discharged into the atmosphere, from any ammonium sulfate dryer, particulate matter at an emission rate exceeding 0.15 kilogram of particulate per megagram of ammonium sulfate produced (0.30 pound of particulate per ton of ammonium sulfate produced) and exhaust gases with greater than 15 percent opacity.

(4) Monitoring of operations.

(a) The owner or operator of any ammonium sulfate manufacturing plant subject to the provisions of this rule shall install, calibrate, maintain, and operate flow monitoring devices which can be used to determine the mass flow of ammonium sulfate feed material streams to the process. The flow monitoring device shall have an accuracy of  $\pm 5$  percent over its range. However, if the plant uses weigh scales of the same accuracy to directly measure production rate of ammonium sulfate, the use of flow monitoring devices is not required.

(b) The owner or operator of any ammonium sulfate manufacturing plant subject to the provisions of this rule shall install, calibrate, maintain, and operate a monitoring device which continuously measures and permanently records the total pressure drop across the emission control system. The monitoring device shall have an accuracy of  $\pm 5$  percent over its operating range.

(5) Test methods and procedures.



(Rule 1200-03-16-.32, continued)

- (a) Reference methods in 1200-03-16-.01(5)(g) of this chapter, except as provided in 1200-03-16-.01(5)(b), shall be used to determine compliance with 1200-03-16-.32(3) as follows:
1. Method 5 as specified in 1200-03-16-.01(5)(g)5. for the concentration of particulate matter.
  2. Method 1 as specified in 1200-03-16-.01(5)(g)1. for sample and velocity traverses.
  3. Method 2 as specified in 1200-03-16-.01(5)(g)2. for velocity and volumetric flow rate.
  4. Method 3 as specified in 1200-03-16-.01(5)(g)3. for gas analysis.
- (b) For Method 5, the sampling time for each run shall be at least 60 minutes and the volume shall be at least 1.50 dry standard cubic meters (53 dry standard cubic feet).
- (c) For each run, the particulate emission rate, E, shall be computed as follows:

$$E = Q_{sd} \times C_s \times 1000$$

1. E is the particulate emission rate (kg/h).
  2.  $Q_{sd}$  is the average volumetric flow rate (dscm/h) as determined by Method 2; and
  3.  $C_s$  is the average concentration (g/dscm) of particulate matter as determined by Method 5.
- (d) For each run, the rate of ammonium sulfate production, P (Mg/h), shall be determined by direct measurement using product weigh scales or computed from a material balance. If production rate is determined by material balance, the following equations shall be used.
1. For synthetic and coke oven by-product ammonium sulfate plants, the ammonium sulfate production rate shall be determined using the following equation:

$$P = A \times B \times C \times 0.0808$$

where:

P = Ammonium sulfate production rate in megagrams per hour.

A = Sulfuric acid flow rate to the reactor/crystallizer in liters per minute averaged over the time period taken to conduct the run.

B = Acid density (a function of acid strength and temperature) in grams per cubic centimeter.

C = Percent acid strength in decimal form.

0.0808 = Physical constant for conversion of time, volume, and mass units.

(Rule 1200-03-16-.32, continued)

2. For caprolactam by-product ammonium sulfate plants the ammonium sulfate production rate shall be determined by using the following equation:

$$P = D * E * F * (6.0 \times 10^{-5})$$

where:

P = Production rate of caprolactam by-product ammonium sulfate in megagrams per hour.

D = Total combined feed stream flow rate to the ammonium sulfate crystallizer before the point where any recycle streams enter the stream in liters per minute averaged over the time period taken to conduct the test run.

E = Density of the process stream solution in grams per liter.

F = Percent mass of ammonium sulfate in the process solution in decimal form.

$(6.0 \times 10^{-5})$  = Physical constant for conversion of time and mass units.

- (e) For each run, the dryer emission rate shall be computed as follows:

$$R = E/P$$

where:

1. R is the dryer emission rate (kg/Mg);
2. E is the particulate emission rate (kg/h) from (c) above; and
3. P is the rate of ammonium sulfate production (Mg/h) from (d) above.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed January 27, 1983; effective February 28, 1983.

#### 1200-03-16-.33 RESERVED.

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-201-101, et seq. **Administrative History:** Original rule filed January 31, 1983; effective March 2, 1983. Amendment filed September 21, 1988; effective November 6, 1988. Amendment filed March 21, 2013; effective June 19, 2013.

#### 1200-03-16-.34 AUTOMOBILE AND LIGHT DUTY TRUCK SURFACE COATING OPERATIONS.

- (1) Applicability.
  - (a) The provisions of this rule apply to the following affected facilities in an automobile or light-duty truck assembly plant: each prime coat operation, each guide coat operation, and each topcoat operation.
  - (b) Exempted from the provisions of this rule are operations used to coat plastic body components or all-plastic automobile or light-duty truck bodies on separate coating lines. The attachment of plastic body parts to a metal body before the body is coated does not cause the metal body coating operation to be exempted.

(Rule 1200-03-16-.34, continued)

- (c) The provisions of this rule apply to any affected facility identified in subparagraph (a) of this paragraph that begins construction, reconstruction, or modification after November 6, 1988.
- (2) Definitions and Abbreviations
- (a) Definitions:
    - 1. "Applied coating solids" means the volume of dried or cured coating solids which is deposited and remains on the surface of the automobile or light-duty truck body.
    - 2. "Automobile" means a motor vehicle capable of carrying no more than 12 passengers. "Motor vehicle" for the purposes of this rule means every vehicle which is self propelled excluding motorized bicycles and every vehicle which is not propelled by electric power obtained from overhead trolley wires. The words "motor vehicle" shall not mean any mobile home or house trailer.
    - 3. "Automobile and light-duty truck body" means the exterior surface of an automobile or light-duty truck including hoods, fenders, cargo boxes, doors, and grill opening panels.
    - 4. "Bake oven" means a device that uses heat to dry or cure coatings.
    - 5. "Electrodeposition (EDP)" means a method of applying a prime coat by which the automobile or light-duty truck body is submerged in a tank filled with coating material and an electrical field is used to effect the deposition of the coating material on the body.
    - 6. "Electrostatic spray application" means a spray application method that uses an electrical potential to increase the transfer efficiency of the coating solids. Electrostatic spray application can be used for prime coat, guide coat, or topcoat operations.
    - 7. "Flash-off area" means the structure on automobile and light-duty truck assembly lines between the coating application system (dip tank or spray booth) and the bake oven.
    - 8. "Guide coat operation" means the guide coat spray booth, flash-off area and bake oven(s) which are used to apply and dry or cure a surface coating between the prime coat and topcoat operation on the components of automobile and light-duty truck bodies.
    - 9. "Light-duty truck" means any motor vehicle rated at 3,850 kilograms gross vehicle weight or less, designed mainly to transport property.
    - 10. "Plastic body" means an automobile or light-duty truck body constructed of synthetic organic material.
    - 11. "Plastic body component" means any component of an automobile or light-duty truck exterior surface constructed of synthetic organic material.
    - 12. "Prime coat operation" means the prime coat spray booth or dip tank, flash-off area, and bake oven(s) which are used to apply and dry or cure the initial coating on components of automobile or light-duty truck bodies.

(Rule 1200-03-16-.34, continued)

13. "Purge" or "line purge" means the coating material expelled from the spray system when clearing it.
14. "Solvent-borne" means a coating which contains five percent or less water by weight in its volatile fraction.
15. "Spray application" means a method of applying coatings by atomizing the coating material and directing the atomized material toward the part to be coated. Spray applications can be used for prime coat, guide coat, and topcoat operations.
16. "Spray booth" means a structure housing automatic or manual spray application equipment where prime coat, guide coat, or topcoat is applied to components of automobile or light-duty truck bodies.
17. "Surface coating operation" means any prime coat, guide coat, or topcoat operation on an automobile or light-duty truck surface coating line.
18. "Topcoat operation" means the topcoat spray booth, flash-off area, and bake oven(s) which are used to apply and dry or cure the final coating(s) on components of automobile and light-duty truck bodies.
19. "Transfer efficiency" means the ratio of the amount of coating solids transferred onto the surface of a part or product to the total amount of coating solids used.
20. "VOC content" means all volatile organic compounds that are in a coating expressed as kilograms of VOC per liter (pounds per gallon) of coating solids.
21. "Waterborne" or "water reducible" means a coating which contains more than five weight percent water in its volatile fraction.

(b) Abbreviations:

1. Caj = concentration of VOC (as carbon) in the effluent gas flowing through stack (j) leaving the control device (parts per million by volume).
2. Cbi = concentration of VOC (as carbon) in the effluent gas flowing through stack (i) entering the control device (parts per million by volume).
3. Cfk = concentration of VOC (as carbon) in the effluent gas flowing through exhaust stack (k) not entering the control device (parts per million by volume).
4. Dci = density of each coating (i) as received (kilograms per liter) (pounds per gallon).
5. Ddj = density of each type VOC dilution solvent (j) added to the coatings, as received (kilograms per liter or pounds per gallon).
6. Dr = density of VOC recovered from an affected facility (kilograms per liter or pounds per gallon).
7. E = VOC destruction efficiency of the control device.
8. F = fraction of total VOC which is emitted by an affected facility that enters the control device.

(Rule 1200-03-16-.34, continued)

9. G = volume weighted average mass of VOC per volume of applied solids (kilograms per liter or pounds per gallon).
10. Lci = volume of each coating (i) consumed, as received (liters or gallons).
11. Lcil = volume of each coating (i) consumed by each application method (l), as received (liters or gallons).
12. Ldj = volume of each type VOC dilution solvent (j) added to the coatings, as received (liters or gallons).
13. Lr = volume of VOC recovered from an affected facility (liters or gallons).
14. Ls = volume of solids in coatings consumed (liters or gallons).
15. Md = total mass of VOC in dilution solvent (kilograms or pounds).
16. Mo = total mass of VOC in coatings as received (kilograms or pounds).
17. Mr = total mass of VOC recovered from an affected facility (kilograms or pounds).
18. N = volume weighted average mass of VOC per volume of applied coating solids after the control device kilograms of VOC or pounds of VOC liter of applied solids(gallon of applied solids)
19. Qaj = volumetric flow rate of the effluent gas flowing through stack (j) leaving the control device (dry standard cubic meters (feet) per hour).
20. Qbi = volumetric flow rate of the effluent gas flowing through stack (i) entering the control device (dry standard cubic meters (feet) per hour).
21. Qfk = volumetric flow rate of the effluent gas flowing through exhaust stack (k) not entering the control device (dry standard cubic meters (feet) per hour).
22. T = overall transfer efficiency.
23. TI = transfer efficiency for application method (l).
24. Vsi = proportion of solids by volume in each coating (i) as received liter solids or gallons of solids liter coating gallons of coating, and
25. Woi = proportion of VOC by weight in each coating (i), as received kilograms VOC or pounds VOC kilograms coating pounds coating

## (3) Standards for volatile organic compounds.

On and after the date on which the initial performance test required by 1200-03-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any affected facility VOC emissions in excess of:

(Rule 1200-03-16-.34, continued)

- (a) 0.16 kilograms of VOC per liter (1.34 pounds of VOC per gallon) of applied coating solids of each prime coat operation.
  - (b) 1.40 kilograms of VOC per liter (11.69 pounds of VOC per gallon) of applied coating solids from each guide coat operation.
  - (c) 1.47 kilograms of VOC per liter (12.28 pounds of VOC per gallon) of applied coating solids from each topcoat operation.
- (4) Performance test and compliance provisions.
- (a) Subparagraphs 1200-03-16-.01(5)(d) and (f) do not apply to the performance test procedures required by this paragraph.
  - (b) The owner or operator of an affected facility shall conduct an initial performance test in accordance with 1200-03-16-.01(5)(a) and thereafter for each calendar month for each affected facility according to the procedures in this paragraph.
  - (c) The owner or operator shall use the following procedures for determining the monthly volume weighted average mass of VOC emitted per volume of applied coating solids.
    - 1. The owner or operator shall use the following procedures for each affected facility which does not use a capture system and a control device to comply with the applicable emission limit specified under paragraph (3) of this rule.
      - (i) Calculate the volume weighted average mass of VOC per volume of applied coating solids for each calendar month for each affected facility. The owner or operator shall determine the composition of the coatings by formulation data supplied by the manufacturer of the coating or from data determined by an analysis of each coating, as received, by Reference Method 24, as specified in 1200-03-16-.01(5)(g)24. The Technical Secretary may require the owner or operator who uses formulation data supplied by the manufacturer of the coating to determine data used in the calculation of the VOC content of coatings by Reference Method 24, as specified in 1200-03-16-.01(5)(g)24. or an equivalent or alternative method. The owner or operator shall determine from company records on a monthly basis the volume of coating consumed, as received, and the mass of solvent used for thinning purposes. The volume weighted average of the total mass of VOC per volume of coating solids used each calendar month will be determined by the following procedures.
        - (I) Calculate the mass of VOC used in each calendar month for each affected facility by the following equation where “n” is the total number of coatings used and “m” is the total number of VOC solvents used:
 
$$M_o + M_d = \sum_{i=1}^n L_{ci} D_{ci} W_{oi} + \sum_{j=1}^m L_{dj} D_{dj}$$

(SUM L<sub>dj</sub>D<sub>dj</sub> will be zero if no VOC solvent is added to the coatings, as received).
        - (II) Calculate the total volume of coating solids used in each calendar month for each affected facility by the following equation where “n” is the total number of coatings used:

(Rule 1200-03-16-.34, continued)

$$L_s = \sum_{i=1}^n L_{ci} v_{si}$$

- (III) Select the appropriate transfer efficiency (T) from the following tables for each surface coating operation:

| Application Method                          | Transfer efficiency |
|---|---------------------|
| Air Atomized Spray (waterborne coating).    | 0.39                |
| Air Atomized Spray (solvent-borne coating). | 0.50                |
| Manual Electrostatic Spray.                 | 0.75                |
| Automatic Electrostatic Spray.              | 0.95                |
| Electrodeposition.                          | 1.00                |

The values in the table above represent an overall system efficiency which includes a total capture of purge. If a spray system uses line purging after each vehicle and does not collect any of the purge material, the following table shall be used:

| Application Method                          | Transfer efficiency |
|---|---------------------|
| Air Atomized Spray (waterborne coating).    | 0.30                |
| Air Atomized Spray (solvent-borne coating). | 0.40                |
| Manual Electrostatic Spray.                 | 0.62                |
| Automatic Electrostatic Spray.              | 0.75                |

In lieu of using the values listed above for transfer efficiencies, any owner or operator may petition the Board for use of a different transfer efficiency based on scientific evidence that the proposed values are more correct than those listed above for their sources. Prior to any approval by the Board, a public hearing shall be held to allow input from the public. If the petition is granted, the approved values shall be included on any permit issued to the source and shall serve in lieu of those listed above.

- I. When more than one application method (l) is used on an individual surface coating operation, the owner or operator shall perform an analysis to determine an average transfer efficiency by the following equation where “n” is the total number of coatings used and “p” is the total number of application methods:

$$T = \frac{\sum_{i=1}^n T_l V_{si} L_{cil}}{\sum_{l=1}^p L_s}$$

- (IV) Calculate the volume solids weighted average mass of VOC per volume of applied coating solids (G) during each calendar month for each affected facility by the following procedures:

(Rule 1200-03-16-.34, continued)

- I. For prime coat operations, use the following procedure: G is equal to the sum of (Mo + Md) for 6 out of 7 most recent calendar months of normal operation divided by the respective sum of (LsT).
- II. For guide coat and topcoat operations, use the following equation:

$$G = \frac{Mo + Md}{LsT}$$

- (ii) If the volume weighted average mass of VOC per volume of applied coating solids (G), calculated on a calendar month basis, is less than or equal to the applicable emission limit specified in paragraph (3) of this rule, the affected facility is in compliance. Each monthly calculation is a performance test for the purpose of this rule.
2. The owner or operator shall use the following procedures for each affected facility which uses a capture system and a control device that destroys VOC (e.g., incinerator) to comply with the applicable emission limits specified under paragraph (3) of this rule.

- (i) Calculate the volume weighted average mass of VOC per volume of applied coating solids (G) during each calendar month for each affected facility as described under subpart (4)(c)1.(i) of this rule.
- (ii) Calculate the volume weighted average mass of VOC per volume of applied solids emitted after the control device, by the following equation:

$$N = G(1 - FE)$$

- (I) Determine the fraction of total VOC which is emitted by an affected facility that enters the control device by using the following equation where "n" is the total number of stacks entering the control device and "p" is the total number of stacks not connected to the control device:

$$F = \frac{\sum_{i=1}^n Q_{bi} C_{bi}}{\sum_{l=1}^n Q_{bi} C_{bi} + \sum_{l=1}^p Q_{fk} C_{fk}}$$

In lieu of using the method above, any owner or operator may petition the Board for use of a different method based on scientific evidence that the proposed method is more correct than that method above for their sources. Prior to any approval by the Board, a public hearing shall be held to allow input from the public. If the petition is granted, the approved method shall be included on any permit issued to the source and shall serve in lieu of the method above.

- I. In subsequent months, the owner or operator shall use the most recently determined capture fraction for the performance test.



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- (II) Determines the destruction efficiency of the control device using values of the volumetric flow rate of the gas streams and the VOC content (as carbon) of each of the gas streams in and out of the device by the following equation where “n” is the total number of stacks entering the control device and “m” is the total number of stacks leaving the control device:

$$E = \frac{\sum_{i=1}^n Q_{bi} C_{bi} - \sum_{j=1}^m Q_{aj} C_{aj}}{\sum_{i=1}^n Q_{bi} C_{bi}}$$

- I. In subsequent months, the owner or operator shall use the most recently determined VOC destruction efficiency for the performance test.
- (III) If an emission control device controls the emissions from more than one affected facility, the owner or operator shall measure the VOC concentration (C<sub>bi</sub>) in the effluent gas entering the control device (in parts per million by volume) and the volumetric flow rate (Q<sub>bi</sub>) of the effluent gas (in dry standard cubic meters per hour) entering the device through each stack. The destruction or removal efficiency determined using these data shall be applied to each affected facility served by the control device.
- (iii) If the volume weighted average mass of VOC per volume of applied solids emitted after the control device (N) calculated on a calendar month basis is less than or equal to the applicable emission limit specified in paragraph (3) of this rule, the affected facility is in compliance. Each monthly calculation is a performance test for the purposes of this rule.
3. The owner or operator shall use the following procedures for each affected facility which uses a capture system and a control device that recovers the VOC (e.g., carbon adsorber) to comply with the applicable emission limit specified under paragraph (3) of this rule.
- (i) Calculate the mass of VOC (M<sub>o</sub>+ M<sub>d</sub>) used during each calendar month for each affected facility as described under subpart (4)(c)1.(i) of this rule.
- (ii) Calculate the total volume of coating solids (L<sub>s</sub>) used in each calendar month for each affected facility as described under subpart (4)(c)1.(i) of this rule.
- (iii) Calculate the mass of VOC recovered (M<sub>r</sub>) each calendar month for each affected facility by the following equation: M<sub>r</sub> = L<sub>r</sub>D<sub>r</sub>
- (iv) Calculate the volume weighted average mass of VOC per volume of applied coating solids emitted after the control device during a calendar month by the following equation:

$$N = \frac{M_o + M_d - M_r}{L_s T}$$

(Rule 1200-03-16-.34, continued)

- (v) If the volume weighted average mass of VOC per volume of applied solids emitted after the control device (N) calculated on a calendar month basis is less than or equal to the applicable emission limit specified in paragraph (3) of this rule, the affected facility is in compliance. Each monthly calculation is a performance test for the purposes of this rule.

(5) Monitoring of emissions and operations.

The owner or operator of an affected facility which uses an incinerator to comply with the emission limits specified under paragraph (3) of this rule shall install, calibrate, maintain, and operate temperature measurement devices as prescribed below:

- (a) Where thermal incineration is used, a temperature measurement device shall be installed in the firebox. Where catalytic incineration is used, a temperature measurement device shall be installed in the gas stream immediately before and after the catalyst bed.
- (b) Each temperature measurement device shall be installed, calibrated, and maintained according to accepted practice and the manufacturer's specifications. The device shall have an accuracy of the greater of  $\pm 0.75$  percent of the temperature being measured expressed in degrees Celsius or  $\pm 2.5^{\circ}\text{C}$ .
- (c) Each temperature measurement device shall be equipped with a recording device so that a permanent record is produced.

(6) Reporting and recordkeeping requirements.

- (a) Each owner or operator of an affected facility shall include the data outlined in parts 1. and 2. of this subparagraph in the initial compliance report required by 1200-03-16-.01(5).
  - 1. The owner or operator shall report the volume weighted average mass of VOC per volume of applied coating solids for each affected facility.
  - 2. Where compliance is achieved through the use of incineration, the owner or operator shall include the following additional data in the control device initial performance test required by 1200-03-16-.01(5)(a) or subsequent performance tests at which destruction efficiency is determined: the combustion temperature (or the gas temperature upstream and downstream of the catalyst bed), the total mass of VOC per volume of applied coating solids before and after the incinerator, capture efficiency, the destruction efficiency of the incinerator used to attain compliance with the applicable emission limit specified in paragraph (3) of this rule and a description of the method used to establish the fraction of the VOC captured and sent to the control device.
- (b) Following the initial report, each owner or operator shall report the volume weighted average mass of VOC per volume of applied coating solids for each affected facility during each calendar month in which the affected facility is not in compliance with the applicable emission limit specified in paragraph (3) of this rule. This report shall be postmarked not later than ten days after the end of the calendar month that the affected facility is not in compliance. Where compliance is achieved through the use of a capture system and control device, the volume weighted average after the control device should be reported.
- (c) Where compliance with paragraph (3) of this rule is achieved through the use of incineration, the owner or operator shall continuously record the incinerator combustion

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temperature during coating operations for thermal incineration or the gas temperature upstream and downstream of the incinerator catalyst bed during coating operations for catalytic incineration. The owner or operator shall report quarterly as defined below.

1. For thermal incinerators, every three-hour period shall be reported during which the average temperature measured is more than 28°C less than the average temperature during the most recent control device performance test at which the destruction efficiency was determined as specified under paragraph (3) of this rule. Readings should be taken a minimum of one (1) every fifteen (15) minutes within the specified three-hour period.
  2. For catalytic incinerators, every three-hour period shall be reported during which the average temperature immediately before the catalyst bed, when the coating system is operational, is more than 28°C less than the average temperature immediately before the catalyst bed during the most recent control device performance test at which destruction efficiency was determined as specified under paragraph (4) of this rule. In addition, every three-hour period shall be reported each quarter during which the average temperature difference across the catalyst bed when the coating system is operational is less than 80 percent of the average temperature difference of the device during the most recent control device performance test at which destruction efficiency was determined as specified under paragraph (4) of this rule. Readings should be taken a minimum of one (1) every fifteen (15) minutes within the specified three-hour period.
  3. For thermal and catalytic incinerators, if no such periods occur, the owner or operator shall submit a negative report.
- (d) The owner or operator shall notify the Technical Secretary 30 days in advance of any test by Reference Method 25 as specified in 1200-03-16-.01(5)(g)25.
- (7) Reference methods and procedures.
- (a) The reference methods in 1200-03-16-.01(5)(g) shall be used to conduct performance tests.
1. Reference Method 24 as specified 1200-03-16-.01(5)(g)24. or an equivalent or an alternative method approved by the Technical Secretary shall be used for the determination of the data used in the calculation of the VOC content of the coatings used for each affected facility. Manufacturers' formulation data is approved by the Technical Secretary as an alternative method to Method 24. In the event of dispute, Reference Method 24 shall be the referee method.
  2. Reference Method 25 as specified in 1200-03-16-.01(5)(g)25. or an equivalent or alternative method approved by the Technical Secretary shall be used for the determination of the VOC concentration in the effluent gas entering and leaving the emission control device for each stack equipped with an emission control device and in the effluent gas leaving each stack not equipped with a control device.
  3. The following methods shall be used to determine the volumetric flow rate in the effluent gas in a stack:
    - (i) Method 1 as specified in 1200-03-16-.01(5)(g)1. for sample and velocity traverses.

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- (ii) Method 2 as specified in 1200-03-16-.01(5)(g)2. for velocity and volumetric flow rate.
  - (iii) Method 3 as specified in 1200-03-16-.01(5)(g)3. for gas analysis, and
  - (iv) Method 4 as specified in 1200-03-16-.01(5)(g)4. for stack gas moisture.
- (b) For reference Method 24, the coating sample must be a 1-liter sample taken in a 1-liter container.
- (c) For Reference Method 25, the sampling time for each of three runs must be at least one hour. The minimum sample volume must be 0.003 dscm except that shorter sampling times or smaller volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary. The Technical Secretary will approve the sampling of representative stacks on a case-by-case basis if the owner or operator can demonstrate to the satisfaction of the Technical Secretary that the testing of representative stacks would yield results comparable to those that would be obtained by testing all stacks.
- (8) Modifications.

The following physical or operational changes are not by themselves, considered modifications of existing facilities:

- (a) Changes as a result of model year changeovers or switches to larger cars.
- (b) Changes in the application of the coatings to increase coating film thickness.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed September 21, 1988; effective November 6, 1988.

#### **1200-03-16-.35 ASPHALT PROCESSING AND ASPHALT ROOFING MANUFACTURE.**

- (1) Applicability and designation of affected facilities.

The affected facilities to which this rule applies are each saturator and each mineral handling and storage facility at asphalt roofing plants and each asphalt storage tank and each blowing still at asphalt processing plants, petroleum refineries, and asphalt roofing plants that commence construction or modification after November 6, 1988.

- (2) Definitions.

- (a) "Afterburner (A/B)" means an exhaust gas incinerator used to control emissions of particulate matter.
- (b) "Asphalt processing" means the storage and blowing of asphalt.
- (c) "Asphalt processing plant" means a plant which blows asphalt for use in the manufacture of asphalt products.
- (d) "Asphalt roofing plant" means a plant which produces asphalt roofing products (shingles, roll roofing, siding, or saturated felt).
- (e) "Asphalt storage tank" means any tank used to store asphalt at asphalt roofing plants, petroleum refineries, and asphalt processing plants. Storage tanks containing cutback asphalt (asphalts diluted with solvents to reduce viscosity for low temperature

(Rule 1200-03-16-.35, continued)

applications) and emulsified asphalts (asphalts dispersed in water with an emulsifying agent) are not subject to this regulation.

- (f) “Blowing still” means the equipment in which air is blown through asphalt flux to change the softening point and penetration rate.
  - (g) “Catalyst” means a substance which when added to asphalt flux in a blowing still alters the penetrating-softening point relationship or increases the rate of oxidation of the flux.
  - (h) “Coating blow” means the process in which air is blown through hot asphalt flux to produce coating asphalt. The coating blow starts when the air is turned on and stops when the air is turned off.
  - (i) “Electrostatic precipitator (ESP)” means an air pollution control device in which solid or liquid particulates in a gas stream are charged as they pass through an electric field and precipitated on a collection surface.
  - (j) “High velocity air filter (HVAF)” means an air pollution control filtration device for the removal of sticky, oily, or liquid aerosol particulate matter from exhaust gas streams.
  - (k) “Mineral handling and storage facility” means the areas in asphalt roofing plants in which minerals are unloaded from a carrier, the conveyor transfer points between the carrier and the storage silos, and the storage silos.
  - (l) “Saturator” means the equipment in which asphalt is applied to felt to make asphalt roofing products. The term saturator includes the saturator, wet looper, and coater.
- (3) Standards for particulate matter.
- (a) On and after the date on which 1200-03-16-.01(5)(b) requires a performance test to be completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any saturator:
    - 1. Particulate matter in excess of:
      - (i) 0.04 kilograms of particulate per megagram (0.04 lb/1000 lb) of asphalt shingle or mineral-surfaced roll roofing produced; or
      - (ii) 0.4 kilograms per megagram (0.4 lb/1000 lb) of saturated felt or smooth-surfaced roll roofing produced.
    - 2. Exhaust gases with opacity greater than 20 percent; and
    - 3. Any visible emissions from a saturator capture system for more than 20 percent of any period of consecutive valid observations totaling 60 minutes. Saturators that were constructed before November 6, 1988, and that have not been reconstructed since that date and that become subject to these standards through modification are exempt from the visible emissions standards. Saturators that have been newly constructed or reconstructed since November 6, 1988 are subject to the visible emissions standard.
  - (b) On and after the date on which 1200-03-16-.01(5)(b) requires a performance test to be completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any blowing still:

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1. Particulate matter in excess of 0.67 kilograms of particulate per megagram (0.67 lb/1000 lb) of asphalt charged to the still when a catalyst is added to the still; and
  2. Particulate matter in excess of 0.71 kilograms of particulate per megagram (0.71 lb/1000 lb) of asphalt charged to the still when a catalyst is added to the still and when No. 6 fuel oil is fired in the afterburner; and
  3. Particulate matter in excess of 0.60 kilograms of particulate per megagram (0.6 lb/1000 lb) of asphalt charged to the still during blowing without a catalyst; and
  4. Particulate matter in excess of 0.64 kilograms of particulate per megagram (0.64 lb/1000 lb) of asphalt charged to the still during blowing without a catalyst and when No. 6 fuel oil is fired in the afterburner; and
  5. Exhaust gases with an opacity greater than 0 percent unless an opacity limit for the blowing still when fuel oil is used to fire the afterburner has been established by the Technical Secretary in accordance with the procedures in subparagraph (5)(k) of this rule.
- (c) Within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any asphalt storage tank exhaust gases with opacity greater than 0 percent, except for one consecutive 15-minute period in any 24-hour period when the transfer lines are being blown for clearing. The control device shall not be bypassed during this 15-minute period. If, however, the emissions from any asphalt storage tank(s) are ducted to a control device for a saturator, the combined emissions shall meet the emission limit contained in subparagraph (a) of this paragraph during the time the saturator control device is operating. At any other time the asphalt storage tank(s) must meet the opacity limit specified above for storage tanks.
- (d) Within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any mineral handling and storage facility emissions with opacity greater than 1 percent.
- (4) Monitoring of operations.
- (a) The owner or operator subject to the provisions of this rule, and using either an electrostatic precipitator or a high velocity air filter to meet the emission limit in part (3)(a)1. and/or (3)(b)1. of this rule shall continuously monitor and record the temperature of the gas at the inlet of the control device. The temperature monitoring instrument shall have an accuracy of  $\pm 15^{\circ}\text{C}$  ( $\pm 27^{\circ}\text{F}$ ) over its range.
  - (b) The owner of operator subject to the provisions of this rule and using an afterburner to meet the emission limit in (3)(a)1. and/or (3)(b)1. of this rule shall continuously monitor and record the temperature in the combustion zone of the afterburner. The monitoring instrument shall have an accuracy of  $\pm 10^{\circ}\text{C}$  ( $\pm 18^{\circ}\text{F}$ ) over its range.
  - (c) An owner or operator subject to the provisions of this rule and using a control device not mentioned in subparagraphs (a) and (b) of this paragraph shall provide to the Technical Secretary information describing the operation of the control device and the process parameter(s) which would indicate proper operation and maintenance of the device. The Technical Secretary may require continuous monitoring and will determine the process parameters to be monitored.

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- (d) The industry is exempted from the quarterly reports required under 1200-03-16-.01(7)(c). The owner/operator is required to record and report the operating temperature of the control device during the performance test and, as required by 1200-03-16.01(7)(d), maintain a file of the temperature monitoring results for at least two years.

(5) Test methods and procedures.

- (a) Reference methods in 1200-03-16-.01(5)(g), except as provided in 1200-03-16-.01(5)(b), shall be used to determine compliance with the standards prescribed in paragraph (3) of this rule as follows:

1. Method 5A as specified in 1200-03-16-.01(5)(g)5.(ii) for the concentration of particulate matter.
2. Method 1 as specified in 1200-03-16-.01(5)(g)1. for sample and velocity traverses;
3. Method 2 as specified in 1200-03-16-.01(5)(g)2. for velocity and volumetric flow rate;
4. Method 3 as specified in 1200-03-16-.01(5)(g)3. for gas analysis; and
5. Method 9 as specified in 1200-03-16.01(5)(g)9. for opacity.

- (b) The Technical Secretary will determine compliance with the standards prescribed in part (3)(a)3. of this rule by using Method 22, as specified in 1200-03-16-.01(5)(g)22., modified so that readings are recorded every 15 seconds for a period of consecutive observations during representative conditions (in accordance with 1200-03-16-.01(5)(c)) totaling 60 minutes. A performance test shall consist of one run.

- (c) For Method 5A as specified in 1200-03-16-.01(5)(g)5.(ii), the sampling time for each run on a saturator shall be at least 120 minutes, and the sampling volume shall be at least 3 dscm. Method 5A shall be used to measure the emissions from the saturator while 106.6-kg (235-lb) asphalt shingle is being produced if the final product is shingle or mineral-surfaced roll roofing or while 6.8-kg (15-lb) saturated felt is being produced if the final product is saturated felt or smooth-surfaced roll roofing. If the saturator produces only fiberglass shingles, Method 5A shall be used to measure saturator emissions while a nominal 100-kg (220-lb) shingle is being produced. Method 5A shall be used to measure emissions from the blowing still for at least 90 minutes or for the duration of the coating blow, whichever is greater. If the blowing still is not used to blow coating asphalt, Method 5A shall be used to measure emissions from the blowing still for at least 90 minutes or for the duration of the blow, whichever is greater.

- (d) The particulate emission rate, E, shall be computed as follows:

$$E = Q_{sd} \times C_s$$

Where:

1. E is the particulate emission rate, Kg/hr (lb/hr);
2.  $Q_{sd}$  is the average volumetric flow rate, dscm/hr (dscf/hr), as determined by Method 2; and

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3. Cs is the average concentration, Kg/dscm (lb/dscf), of particulate matter as determined by Method 5A.
- (e) The asphalt roofing production rate, P, Mg/hr (TPH), shall be determined by dividing the weight of roofing produced on the shingle or saturated felt process lines during the performance test by the number of hours required to conduct the performance test. The roofing production shall be obtained by direct measurement.
- (f) The production rate of asphalt from the blowing still, Ps, Mg/hr (TPH), shall be determined by dividing the weight of asphalt charged to the still by the time required for the performance test during an asphalt blow. The weight of asphalt charged to the still shall be determined at the starting temperature of the blow. The weight of asphalt shall be converted from the volume measurement as follows:

$$M = \frac{Vd}{c}$$

M = weight of asphalt in megagrams (English Units: tons)

V = volume of asphalt in cubic meters (English Units: ft<sup>3</sup>)

d = density of asphalt in kilograms per cubic meter (English Units: lb/ft<sup>3</sup>)

c = conversion factor 1,000 kilograms per megagram (English Units: 2,000 lb/ton)

The density of asphalt at any measured temperature is calculated by using the following equation:

$$d = 1056.1 - (0.6176 \times ^\circ\text{C}) \text{ (Metric Units) or}$$

$$d = 65.92 - (0.0214 \times ^\circ\text{F}) \text{ (English Units)}$$

The method of measurement shall have an accuracy of +10 percent.

- (g) The saturator emission rate shall be computed as follows:  $R = E/P$ .
- (h) The blowing still emission rate shall be computed as follows:  $R_s = E/P_s$  where:
  1. R is the saturator emission rate, Kg/Mg (lb/ton);
  2.  $R_s$  is blowing still emission rate, Kg/Mg (lb/ton);
  3. E is the particulate emission rate, Kg/hr (lb/hr), from subparagraph (c) of this paragraph.
  4. P is the asphalt roofing production rate, Mg/hr (TPH); and
  5.  $P_s$  is the asphalt charging rate, Mg/hr (TPH).
- (i) Temperature shall be measured and continuously recorded with the monitor required under subparagraph (4)(a) or (b) of this rule during the measurement of particulate by Method 5A and reported to the Technical Secretary with the performance test results.
- (j) If at a later date the owner or operator believes the emission limits in subparagraphs (3)(a) and (b) of this rule are being met even though the temperature measured in



(Rule 1200-03-16-.35, continued)

accordance with subparagraph (4) of this rule is exceeding that measured during the performance test, he may submit a written request to the Technical Secretary to repeat the performance test and procedure outlined in subparagraph (h) of this paragraph.

- (k) If fuel oil is to be used to fire an afterburner used to control a blowing still, the owner or operator may petition the Technical Secretary in accordance with 1200-03-16-.01(6) to establish an opacity standard for the blowing still that will be the opacity standard when fuel oil is used to fire the afterburner. To obtain this opacity standard, the owner or operator must request the Technical Secretary to determine opacity during an initial, or subsequent, performance test when fuel oil is used to fire the afterburner. Upon receipt of the results of the performance test, the Technical Secretary will make a finding concerning compliance with the mass standard for the blowing still. If the Technical Secretary finds that the facility was in compliance with the mass standard during the performance test but failed to meet the zero opacity standard, the Technical Secretary will establish as a condition on the operating permit of the source an opacity standard for the blowing still that will be the opacity standard when fuel oil is used to fire the afterburner. When the afterburner is fired with natural gas, the zero percent opacity remains the applicable opacity standard.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed September 21, 1988; effective November 6, 1988.

#### **1200-03-16-.36 INDUSTRIAL SURFACE COATING: LARGE APPLIANCES.**

- (1) Applicability.
- (a) The provisions of this rule apply to each surface coating operation in a large appliance surface coating line.
- (b) The provisions of this rule apply to each affected facility identified in subparagraph (a) of this paragraph that commences construction, modification, or reconstruction after November 6, 1988.
- (2) Definitions and Symbols.
- (a) Definitions
1. "Applied coating solids" means the coating solids that adhere to the surface of the large appliance part being coated.
  2. "Large appliance part" means any organic surface-coated metal lid, door, casing, panel, or other interior or exterior metal part or accessory that is assembled to form a large appliance product. Parts subject to in-use temperatures in excess of 250°F are not included in this definition.
  3. "Large appliance product" means any organic surface-coated metal range, oven, microwave oven, refrigerator, freezer, washer, dryer, dishwasher, water heater, or trash compactor manufactured for household, commercial, or recreational use.
  4. "Large appliance surface coating line" means that portion of a large appliance assembly plant engaged in the application and curing of organic surface coatings on large appliance parts or products.
  5. "Coating application station" means that portion of the large appliance surface coating operation where a prime coat or a top coat is applied to large appliance parts or products (e.g., dip tank, spray booth, or flow coating unit).

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6. "Curing oven" means a device that uses heat to dry or cure the coating(s) applied to large appliance parts or products.
7. "Electrodeposition" (EDP) means a method of coating application in which the large appliance part or product is submerged in a tank filled with coating material suspended in water and an electrical potential is used to enhance deposition of the material on the part or product.
8. "Flashoff area" means the portion of a surface coating line between the coating application station and the curing oven.
9. "Organic coating" means any coating used in a surface coating operation, including dilution solvents, from which VOC emissions occur during the application or the curing process. For the purpose of this regulation, powder coatings are not included in this definition.
10. "Powder coating" means any surface coating that is applied as a dry powder and is fused into a continuous coating film through the use of heat.
11. "Spray booth" means the structure housing automatic or manual spray application equipment where a coating is applied to large appliance parts or products.
12. "Surface coating operation" means the system on a large appliance surface coating line used to apply and dry or cure an organic coating on the surface of large appliance parts or products. The surface coating operation may be a prime coat or a topcoat operation and includes the coating application station(s), flashoff area, and curing oven.
13. "Transfer efficiency" means the ratio of the amount of coating solids deposited onto the surface of a large appliance part or product to the total amount of coating solids used.
14. "VOC content" means the proportion of a coating that is volatile organic compounds (VOC's), expressed as kilograms of VOC's per liter of coating solids.
15. "VOC emissions" means the mass of volatile organic compounds (VOC's), expressed as kilograms of VOC's per liter of applied coating solids, emitted from a surface coating operation.

(b) Symbols

- Ca = the concentration of VOC's in a gas stream leaving a control device and entering the atmosphere (parts per million by volume, as carbon).
- Cb = the concentration of VOC's in a gas stream entering a control device (parts per million by volume, as carbon).
- Cf = the concentration of VOC's in a gas stream emitted directly to the atmosphere (parts per million by volume, as carbon).
- Dc = density of coating (or input stream), as received (kilograms per liter).
- Dd = density of a VOC-solvent added to coatings (kilograms per liter).

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- Dr = density of a VOC-solvent recovered by an emission control device (kilograms per liter).
- E = the VOC destruction efficiency of a control device (fraction).
- F = the proportion of total VOC's emitted by an affected facility that enters a control device (fraction).
- G = the volume-weighted average mass of VOC's in coatings consumed in a calendar month per unit volume of applied coating solids (kilograms per liter).
- Lc = the volume of coating consumed, as received (liters).
- Ld = the volume of VOC-solvent added to coatings (liters).
- Lr = the volume of VOC-solvent recovered by an emission control device (liters).
- Ls = the volume of coating solids consumed (liters).
- Md = the mass of VOC-solvent added to coatings (kilograms).
- Mo = the mass of VOC's in coatings consumed, as received (kilograms).
- Mr = the mass of VOC's recovered by an emission control device (kilograms).
- N = the volume-weighted average mass of VOC's emitted to the atmosphere per unit volume of applied coating solids (kilograms per liter).
- Qa = the volumetric flow rate of a gas stream leaving a control device and entering the atmosphere (dry standard cubic meters per hour).
- Qb = the volumetric flow rate of a gas stream entering a control device (dry standard cubic meters per hour).
- Qf = the volumetric flow rate of a gas stream emitted directly to the atmosphere (dry standard cubic meters per hour).
- R = the overall VOC emission reduction achieved for an affected facility (fraction).
- T = the transfer efficiency (fraction).
- Vs = the proportion of solids in a coating (or input stream), as received (fraction by volume).
- Wo = the proportion of VOC's in a coating (or input stream), as received (fraction by weight).

(3) Standard for volatile organic compounds.

On or after the date on which the performance test required by 1200-03-16-.01(5) is completed, no owner or operator of an affected facility subject to the provisions of this rule shall discharge or cause the discharge of VOC emissions that exceed 0.90 kilogram of VOC's per liter of applied coating solids from any surface coating operation on a large appliance surface coating line.

(4) Performance test and compliance provisions.

(Rule 1200-03-16-.36, continued)

- (a) Subparagraphs 1200-03-16-.01(5)(d) and (f) do not apply to the performance test procedures required by this rule.
- (b) The owner or operator of an affected facility shall conduct an initial performance test as required under 1200-03-16-.01(5)(a) and thereafter a performance test each calendar month for each affected facility according to the procedures in this subparagraph.

1. An owner or operator shall use the following procedures for any affected facility that does not use a capture system and control device to comply with the emissions limit specified under paragraph (3) of this rule. The owner or operator shall determine the composition of the coatings by formulation data supplied by the coating manufacturer or by analysis of each coating, as received, using Reference Method 24 as specified in rule 1200-03-16-.01(5)(g). The Technical Secretary may require the owner or operator who uses formulation data supplied by the coating manufacturer to determine the VOC content of coatings using Reference Method 24. The owner or operator shall determine the volume of coating and the mass of VOC-solvent used for thinning purposes from company records on a monthly basis. If a common coating distribution system serves more than one affected facility or serves both affected and existing facilities, the owner or operator shall estimate the volume of coatings used at each facility, by using the average dry weight of coating and the surface area coated by each affected and existing facility or by other procedures acceptable to the Technical Secretary.

- (i) Except as provided in sub-part (b)1.(iv) of this paragraph, the weighted average of the total mass of VOC's consumed per unit volume of coating solids applied each calendar month will be determined as follows:

- (I) Calculate the mass of VOC's consumed ( $M_o + M_d$ ) during the calendar month for each affected facility by the following equation:

$$M_o + M_d = \sum_{i=1}^n L_{ci} D_{ci} W_{oi} + \sum_{j=1}^m L_{dj} D_{dj} \quad \text{Equation (1)}$$

(Sum  $L_{dj} D_{dj}$  will be 0 if no VOC-solvent is added to the coatings, as received)

where

$n$  is the number of different coatings used during the month, and

$m$  is the the number of different VOC-solvents added to coatings during the calendar month.

- (II) Calculate the total volume of coatings solids used ( $L_s$ ) in the calendar month for each affected facility by the following equation:

$$L_s = \sum_{i=1}^n L_{ci} V_{si} \quad \text{Equation (2)}$$

where

$n$  is the number of different coatings used during the calendar month.

(Rule 1200-03-16-.36, continued)

- (III) Select the appropriate transfer efficiency from Table 1. If the owner or operator can demonstrate to the satisfaction of the Technical Secretary that transfer efficiencies other than those shown are appropriate, the Technical Secretary will approve their use on a case-by-case basis. Transfer efficiencies for application methods not listed shall be determined by the Technical Secretary on a case-by-case basis. An owner or operator must submit sufficient data for the Technical Secretary to judge the accuracy of the transfer efficiency claims.

**TABLE 1. - TRANSFER EFFICIENCIES**

| Application Method                          | Transfer efficiency (Tk) |
|---|--------------------------|
| Air-atomized spray                          | 0.40                     |
| Airless spray                               | 0.45                     |
| Manual electrostatic spray                  | 0.60                     |
| Flow coat                                   | 0.85                     |
| Dip coat                                    | 0.85                     |
| Nonrotational automatic electrostatic spray | 0.85                     |
| Rotating head automatic electrostatic spray | 0.90                     |
| Electrodeposition                           | 0.95                     |

Where more than one application method is used within a single surface coating operation, the owner or operator shall determine the composition and volume of each coating applied by each method through a means acceptable to the Technical Secretary and compute the weighted average transfer efficiency by the following equation:

$$T = \frac{\sum_{i=1}^n L_{cik} V_{sik} T_k}{\sum_{k=1}^p L_s} \quad \text{Equation (3)}$$

where

n is the number of coatings (or input streams) used, and

m is the number of application methods used.

- (IV) Calculate the volume-weighted average mass of VOC's consumed per unit volume of coating solids applied (G) during the calendar month for each affected facility by the following equation:

$$G = \frac{M_o + M_d}{L_s T} \quad \text{Equation (4)}$$

(Rule 1200-03-16-.36, continued)

- (ii) Calculate the volume-weighted average of VOC emissions to the atmosphere (N) during the calendar month for each affected facility by the following equation:

$$N = G \quad \text{Equation (5)}$$

- (iii) Where the volume-weighted average mass of VOC's discharged to the atmosphere per unit volume of coating solids applied (N) is equal to or less than 0.90 kilogram per liter, the affected facility is in compliance.
- (iv) If each individual coating used by an effected facility has a VOC content, as received, which when divided by the lowest transfer efficiency at which the coating is applied, results in a value equal to or less than 0.90 kilogram per liter, the affected facility is in compliance, provided no VOC's are added to the coating during distribution or application.
2. An owner or operator shall use the following procedures for any affected facility that uses a capture system and a control device that destroys VOC's (e.g., incinerator) to comply with the emission limit specified under paragraph (3) of this rule.

- (i) Determine the overall reduction efficiency (R) for the capture system and control device. For the initial performance test the overall reduction efficiency (R) shall be determined as prescribed in (I), (II), and (III) below. In subsequent months, the owner or operator may use the most recently determined overall reduction efficiency (R) for the performance test, providing control device and capture system operating conditions have not changed. The procedures in (I), (II), and (III) below, shall be repeated when directed by the Technical Secretary or when the owner or operator elects to operate the control device or capture system at conditions different from the initial performance test.
- (I) Determine the fraction (F) of total VOC's emitted by an affected facility that enters the control device using the following equation:

$$F = \frac{\sum_{i=1}^n C_{bi} Q_{bi}}{\sum_{i=1}^n C_{bi} Q_{bi} + \sum_{k=1}^p C_{fk} Q_{fk}} \quad \text{Equation (6)}$$

Where

n is the number of gas streams entering the control device  
 p is the number of gas streams emitted directly to the atmosphere.

- (II) Determine the destruction efficiency of the control device (E) using values of the volumetric flow rate of each of the gas streams and the VOC content (as carbon) of each of the gas streams in and out of the device by the following equation:

(Rule 1200-03-16-.36, continued)

$$E = \frac{\sum_{i=1}^n Q_{bi} C_{bi} - \sum_{j=1}^m Q_{aj} C_{aj}}{\sum_{i=1}^n Q_{bi} C_{bi}} \quad \text{Equation (7)}$$

Where

n is the number of gas streams entering the control device, and  
m is the number of gas streams leaving the control device and entering the atmosphere.

(III) Determine overall reduction efficiency (R) using the following equation:

$$R = EF. \quad \text{Equation (8)}$$

- (ii) Calculate the volume-weighted average for the total mass of VOC's per unit volume of applied coating solids (G) during each calendar month for each affected facility using equations (1), (2), (3) if applicable, and (4).
- (iii) Calculate the volume-weighted average of VOC emissions to the atmosphere (N) during each calendar month by the following equation:

$$N = G \quad (1-R) \quad \text{Equation (9)}$$

- (iv) If the volume-weighted average mass of VOC's emitted to the atmosphere for each calendar month (N) is equal to or less than 0.90 kilogram per liter of applied coating solids, the affected facility is in compliance.

3. An owner or operator shall use the following procedure for any affected facility that uses a control device for VOC recovery (e.g., carbon adsorber) to comply with the applicable emission limit specified under paragraph (3) of this rule.

- (i) Calculate the total mass of VOC's consumed ( $M_o + M_d$ ) and the volume-weighted average of the total mass of VOC's per unit volume of applied coating solids (G) during each calendar month for each affected facility using equations (1), (2), (3) if applicable, and (4).
- (ii) Calculate the total mass of VOC's recovered ( $M_r$ ) during each calendar month using the following equation:

$$M_r = L_r D_r \quad \text{Equation (10)}$$

- (iii) Calculate overall reduction efficiency of the control device (R) for each calendar month for each affected facility using the following equation:

$$R = \frac{M_r}{M_o + M_d} \quad \text{Equation (11)}$$

- (iv) Calculate the volume-weighted average mass of VOC's emitted to the atmosphere (N) for each calendar month for each affected facility using equation (9).

(Rule 1200-03-16-.36, continued)

- (v) If the volume-weighted average mass of VOC's emitted to the atmosphere for each calendar month (N) is equal to or less than 0.90 kilogram per liter of applied coating solids, the affected facility is in compliance. Each monthly calculation is considered a performance test.
- (5) Monitoring of emissions and operations.
- (a) The owner or operator of an affected facility that uses a capture system and an incinerator to comply with the emission limits specified under paragraph (3) of this rule shall install, calibrate, maintain, and operate temperature measurement devices as prescribed below:
    - 1. Where thermal incineration is used, a temperature measurement device shall be installed in the firebox. Where catalytic incineration is used, a temperature measurement device shall be installed in the gas stream immediately before and after the catalyst bed.
    - 2. Each temperature measurement device shall be installed, calibrated, and maintained according to the manufacturer's specifications. The device shall have an accuracy of the greater of 0.75 percent of the temperature being measured expressed in degrees Celsius or  $\pm 2.5^{\circ}\text{C}$ .
    - 3. Each temperature measurement device shall be equipped with a recording device so that a permanent continuous record is produced.
- (6) Reporting and recordkeeping requirements.
- (a) The reporting requirements of 1200-03-16-.01(5)(a) apply only to the initial performance test. Each owner or operator subject to the provisions of this rule shall include the following data in the report of the initial performance test required under 1200-03-16-.01(5)(a):
    - 1. Except as provided in part (a)2. of this paragraph, the volume-weighted average mass of VOC's emitted to the atmosphere per volume of applied coating solids (N) for a period of 1 calendar month from each affected facility.
    - 2. For each affected facility where compliance is determined under the provisions of sub-part (4)(b)1.(iv) of this rule, a list of the coatings used during a period of 1 calendar month, the VOC content of each coating calculated from data determined using Reference Method 24 (as specified in 1200-03-16-.01(5)(g)), or supplied by the coating manufacturer, and the minimum transfer efficiency of any coating application equipment used during the month.
    - 3. For each affected facility where compliance is achieved through use of an incineration system, the following additional information will be reported:
      - (i) The proportion of total VOC's emitted that enters the control device (F),
      - (ii) The VOC reduction efficiency of the control device (E),
      - (iii) The average combustion temperature (or the average temperature upstream and downstream of the catalyst bed), and
      - (iv) A description of the method used to establish the amount of VOC's captured and sent to the incinerator.



(Rule 1200-03-16-.36, continued)

4. For each affected facility where compliance is achieved through use of a solvent recovery system, the following additional information will be reported:
    - (i) The volume of VOC-solvent recovered (Lr), and
    - (ii) The overall VOC emission reduction achieved (R).
  - (b) Following the initial performance test, the owner or operator of an affected facility shall identify and record:
    1. Each instance in which the volume-weighted average of the total mass of VOC's emitted to the atmosphere per volume of applied coating solids (N) is greater than the limit specified under paragraph (3) of this rule.
    2. Where compliance with paragraph (3) of this rule is achieved through use of thermal incineration, each 3-hour period of coating operation during which the average temperature of the device was more than 28°C below the average temperature of the device during the most recent performance test at which destruction efficiency was determined as specified under paragraph (4) of this rule.
    3. Where compliance with paragraph (3) of this rule is achieved through use of catalytic incineration, each 3-hour period of coating operation during which the average temperature recorded immediately before the catalyst bed is more than 280C below the average temperature at the same location during the most recent performance test at which destruction efficiency was determined as specified under paragraph (4) of this rule. Additionally, all 3-hour periods of coating operations during which the average temperature difference across the catalyst bed is less than 80 percent of the average temperature difference across the catalyst bed during the most recent performance test at which destruction efficiency was determined as specified under paragraph (4) of this rule will be recorded.
  - (c) Each owner or operator subject to the provisions of this rule shall maintain at the source, for a period of at least 2 years, records of all data and calculations used to determine VOC emissions from each affected facility. Where compliance is achieved through the use of thermal incineration, each owner or operator shall maintain at the source daily records of the incinerator combustion chamber temperature. If catalytic incineration is used, the owner or operator shall maintain at the source daily records of the gas temperature, both upstream and downstream of the incinerator catalyst bed. Where compliance is achieved through the use of a solvent recovery system, the owner or operator shall maintain at the source daily records of the amount of solvent recovered by the system for each affected facility.
- (7) Test methods and procedures.
- (a) The reference methods in 1200-03-16-.01(5)(g), except as provided under 1200-03-16-.01(5)(b), shall be used to determine compliance with paragraph (3) of this rule as follows:
    1. Method 24 or formulation data supplied by the coating manufacturer to determine the VOC content of a coating. In the event of dispute, Reference Method 24 shall be the reference method. For determining compliance only, results of Method 24 analyses of waterborne coatings shall be adjusted as described in Subsection

(Rule 1200-03-16-.36, continued)

- 4.4 of Method 24. Procedures to determine VOC emissions are provided in paragraph (4) of this rule.
  2. Method 25 for the measurement of the VOC concentration in the gas stream vent.
  3. Method 1 for sample and velocity traverses.
  4. Method 2 for velocity and volumetric flow rate.
  5. Method 3 for gas analysis.
  6. Method 4 for stack gas moisture.
- (b) For Method 24, the coating sample must be a 1-liter sample taken into a 1-liter container at a point where the sample will be representative of the coating material.
- (c) For Method 25, the sample time for each of three runs is to be at least 60 minutes and the minimum sample volume is to be at least 0.003 dscm except that shorter sampling times or smaller volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.
- (d) The Technical Secretary will approve sampling of representative stacks on a case-by-case basis if the owner or operator can demonstrate to the satisfaction of the Technical Secretary that the testing of representative stacks would yield results comparable to those that would be obtained by testing all stacks.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed September 21, 1988; effective November 6, 1988.

#### 1200-03-16-.37 SURFACE COATING OF METAL FURNITURE.

- (1) Applicability.
  - (a) The affected facility to which the provisions of this rule apply is each metal furniture surface coating operation in which organic coatings are applied.
  - (b) This rule applies to each affected facility identified in subparagraph (a) of this paragraph on which construction, modification, or reconstruction is commenced after November 6, 1988.
- (2) Definitions and symbols.
  - (a) Definitions
    1. "Bake oven" means a device which uses heat to dry or cure coatings.
    2. "Dip coating" means a method of applying coatings in which the part is submerged in a tank filled with the coatings.
    3. "Electrodeposition (EDP)" means a method of applying coatings in which the part is submerged in a tank filled with the coatings and in which an electrical potential is used to enhance deposition of the coatings on the part.
    4. "Electrostatic spray application" means a spray application method that uses an electrical potential to increase the transfer efficiency of the coatings.

(Rule 1200-03-16-.37, continued)

5. "Flash-off area" means the portion of a surface coating operation between the coating application area and bake oven.
6. "Flow coating" means a method of applying coatings in which the part is carried through a chamber containing numerous nozzles which direct unatomized streams of coatings from many different angles onto the surface of the part.
7. "Organic coating" means any coating used in a surface coating operation, including dilution solvents, from which volatile organic compound emissions occur during the application or the curing process. For the purpose of this rule, powder coatings are not included in this definition.
8. "Powder coating" means any surface coating which is applied as a dry powder and is fused into a continuous coating film through the use of heat.
9. "Spray application" means a method of applying coatings by atomizing and directing the atomized spray toward the part to be coated.
10. "Surface coating operation" means the system on a metal furniture surface coating line used to apply and dry or cure an organic coating on the surface of the metal furniture part or product. The surface coating operation may be a prime coat or a top coat operation and includes the coating application station(s), flash-off area, and curing oven.
11. "Transfer efficiency" means the ratio of the amount of coating solids deposited onto the surface of a part or product to the total amount of coating solids used.
12. "VOC content" means the proportion of a coating that is volatile organic compounds (VOC's), expressed as kilograms of VOC's per liter of coating solids.
13. "VOC emissions" means the mass of volatile organic compounds (VOC's), expressed as kilograms of VOC's per liter of applied coating solids, emitted from a metal furniture surface coating operation.

(b) Symbols

- Ca = the VOC concentration in each gas stream leaving the control device and entering the atmosphere (parts per million by volume, as carbon).
- Cb = the VOC concentration in each gas stream entering the control device (parts per million by volume, as carbon).
- Cf = the VOC concentration in each gas stream emitted directly to the atmosphere (parts per million by volume, as carbon).
- Dc = density of each coating, as received (kilograms per liter).
- Dd = density of each diluent VOC solvent (kilograms per liter).
- Dr = density of VOC solvent recovered by an emission control device (kilograms per liter).
- E = VOC destruction efficiency of the control device (fraction).

(Rule 1200-03-16-.37, continued)

- F = the proportion of total VOC's emitted by an affected facility that enters the control device (fraction).
- G = the volume-weighted average mass of VOC's in coatings consumed in a calendar month per unit volume of coating solids applied (kilograms per liter).
- Lc = the volume of each coating consumed, as received (liters).
- Ld = the volume of each diluent VOC-solvent added to coatings (liters).
- Lr = the volume of VOC-solvent recovered by an emission control device (liters).
- Ls = the volume of coating solids consumed (liters).
- Md = the mass of diluent VOC-solvent consumed (kilograms).
- Mo = the mass of VOC's in coatings consumed, as received (kilograms).
- Mr = the mass of VOC's recovered by an emission control device (kilograms).
- N = the volume weighted average mass of VOC emissions to the atmosphere per unit volume of coating solids applied (kilograms per liter).
- Qa = the volumetric flow rate of each gas stream leaving the control device and entering the atmosphere (dry standard cubic meters per hour).
- Qb = the volumetric flow rate of each gas stream entering the control device (dry standard cubic meters per hour).
- Qf = the volumetric flow rate of each gas stream emitted directly to the atmosphere (dry standard cubic meters per hour).
- R = the overall VOC emission reduction achieved for an affected facility (fraction).
- T = the transfer efficiency (fraction).
- Vs = the proportion of solids in each coating (or input stream), as received (fraction by volume).
- Wo = the proportion of VOC's in each coating (or input stream), as received (fraction by weight).

(3) Standard for volatile organic compounds (VOC).

- (a) On and after the date on which the initial performance test required to be conducted by 1200-03-16-.01(5)(a) is completed, no owner or operator subject to the provisions of this rule shall cause the discharge into the atmosphere of VOC emissions from any metal furniture surface coating operation in excess of 0.90 kilogram of VOC per liter of coating solids applied.

(4) Performance tests and compliance provisions.

- (a) Subparagraphs 1200-03-16-.01(5)(d) and (f) do not apply to the performance test procedures required by this rule.

(Rule 1200-03-16-.37, continued)

- (b) The owner or operator of an affected facility shall conduct an initial performance test as required under 1200-03-16-.01(5)(a) and thereafter a performance test each calendar month for each affected facility according to the procedures in this paragraph.
- (c) The owner or operator shall use the following procedures for determining monthly volume-weighted average emissions of VOC's in kilograms per liter of coating solids applied (G).

1. An owner or operator shall use the following procedures for any affected facility which does not use a capture system and control device to comply with the emissions limit specified under paragraph (3) of this rule. The owner or operator shall determine the composition of the coatings by formulation data supplied by the manufacturer of the coating or by an analysis of each coating, as received, using Reference Method 24 (as specified in 1200-03-16-.01(5)(g)). The Technical Secretary may require the owner or operator who uses formulation data supplied by the manufacturer of the coating to determine the VOC content of coatings using Reference Method 24. The owner or operator shall determine the volume of coating and the mass of VOC solvent used for thinning purposes from company records on a monthly basis. If a common coating distribution system serves more than one affected facility or serves both affected and existing facilities, the owner or operator shall estimate the volume of coating used at each facility by using the average dry weight of coating and the surface area coated by each affected and existing facility or by other procedures acceptable to the Technical Secretary.

- (i) Calculate the volume-weighted average of the total mass of VOC's consumed per unit volume of coating solids applied (G) during each calendar month for each affected facility, except as provided under parts 2 and 3 of this subparagraph. Each monthly calculation is considered a performance test. Except as provided in subpart (iv) of this part, the volume-weighted average of the total mass of VOC's consumed per unit volume of coating solids applied (G) each calendar month will be determined by the following procedures.

- (I) Calculate the mass of VOC's used ( $M_o + M_d$ ) during each calendar month for each affected facility by the following equation:

$$M_o + M_d = \sum_{i=1}^n L_{ci} D_{ci} W_{oi} + \sum_{j=1}^m L_{dj} D_{dj}$$

(SUM  $L_{dj} D_{dj}$  will be 0 if no VOC solvent is added to the coatings, as received.)

Where:  $n$  is the number of different coatings used during the calendar month and  $m$  is the number of different diluent VOC-solvents used during the calendar month.

- (II) Calculate the total volume of coating solids used ( $L_s$ ) in each calendar month for each affected facility by the following equation:

$$L_s = \sum_{i=1}^n L_{ci} V_{si}$$

(Rule 1200-03-16-.37, continued)

Where: n is the number of different coatings used during the calendar month.

Select the appropriate transfer efficiency from Table 1. If the owner or operator can demonstrate to the satisfaction of the Technical Secretary that transfer efficiencies other than those shown are appropriate, the Technical Secretary will approve their use on a case-by- case basis. Transfer efficiency values for application methods not listed below shall be determined by the Technical Secretary on a case-by-case basis. An owner or operator must submit sufficient data for the Technical Secretary to judge the accuracy of the transfer efficiency claims.

**TABLE 1. - Transfer Efficiencies**

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| Application methods                                      | Transfer efficiency (T) |
|--|-------------------------|
| Air atomized spray                                       | 0.25                    |
| Airless spray  | .25                     |
| Manual electrostatic spray                               | .60                     |
| Nonrotational automatic electrostatic spray              | .70                     |
| Rotating head electrostatic spray (manual and automatic) | .80                     |
| Dip coat and flow coat                                   | .90                     |
| Electrodeposition  | .95                     |

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Where more than one application method is used within a single surface coating operation, the owner or operator shall determine the composition and volume of each coating applied by each method through a means acceptable to the Technical Secretary and compute the weighted average transfer efficiency by the following equation:

$$T = \frac{\sum_{i=1}^n L_{cik} V_{sik} T_k}{\sum_{k=1}^p L_s}$$

Where n is the number of coatings used and p is the number of application methods used.

- (III) Calculate the volume-weighted average mass of VOC’s consumed per unit volume of coating solids applied (G) during the calendar month for each affected facility by the following equation:

$$G = \frac{Mo + Md}{LsT}$$

- (ii) Calculate the volume-weighted average of VOC emissions to the atmosphere (N) during the calendar month for each affected facility by the following equation:

$$N = G$$

(Rule 1200-03-16-.37, continued)

- (iii) Where the volume-weighted average mass of VOC discharged to the atmosphere per unit volume of coating solids applied (N) is less than or equal to 0.90 kilogram per liter, the affected facility is in compliance.
  - (iv) If each individual coating used by an affected facility has a VOC content, as received, which when divided by the lowest transfer efficiency at which the coating is applied, results in a value equal to or less than 0.90 kilogram per liter, the affected facility is in compliance provided no VOC's are added to the coatings during distribution or application.
2. An owner or operator shall use the following procedures for any affected facility that uses a capture system and a control device that destroys VOC's (e.g., incinerator) to comply with the emission limit specified under paragraph (3) of this rule.
- (i) Determine the overall reduction efficiency (R) for the capture system and control device. For the initial performance test the overall reduction efficiency (R) shall be determined as prescribed in items (i)(I), (II) and (III) of this part. In subsequent months, the owner or operator may use the most recently determined overall reduction efficiency (R) for the performance test providing control device and capture system operating conditions have not changed. The procedure in items (i)(I), (II) and (III) of this part shall be repeated when directed by the Technical Secretary or when the owner or operator elects to operate the control device or capture system at conditions different from the initial performance test.

- (I) Determine the fraction (F) of total VOC's emitted by an affected facility that enters the control device using the following equation:

$$F = \frac{\sum_{i=1}^n C_{bi} Q_{bi}}{\sum_{i=1}^n C_{bi} Q_{bi} + \sum_{j=1}^m C_{fj} Q_{fj}}$$

Where n is the number of gas streams entering the control device and m is the number of gas streams emitted directly to the atmosphere.

- (II) Determine the destruction efficiency of the control device (E) using values of the volumetric flow rate of each of the gas streams and the VOC content (as carbon) of each of the gas streams in and out of the device by the following equation:

$$E = \frac{\sum_{i=1}^n Q_{bi} C_{bi} - \sum_{j=1}^m Q_{aj} C_{aj}}{\sum_{i=1}^n Q_{bi} C_{bi}}$$

Where: n is the number of gas streams entering the control device, and m is the number of gas streams leaving the control device and entering the atmosphere.

(Rule 1200-03-16-.37, continued)

- (III) Determine the overall reduction efficiency (R) using the following equation:

$$R = EF$$

- (ii) Calculate the volume-weighted average of the total mass of VOC's per unit volume of coating solids applied (G) during each calendar month for each affected facility using equations in items 1.(i)(I), (II) and (III) of this subparagraph.
- (iii) Calculate the volume-weighted average of VOC emissions to the atmosphere (N) during each calendar month by the following equation:

$$N = G (1-R)$$

- (iv) If the volume-weighted average mass of VOC's emitted to the atmosphere for each calendar month (N) is less than or equal to 0.90 kilogram per liter of coating solids applied, the affected facility is in compliance. Each monthly calculation is a performance test.

3. An owner or operator shall use the following procedure for any affected facility which uses a control device that recovers the VOC's (e.g., carbon adsorber) to comply with the applicable emission limit specified under paragraph (3) of this rule.

- (i) Calculate the total mass of VOC's consumed ( $M_o + M_d$ ) and the volume-weighted average of the total mass of VOC's per unit volume of coating solids applied (G) during each calendar month for each affected facility using equations in items 1.(i)(I), (II) and (III) of this subparagraph.
- (ii) Calculate the total mass of VOC's recovered ( $M_r$ ) during each calendar month using the following equation:

$$M_r = L_r D_r$$

- (iii) Calculate overall reduction efficiency of the control device (R) for each calendar month for each affected facility using the following equation:

$$R = \frac{M_r}{M_o + M_d}$$

- (iv) Calculate the volume-weighted average mass of VOC's emitted to the atmosphere (N) for each calendar month for each affected facility using the equation in sub-part 2.(iii) of this subparagraph.

- (v) If the weighted average mass of VOC's emitted to the atmosphere for each calendar month (N) is less than or equal to 0.90 kilogram per liter of coating solids applied, the affected facility is in compliance. Each monthly calculation is a performance test.

- (5) Monitoring of emissions and operations.

- (a) The owner or operator of an affected facility which uses a capture system and an incinerator to comply with the emission limits specified under paragraph (3) of this rule



(Rule 1200-03-16-.37, continued)

shall install, calibrate, maintain, and operate temperature measurement devices according to the following procedures:

1. Where thermal incineration is used a temperature measurement device shall be installed in the firebox. Where catalytic incineration is used, a temperature measurement device shall be installed in the gas stream immediately before and after the catalyst bed.
2. Each temperature measurement device shall be installed, calibrated, and maintained according to the manufacturer's specifications. The device shall have an accuracy of the greater of 0.75 percent of the temperature being measured expressed in degrees Celsius or  $\pm 2.5^{\circ}\text{C}$ .
3. Each temperature measurement device shall be equipped with a recording device so that a permanent continuous record is produced.

- (b) The owner or operator of an affected facility which uses a capture system and a solvent recovery system to comply with the emission limits specified under paragraph (3) of this rule shall install the equipment necessary to determine the total volume of VOC-solvent recovered daily.

(6) Reporting and recordkeeping requirements.

- (a) The reporting requirements of 1200-03-16-.01(5)(a) apply only to the initial performance test. Each owner or operator subject to the provisions of this rule shall include the following data in the report of the initial performance test required under 1200-03-16-.01(5)(a).

1. Except as provided in part (a)2. of this paragraph, the volume-weighted average mass of VOC's emitted to the atmosphere per volume of applied coating solids (N) for a period of one calendar month from each affected facility.
2. For each affected facility where compliance is determined under the provisions of subpart (4)(c)1.(iv) of this rule, a list of the coatings used during a period of one calendar month, the VOC content of each coating calculated from data determined using Reference Method 24 or supplied by the manufacturer of the coating, and the minimum transfer efficiency of any coating application equipment used during the month.
3. For each affected facility where compliance is achieved through the use of an incineration system, the following additional information will be reported:
  - (i) The proportion of total VOC's emitted that enters the control device (F),
  - (ii) The VOC reduction efficiency of the control device (E),
  - (iii) The average combustion temperature (or the average temperature upstream and downstream of the catalyst bed), and
  - (iv) A description of the method used to establish the amount of VOC's captured and sent to the incinerator.
4. For each affected facility where compliance is achieved through the use of a solvent recovery system, the following additional information will be reported:
  - (i) The volume of VOC-solvent recovered (Lr), and

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- (ii) The overall VOC emission reduction achieved (R).
  - (b) Following the initial performance test, the owner or operator of an affected facility shall identify and record:
    - 1. Each instance in which the volume-weighted average of the total mass of VOC's emitted to the atmosphere per volume of applied coating solids (N) is greater than the limit specified under paragraph (3) of this rule.
    - 2. Where compliance with paragraph (3) of this rule is achieved through the use of thermal incineration, each 3-hour period when metal furniture is being coated during which the average temperature of the device was more than 28°C below the average temperature of the device during the most recent performance test at which destruction efficiency was determined as specified under paragraph (4) of this rule.
    - 3. Where compliance with paragraph (3) of this rule is achieved through the use of catalytic incineration, each 3-hour period when metal furniture is being coated during which the average temperature of the device immediately before the catalyst bed is more than 28°C below the average temperature of the device immediately before the catalyst bed during the most recent performance test at which destruction efficiency was determined as specified under paragraph (4) of this rule. Additionally, when metal furniture is being coated, all 3-hour periods during which the average temperature difference across the catalyst bed is less than 80 percent of the average temperature difference across the catalyst bed during the most recent performance test at which destruction efficiency was determined as specified under paragraph (4) of this rule will be recorded.
  - (c) Each owner or operator subject to the provisions of this rule shall maintain at the source, for a period of at least 2 years, records of all data and calculations used to determine VOC emissions from each affected facility. Where compliance is achieved through the use of thermal incineration, each owner or operator shall maintain, at the source, daily records of the incinerator combustion chamber temperature. If catalytic incineration is used, the owner or operator shall maintain at the source daily records of the gas temperature, both upstream and downstream of the incinerator catalyst bed. Where compliance is achieved through the use of a solvent recovery system, the owner or operator shall maintain at the source daily records of the amount of solvent recovered by the system for each affected facility.
- (7) Test methods and procedures.
- (a) The reference methods in 1200-03-16-.01(5)(g) except as provided under 1200-03-16-.01(5)(b) shall be used to determine compliance with paragraph (3) of this rule as follows:
    - 1. Method 24, or coating manufacturer's formulation data, for use in the determination of VOC content of each batch of coating as applied to the surface of the metal parts. In case of an inconsistency between the Method 24 results and the formulation data, the Method 24 results will govern.
    - 2. Method 25 for the measurement of VOC concentration.
    - 3. Method 1 for sample and velocity traverses.
    - 4. Method 2 for velocity and volumetric flow rate.

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5. Method 3 for gas analysis.
  6. Method 4 for stack gas moisture.
- (b) For Method 24, the coating sample must be at least a 1 liter sample in a 1 liter container taken at a point where the sample will be representative of the coating material as applied to the surface of the metal part.
  - (c) For Method 25, the minimum sampling time for each of 3 runs is 60 minutes and the minimum sample volume is 0.003 dry standard cubic meters except that shorter sampling times or smaller volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.
  - (d) The Technical Secretary will approve testing of representative stacks on a case-by-case basis if the owner or operator can demonstrate to the satisfaction of the Technical Secretary that testing of representative stacks yields results comparable to those that would be obtained by testing all stacks.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed September 21, 1988; effective November 6, 1988.

#### **1200-03-16-.38 METAL COIL SURFACE COATING.**

- (1) Applicability.
  - (a) The provisions of this rule apply to the following affected facilities in a metal coil surface coating operation: each prime coat operation, each finish coat operation, and each prime and finish coat operation combined when the finish coat is applied wet on wet over the prime coat and both coatings are cured simultaneously.
  - (b) This rule applies to any facility identified in subparagraph (a) of this paragraph that commences construction, modification or reconstruction after November 6, 1988.
- (2) Definitions and Symbols.
  - (a) Definitions
    1. "Coating" means any organic material that is applied to the surface of metal coil.
    2. "Coating application station" means that portion of the metal coil surface coating operation where the coating is applied to the surface of the metal coil. Included as part of the coating application station is the flashoff area between the coating application station and the curing oven.
    3. "Curing oven" means the device that uses heat or radiation to dry or cure the coating applied to the metal coil.
    4. "Finish coat operation" means the coating application station, curing oven, and quench station used to apply and dry or cure the final coating(s) on the surface of the metal coil. Where only a single coating is applied to the metal coil, that coating is considered a finish coat.
    5. "Metal coil surface coating operation" means the application system used to apply an organic coating to the surface of any continuous metal strip with

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thickness of 0.15 millimeter (mm) (0.006 in.) or more that is packaged in a roll or coil.

6. "Prime coat operation" means the coating application station, curing oven, and quench station used to apply and dry or cure the initial coating(s) on the surface of the metal coil.
7. "Quench station" means that portion of the metal coil surface coating operation where the coated metal coil is cooled, usually by a water spray, after baking or curing.
8. "VOC content" means the quantity, in kilograms per liter of coating solids, of volatile organic compounds (VOC) in a coating.

(b) Symbols

Ca = the VOC concentration in each gas stream leaving the control device and entering the atmosphere (parts per million by volume, as carbon).

Cb = the VOC concentration in each gas stream entering the control device (parts per million by volume, as carbon).

Cf = the VOC concentration in each gas stream emitted directly to the atmosphere (parts per million by volume, as carbon).

Dc = density of each coating, as received (kilograms per liter).

Dd = density of each VOC-solvent added to coatings (kilograms per liter).

Dr = density of VOC-solvent recovered by an emission control device (kilograms per liter).

E = VOC destruction efficiency of the control device (fraction).

F = the proportion of total VOC's emitted by an affected facility that enters the control device (fraction).

G = volume-weighted average mass of VOC's in coatings consumed in a calendar month per unit volume of coatings solids applied (kilograms per liter).

Lc = the volume of each coating consumed, as received (liters).

Ld = the volume of each VOC-solvent added to coatings (liters).

Lr = the volume of VOC-solvent recovered by an emission control device (liters).

Ls = the volume of coatings solids consumed (liters).

Md = the mass of VOC-solvent added to coatings (kilograms).

Mo = the mass of VOC's in coatings consumed, as received (kilograms).

Mr = the mass of VOC's recovered by an emission control device (kilograms).

N = the volume-weighted average mass of VOC emissions to the atmosphere per unit volume of coating solids applied (kilograms per liter).

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Qa = the volumetric flow rate of each gas stream leaving the control device and entering the atmosphere (dry standard cubic meters per hour).

Qb = the volumetric flow rate of each gas stream entering the control device (dry standard cubic meters per hour).

Qf = the volumetric flow rate of each gas stream emitted directly to the atmosphere (dry standard cubic meters per hour).

R = the overall VOC emission reduction achieved for an affected facility (fraction).

S = the calculated monthly allowable emission limit (kilograms of VOC per liter of coating solids applied).

Vs = the proportion of solids in each coating, as received (fraction by volume).

Wo = the proportion of VOC's in each coating, as received (fraction by weight).

(3) Standards for volatile organic compounds.

(a) On and after the date on which paragraph 1200-03-16-.01(5) requires a performance test to be completed, each owner or operator subject to this rule shall not cause to be discharged into the atmosphere more than:

1. 0.28 kilogram VOC per liter (kg VOC/l) of coating solids applied for each calendar month for each affected facility that does not use an emission control device(s); or
2. 0.14 kg VOC/l of coating solids applied for each calendar month for each affected facility that continuously uses an emission control device(s) operated at the most recently demonstrated overall efficiency; or
3. 10 percent of the VOC's applied for each calendar month (90 percent emission reduction) for each affected facility that continuously uses an emission control device(s) operated at the most recently demonstrated overall efficiency; or
4. a value between 0.14 (or a 90-percent emission reduction) and 0.28 kg VOC/l of coating solids applied for each calendar month for each affected facility that intermittently uses an emission control device operated at the most recently demonstrated overall efficiency.

(4) Performance test and compliance provisions.

- (a) Subparagraphs 1200-03-16-.01(5)(d) and (f) do not apply to the performance test.
- (b) The owner or operator of an affected facility shall conduct an initial performance test as required under subparagraph 1200-03-16-.01(5)(a) and thereafter a performance test for each calendar month for each affected facility according to the procedures in this paragraph.
- (c) The owner or operator shall use the following procedures for determining monthly volume-weighted average emissions of VOC's in kg/l of coating solids applied.
  1. An owner or operator shall use the following procedures for each affected facility that does not use a capture system and control device to comply with the

(Rule 1200-03-16-.38, continued)

emission limit specified under part (3)(a)1. of this rule. The owner or operator shall determine the composition of the coatings by formulation data supplied by the manufacturer of the coating or by an analysis of each coating, as received, using Reference Method 24 (as specified in 1200-03-16-.01(5)(g)24.). The Technical Secretary may require the owner or operator who uses formulation data supplied by the manufacturer of the coatings to determine the VOC content of coatings using Reference Method 24 or an equivalent or alternative method. The owner or operator shall determine the volume of coating and the mass of VOC-solvent added to coatings from company records on a monthly basis. If a common coating distribution system serves more than one affected facility or serves both affected and existing facilities, the owner or operator shall estimate the volume of coating used at each affected facility by using the average dry weight of coating and the surface area coated by each affected and existing facility or by other procedures acceptable to the Technical Secretary.

- (i) Calculate the volume-weighted average of the total mass of VOC's consumed per unit volume of coatings solids applied during each calendar month for each affected facility, except as provided under sub-part (iv) of this part. The weighted average of the total mass of VOC's used per unit volume of coatings solids applied each calendar month is determined by the following procedures.
- (I) Calculate the mass of VOC's used ( $M_o + M_d$ ) during each calendar month for each affected facility by the following equation:

$$M_o + M_d = \sum_{i=1}^n L_{ci} D_{ci} W_{oi} + \sum_{j=1}^m L_{dj} D_{dj} \quad \text{EQUATION 1}$$

(SUM  $L_{dj} D_{dj}$  will be 0 if no VOC solvent is added to the coatings, as received)

Where:

$n$  is the number of different coatings used during the calendar month, and

$m$  is the number of different VOC solvents added to coatings used during the calendar month.

- (II) Calculate the total volume of coating solids used ( $L_s$ ) in each calendar month for each affected facility by the following equation:

$$L_s = \sum_{i=1}^n L_{ci} V_{si} \quad \text{EQUATION 2}$$

Where:

$n$  is the number of different coatings used during the calendar month.

- (III) Calculate the volume-weighted average mass of VOC's used per unit volume of coatings solids applied ( $G$ ) during the calendar month for each affected facility by the following equation:

(Rule 1200-03-16-.38, continued)

$$G = \frac{M_o + M_d}{L_s}$$

- (ii) Calculate the volume-weighted average of VOC emissions to the atmosphere (N) during the calendar month for each affected facility by the following equation:

$$N = G$$

- (iii) Where the volume-weighted average mass of VOC's discharged to the atmosphere per unit volume of coating solids applied (N) is equal to or less than 0.28 kg/1, the affected facility is in compliance.
- (iv) If each individual coating used by an affected facility has a VOC content, as received, that is equal to or less than 0.28 kg/1 of coating solids, the affected facility is in compliance provided no VOC's are added to the coating during distribution or application.

2. An owner or operator shall use the following procedures for each affected facility that continuously uses a capture system and a control device that destroys VOC's (e.g. incinerator) to comply with the emission limit specified under part (3)(a)2. or 3.

- (i) Determine the overall reduction efficiency (R) for the capture system and control device. For the initial performance test, the overall reduction efficiency (R) shall be determined as prescribed in items (c)2.(i)(I), (II) and (III) of this paragraph. In subsequent months, the owner or operator may use the most recently determined overall reduction efficiency (R) for the performance test, providing control device and capture system operating conditions have not changed. The procedure in items (c)2.(i)(I), (II) and (III) of this paragraph shall be repeated when directed by the Technical Secretary or when the owner or operator elects to operate the control device or capture system at conditions different from the initial performance test.

- (I) Determine the fraction (F) of total VOC's emitted by an affected facility that enters the control device using the following equation:

$$F = \frac{\sum_{i=1}^l C_{bi} Q_{bi}}{\sum_{i=1}^l C_{bi} Q_{bi} + \sum_{j=1}^p C_{fj} Q_{fj}} \quad \text{EQUATION 5}$$

Where:

- 1 is the number of gas streams entering the control device, and
- p is the number of gas streams emitted directly to the atmosphere.
- (II) Determine the destruction efficiency of the control device (E) using values of volumetric flow rate of each of the gas streams and the VOC content (as carbon) of each of the gas streams in and out of the device by the following equation:

(Rule 1200-03-16-.38, continued)

$$E = \frac{\sum_{i=1}^n Q_{bi} C_{bi} - \sum_{j=1}^m Q_{aj} C_{aj}}{\sum_{i=1}^n Q_{bi} C_{bi}}$$

EQUATION 6

Where:

- n is the number of gas streams entering the control device, and  
 m is the number of gas stream leaving the control device and entering the atmosphere.

The owner or operator of the affected facility shall construct the VOC emission reduction system so that all volumetric flow rates and total VOC emissions can be accurately determined by the applicable test methods and procedures specified in paragraph (7) of this rule. The owner or operator of the affected facility shall construct a temporary enclosure around the coating applicator and flashoff area during the performance test for the purpose of evaluating the capture efficiency of the system. The enclosure must be maintained at a negative pressure to ensure that all VOC emissions are measurable. If a permanent enclosure exists in the affected facility prior to the performance test and the Technical Secretary is satisfied that the enclosure is adequately containing VOC emissions, no additional enclosure is required for the performance test.

- (III) Determine overall reduction efficiency (R) using the following equation:

$$R = EF$$

If the overall reduction efficiency (R) is equal to or greater than 0.90, the affected facility is in compliance and no further computations are necessary. If the overall reduction efficiency (R) is less than 0.90, the average total VOC emissions to the atmosphere per unit volume of coating solids applied (N) shall be computed as follows:

- (ii) Calculate the volume-weighted average of the total mass of VOC's per unit volume of coating solids applied (G) during each calendar month for each affected facility using equations in items (c)1.(i)(I), (II) and (III) of this paragraph.
- (iii) Calculate the volume-weighted average of VOC emissions to the atmosphere (N) during each calendar month by the following equation:

$$N = G (1-R)$$

- (iv) If the volume-weighted average mass of VOC's emitted to the atmosphere for each calendar month (N) is less than or equal to 0.14 kg/1 of coating solids applied, the affected facility is in compliance. Each monthly calculation is a performance test.
3. An owner or operator shall use the following procedure for each affected facility that uses a control device that recovers the VOC's (e.g. carbon adsorber) to



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comply with the applicable emission limit specified under part (3)(a)2. or 3. of this rule.

- (i) Calculate the total mass of VOC's consumed ( $M_o + M_d$ ) during each calendar month for each affected facility using Equation 1 in item (c)1.(i)(I) of this paragraph.
- (ii) Calculate the total mass of VOC's recovered ( $M_r$ ) during each calendar month using the following equation:

$$M_r = L_r D_r \quad \text{EQUATION 9}$$

- (iii) Calculate the overall reduction efficiency of the control device ( $R$ ) for each calendar month for each affected facility using the following equation:

$$R = \frac{M_r}{M_o + M_d} \quad \text{EQUATION 10}$$

If the overall efficiency ( $R$ ) is equal to or greater than 0.90, the affected facility is in compliance and no further computations are necessary. If the overall efficiency ( $R$ ) is less than 0.90, the average total VOC emissions to the atmosphere per unit volume of coating solids applied ( $N$ ) must be computed as follows.

- (iv) Calculate the total volume of coating solids consumed ( $L_s$ ) and the volume-weighted average of the total mass of VOC's per unit volume of coating solids applied ( $G$ ) during each calendar month for each affected facility using equations in items (c)1.(i)(II) and (III) of this paragraph.
  - (v) Calculate the volume-weighted average mass of VOC's emitted to the atmosphere ( $N$ ) for each calendar month for each affected facility using the equation in sub-part (c)2.(iii).
  - (vi) If the weighted average mass of VOC's emitted to the atmosphere for each calendar month ( $N$ ) is less than or equal to 0.14 kg/1 of coating solids applied, the affected facility is in compliance. Each monthly calculation is a performance test.
4. An owner or operator shall use the following procedures for each affected facility that intermittently uses a capture system and a control device to comply with the emission limit specified in part (3)(a)4. of this rule.
- (i) Calculate the total volume of coating solids applied without the control device in operation ( $L_{sn}$ ) during each calendar month for each affected facility using the following equation:

$$L_{sn} = \sum_{i=1}^n L_{ci} V_{si} \quad \text{EQUATION 11}$$

Where:

- n is the number of coatings used during the calendar month without the control device in operation.

(Rule 1200-03-16-.38, continued)

- (ii) Calculate the total volume of coating solids applied with the control device in operation ( $L_{sc}$ ) during each calendar month for each affected facility using the following equation:

$$L_{sc} = \sum_{i=1}^m L_{ci} V_{si} \quad \text{EQUATION 12}$$

Where:

- $m$  is the number of coatings used during the calendar month with the control device in operation.
- (iii) Calculate the mass of VOC's used without the control device in operation ( $Mon + Mdn$ ) during each calendar month for each affected facility using the following equation:

$$M_{on} + M_{dn} = \sum_{i=1}^n L_{ci} D_{ci} W_{oi} + \sum_{j=1}^m L_{dj} D_{dj}$$

Where:

- $n$  is the number of different coatings used without the control device in operation during the calendar month, and
- $m$  is the number of different VOC-solvents added to coatings used without the control device in operation during the calendar month.
- (iv) Calculate the volume-weighted average of the total mass of VOC's consumed per unit volume of coating solids applied without the control device in operation ( $Gn$ ) during each calendar month for each affected facility using the following equation:

$$Gn = \frac{Mon + Mdn}{Lsn} \quad \text{EQUATION 14}$$

- (v) Calculate the mass of VOC's used with the control device in operation ( $Moc + Mdc$ ) during each calendar month for each affected facility using the following equation:

$$M_{oc} + M_{dc} = \sum_{i=1}^n L_{ci} D_{ci} W_{oi} + \sum_{j=1}^m L_{dj} D_{dj}$$

Where:

- $n$  is the number of different coatings used with the control device in operation during the calendar month, and
- $m$  is the number of different VOC-solvents added to coatings used with the control device in operation during the calendar month.
- (vi) Calculate the volume-weighted average of the total mass of VOC's used per unit volume of coating solids applied with the control device in

(Rule 1200-03-16-.38, continued)

operation ( $G_c$ ) during each calendar month for each affected facility using the following equation:

$$G_c = \frac{M_{oc} + M_{dc}}{L_{sc}} \quad \text{EQUATION 16}$$

(vii) Determine the overall reduction efficiency ( $R$ ) for the capture system and control device using the procedures in items 2.(i)(I), (II) and (III) or subparts 3.(i), (ii) and (iii) of this subparagraph whichever is applicable.

(viii) Calculate the volume-weighted average of VOC emissions to the atmosphere ( $N$ ) during each calendar month for each affected facility using the following equation:

$$N = \frac{G_n L_{sn} + G_c L_{sc} (1-R)}{L_{sn} + L_{sc}} \quad \text{EQUATION 17}$$

(ix) Calculate the emission limit(s) for each calendar month for each affected facility using the following equation:

$$S = \frac{0.28 L_{sn} + 0.1 G_c L_{sc}}{L_{sn} + L_{sc}} \quad \text{or} \quad \frac{0.28 L_{sn} + 0.14 L_{sc}}{L_{sn} + L_{sc}}$$

EQUATION 18

whichever is greater.

(x) If the volume-weighted average mass of VOC's emitted to the atmosphere for each calendar month ( $N$ ) is less than or equal to the calculated emission limit ( $S$ ) for the calendar month, the affected facility is in compliance. Each monthly calculation is a performance test.

(5) Monitoring of emissions and operations.

- (a) Where compliance with the numerical limit specified in part (3)(a)1. or 2. of this rule is achieved through the use of low VOC-content coatings without the use of emission control devices or through the use of higher VOC-content coatings in conjunction with emission control devices, the owner or operator shall compute and record the average VOC content of coatings applied during each calendar month for each affected facility, according to the equations provided in paragraph (4) of this rule.
- (b) Where compliance with the limit specified in part (3)(a)4. of this rule is achieved through the intermittent use of emission control devices, the owner or operator shall compute and record for each affected facility the average VOC content of coatings applied during each calendar month according to the equations provided in paragraph (4) of this rule.
- (c) If thermal incineration is used, each owner or operator subject to the provisions of this rule shall install, calibrate, operate, and maintain a device that continuously records the combustion temperature of any effluent gases incinerated to achieve compliance with part (3)(a)2., 3. or 4. of this rule. This device shall have an accuracy of  $\pm 2.5^\circ \text{C}$  or  $\pm$

(Rule 1200-03-16-.38, continued)

0.75 per cent of the temperature being measured expressed in degrees Celsius, whichever is greater. Each owner or operator shall also record all periods (during actual coating operations) in excess of 3 hours during which the average temperature in any thermal incinerator used to control emissions from an affected facility remains more than 28°C (50°F) below the temperature at which compliance with part (3)(a)2., 3. or 4. of this rule was demonstrated during the most recent measurement of incinerator efficiency required by paragraph 1200-03-16-.01(5). The records required by 1200-03-16-.01(7) shall identify each such occurrence and its duration. If catalytic incineration is used, the owner or operator shall install, calibrate, operate, and maintain a device to monitor and record continuously the gas temperature both upstream and downstream of the incinerator catalyst bed. This device shall have an accuracy of  $\pm 2.5^{\circ}\text{C}$  or  $\pm 0.75$  percent of the temperature being measured expressed in degrees Celsius, whichever is greater. During coating operations, the owner or operator shall record all periods in excess of 3 hours where the average difference between the temperature upstream and downstream of the incinerator catalyst bed remains below 80 percent of the temperature difference at which compliance was demonstrated during the most recent measurements of incinerator efficiency or when the inlet temperature falls more than 28°C (50°F) below the temperature at which compliance with part (3)(a)2., 3. or 4. of this rule was demonstrated during the most recent measurement of incinerator efficiency required by paragraph 1200-03-16-.01(5). The records required by paragraph 1200-03-16-.01(7) shall identify each such occurrence and its duration.

(6) Reporting and recordkeeping requirements.

- (a) Where compliance with the numerical limit specified in part (3)(a)1., 2. or 4. of this rule is achieved through the use of low VOC-content coatings without emission control devices or through the use of higher VOC-content coatings in conjunction with emission control devices, each owner or operator subject to the provisions of this rule shall include in the initial compliance report required by paragraph 1200-03-16-.01(5) the weighted average of the VOC content of coatings used during a period of one calendar month for each affected facility. Where compliance with part (3)(a)4. of this rule is achieved through the intermittent use of a control device, reports shall include separate values of the weighted average VOC content of coatings used with and without the control device in operation.
- (b) Where compliance with part (3)(a)2., 3. or 4. of this rule is achieved through the use of an emission control device that destroys VOC's, each owner or operator subject to the provisions of this rule shall include the following data in the initial compliance report required by paragraph 1200-03-16-.01(5).
  - 1. The overall VOC destruction rate used to attain compliance with part (3)(a)2., 3. or 4. of this rule and the calculated emission limit used to attain compliance with part (3)(a)4. of this rule; and
  - 2. The combustion temperature of the thermal incinerator or the gas temperature, both upstream and downstream of the incinerator catalyst bed, used to attain compliance with part (3)(a)2., 3. or 4. of this rule.
- (c) Each owner or operator subject to the provisions of this rule shall maintain at the source, for a period of at least 2 years, records of all data and calculations used to determine monthly VOC emissions from each affected facility and to determine the monthly emission limit, where applicable. Where compliance is achieved through the use of thermal incineration, each owner or operator shall maintain, at the source, daily records of the incinerator combustion temperature. If catalytic incineration is used, the owner or operator shall maintain at the source daily records of the gas temperature, both upstream and downstream of the incinerator catalyst bed.

(Rule 1200-03-16-.38, continued)

- (7) Test methods and procedures.
- (a) The reference methods in subparagraph 1200-03-16-.01(5)(g) except as provided under subparagraph 1200-03-16-.01(5)(b) shall be used to determine compliance with paragraph (3) of this rule as follows:
1. Reference Method 24, or data provided by the formulator of the coating for determining the VOC content of each coating as applied to the surface of the metal coil. In the event of a dispute, Reference Method 24 shall be the reference method. When VOC content of waterborne coatings, determined by Reference Method 24, is used to determine compliance of affected facilities, the results of the Reference Method 24 analysis shall be adjusted as described in Section 4.4 of Reference Method 24;
  2. Reference Method 25, both for measuring the VOC concentration in each gas stream entering and leaving the control device on each stack equipped with an emission control device and for measuring the VOC concentration in each gas stream emitted directly to the atmosphere;
  3. Method 1 for sample and velocity traverses;
  4. Method 2 for velocity and volumetric flow rate;
  5. Method 3 for gas analysis; and
  6. Method 4 for stack gas moisture.
- (b) For Method 24, the coating sample must be at least a 1-liter sample taken at a point where the sample will be representative of the coating as applied to the surface of the metal coil.
- (c) For Method 25, the sampling time for each of three runs is to be at least 60 minutes, and the minimum sample volume is to be at least 0.003 dry standard cubic meter (DSCM); however, shorter sampling times or smaller volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.
- (d) The Technical Secretary will approve testing of representative stacks on a case-by-case basis if the owner or operator can demonstrate to the satisfaction of the Technical Secretary that testing of representative stacks yields results comparable to those that would be obtained by testing all stacks.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed September 21, 1988; effective November 6, 1988.

**1200-03-16-.39 GRAPHIC ARTS INDUSTRY: PUBLICATION ROTOGRAVURE PRINTING.**

- (1) Applicability.
- (a) Except as provided in subparagraph (b) of this paragraph, the affected facility to which the provisions of this rule apply is each publication rotogravure printing press.
- (b) The provisions of this rule do not apply to proof presses.

(Rule 1200-03-16-.39, continued)

- (c) Any facility under subparagraph (a) of this paragraph that commences construction, modification, or reconstruction after November 6, 1988 is subject to the requirements of this rule.
- (2) Definitions and notations.
- (a) Definitions.
    - 1. "Automatic temperature compensator" means a device that continuously senses the temperature of fluid flowing through a metering device and automatically adjusts the registration of the measured volume to the corrected equivalent volume at a base temperature.
    - 2. "Base temperature" means an arbitrary reference temperature for determining liquid densities or adjusting the measured volume of a liquid quantity.
    - 3. "Density" means the mass of a unit volume of liquid, expressed as grams per cubic centimeter, kilograms per liter, or pounds per gallon, at a specified temperature.
    - 4. "Gravure cylinder" means a printing cylinder with an intaglio image consisting of minute cells or indentations specially engraved or etched into the cylinder's surface to hold ink when continuously revolved through a fountain of ink.
    - 5. "Performance averaging period" means 30 calendar days, one calendar month, or four consecutive weeks as specified in paragraphs of this rule.
    - 6. "Proof press" means any device used only to check the quality of the image formation of newly engraved or etched gravure cylinders and prints only nonsaleable items.
    - 7. "Publication rotogravure printing press" means any number of rotogravure printing units capable of printing simultaneously on the same continuous web or substrate and includes any associated device for continuously cutting and folding the printed web, where the following saleable paper products are printed:
      - (i) Catalogues, including mail order and premium,
      - (ii) Direct mail advertisements, including circulars, letters, pamphlets, cards, and printed envelopes,
      - (iii) Display advertisements, including general posters, outdoor advertisements, car cards, window posters; counter and floor displays; point-of-purchase, and other printed display material,
      - (iv) Magazines,
      - (v) Miscellaneous advertisements, including brochures, pamphlets, catalogue sheets, circular folders, announcements, package inserts, book jackets, market circulars, magazine inserts, and shopping news,
      - (vi) Newspapers, magazine and comic supplements for newspapers, and preprinted newspaper inserts, including hi-fi and spectacolor rolls and sections,
      - (vii) Periodicals, and

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(viii) Telephone and other directories, including business reference services.

8. "Raw ink" means all purchased ink.
9. "Related coatings" means all non-ink purchased liquids and liquid-solid mixtures containing VOC solvent, usually referred to as extenders or varnishes, that are used at publication rotogravure printing presses.
10. "Rotogravure printing unit" means any device designed to print one color ink on one side of a continuous web or substrate using a gravure cylinder.
11. "Solvent-borne ink systems" means ink and related coating mixtures whose volatile portion consists essentially of VOC solvent with not more than five weight percent water, as applied to the gravure cylinder.
12. "Solvent recovery system" means an air pollution control system by which VOC solvent vapors in air or other gases are captured and directed through a condenser(s) or a vessel(s) containing beds of activated carbon or other adsorbents. For the condensation method, the solvent is recovered directly from the condenser. For the adsorption method, the vapors are adsorbed, then desorbed by steam or other media, and finally condensed and recovered.
13. "VOC" means volatile organic compound.
14. "VOC solvent" means an organic liquid or liquid mixture consisting of VOC components.
15. "Waterborne ink systems" means ink and related coating mixtures whose volatile portion consists of a mixture of VOC solvent and more than five weight percent water, as applied to the gravure cylinder.

(b) Symbols.

- DB= the density at the base temperature of VOC solvent used or recovered during one performance averaging period.
- Dci= the density of each color of raw ink and each related coating (i) used at the subject facility (or facilities), at the coating temperature when the volume of coating used is measured.
- Ddi = the density of each VOC solvent (i) added to the ink for dilution at the subject facility (or facilities), at the solvent temperature when the volume of solvent used is measured.
- Dgi = the density of each VOC solvent (i) used as a cleaning agent at the subject facility (or facilities), at the solvent temperature when the volume of cleaning solvent used is measured.
- Dhi = the density of each quantity of water (i) added at the subject facility (or facilities) for dilution of waterborne ink systems at the water temperature when the volume of dilution water used is measured.
- Dmi= the density of each quantity of VOC solvent and miscellaneous solvent-borne waste inks and waste VOC solvents (i) recovered from the subject facility (or

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- facilities), at the solvent temperature when the volume of solvent recovered is measured.
- Doi = the density of the VOC solvent contained in each raw ink and related coating (i) used at the subject facility (or facilities), at the coating temperature when the volume of coating used is measured.
- Dwi = the density of the water contained in each waterborne raw ink and related coating (i) used at the subject facility (or facilities), at the coating temperature when the volume of coating used is measured.
- Lci = the measured liquid volume of each color of raw ink and each related coating (i) used at the facility of a corresponding VOC content, Voi or Woi, with a VOC density, Doi, and a coating density Dci.
- Ldi = the measured liquid volume of each VOC solvent (i) with corresponding density Ddi, added to dilute the ink used at the subject facility (or facilities).
- Lgi = the measured liquid volume of each VOC solvent (i) used as a cleaning agent at the subject facility (or facilities), at the solvent temperature when the volume of cleaning solvent used is measured.
- Lhi = the measured liquid volume of each quantity of water (i) added at the subject facility (or facilities) for dilution of waterborne ink systems at the water temperature when the volume of dilution water used is measured.
- Lmi = the measured liquid volume of each quantity of VOC solvent and miscellaneous solvent-borne waste inks and waste VOC solvents (i) recovered from the subject facility (or facilities), at the solvent temperature when the volume of solvent recovered is measured.
- Lo = the corrected liquid volume of VOC in the raw inks and related coatings used.
- Lt = the total corrected liquid volume of VOC used.
- Lr = the total corrected liquid volume of VOC solvent recovered.
- Mci = the mass, determined by direct weighing, of each color of raw ink and each related coating (i) used at the subject facility (or facilities).
- Md = the mass, determined by direct weighing, of VOC solvent added to dilute the ink used at the subject facility (or facilities) during one performance averaging period.
- Mg = the mass, determined by direct weighing, of VOC solvent used as a cleaning agent at the subject facility (or facilities) during one performance averaging period.
- Mh = the mass, determined by direct weighing, of water added for dilution with waterborne ink systems used at the subject facility (or facilities) during one performance averaging period.
- Mm = the mass, determined by direct weighing, of VOC solvent and miscellaneous solvent-borne waste inks and waste VOC solvents recovered from the subject facility (or facilities) during one performance averaging period.



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- Mo = the total mass of VOC solvent contained in the raw inks and related coatings used at the subject facility (or facilities) during one performance averaging period.
- Mr = the total mass of VOC solvent recovered from the subject facility (or facilities) during one performance averaging period.
- Mt = the total mass of VOC solvent used at the subject facility (or facilities) during one performance averaging period.
- Mv = the total mass of water used with waterborne ink systems at the subject facility (or facilities) during one performance averaging period.
- Mw = the total mass of water contained in the waterborne raw inks and related coatings used at the subject facility (or facilities) during one performance averaging period.
- P = the average VOC emission percentage for the subject facility (or facilities) for one performance averaging period.
- Pa = the average VOC emission percentage for the affected facility.
- Pb = the average VOC emission percentage for both affected and existing facilities controlled in common by the same air pollution control equipment.
- Pe = the average VOC emission percentage for the existing facility.
- Pf = the average VOC emission percentage for all affected and existing facilities located within the same plant boundary.
- Voi = the liquid VOC content, expressed as a volume fraction of VOC volume per total volume of coating, of each color of raw ink and related coating (i) used at the subject facility (or facilities).
- Vwi = the water content, expressed as a volume fraction of water volume per total volume of coating, of each color of waterborne raw ink and related coating (i) used at the subject facility (or facilities).
- Woi = the VOC content, expressed as a weight fraction of mass of VOC per total mass of coating, of each color of raw ink and related coating (i) used at the subject facility (or facilities).
- Wwi = the water content, expressed as a weight fraction of mass of water per total mass of coating, of each color of waterborne raw ink and related coating (i) used at the subject facility (or facilities).

(c) Subscripts.

- a = affected facility.
- b = both affected and existing facilities controlled in common by the same air pollution control equipment.
- e = existing facility.
- f = all affected and existing facilities located within the same plant boundary.

(3) Standard for volatile organic compounds.

(Rule 1200-03-16-.39, continued)

During the period of the performance test required to be conducted by 1200-03-16-.01(5) and after the date required for completion of the test, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility VOC equal to more than 16 percent of the total mass of VOC solvent and water used at that facility during any one performance averaging period. The water used includes only that water contained in the waterborne raw inks and related coatings and the water added for dilution with waterborne ink systems.

(4) Performance test and compliance provisions.

(a) The owner or operator of any affected facility (or facilities) shall conduct performance tests in accordance with 1200-03-16-.01(5) under the following conditions:

1. The performance averaging period for each test is 30 consecutive calendar days and not an average of three separate runs as prescribed under subparagraph 1200-03-16-.01(5)(f).
2. Except as provided under subparagraphs (f) and (g) of this paragraph, if affected facilities routinely share the same raw ink storage/handling system with existing facilities, then temporary measurement procedures for segregating the raw inks, related coatings, VOC solvent, and water used at the affected facilities must be employed during the test. For this case, an overall emission percentage for the combined facilities as well as for only the affected facilities must be calculated during the test.
3. For the purpose of measuring bulk storage tank quantities of each color of raw ink and each related coating used, the owner or operator of any affected facility shall install, calibrate, maintain, and continuously operate during the test one or more:
  - (i) Non-resettable totalizer metering device(s) for indicating the cumulative liquid volume used at each affected facility; or
  - (ii) Segregated storage tanks for each affected facility to allow determination of the liquid quantities used by measuring devices other than the press meters required under subpart (i) of this part; or
  - (iii) Storage tanks to serve more than one facility with the liquid quantities used determined by measuring devices other than press meters, if facilities are combined as described under subparagraph (d), (f) or (g) of this paragraph.
4. The owner or operator may choose to install an automatic temperature compensator with any liquid metering device used to measure the raw inks, related coatings, water or VOC solvent used, or VOC solvent recovered.
5. Records of the measured amounts used at the affected facility and the liquid temperature at which the amounts were measured are maintained for each shipment of all purchased material or on at least a weekly basis for:
  - (i) The raw inks and related coatings used;
  - (ii) The VOC and water content of each raw ink and related coatings used as determined according to paragraph (6) of this rule;
  - (iii) The VOC solvent and water added to the inks used;

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- (iv) The VOC solvent used as a cleaning agent; and
  - (v) The VOC solvent recovered.
6. The density variations with temperature of the raw inks, related coatings, VOC solvents used, and VOC solvent recovered are determined by the methods stipulated in subparagraph (6)(d) of this rule.
  7. The calculated emission percentage may be reported as rounded-off to the nearest whole number.
  8. Printing press startups and shutdowns are not included in the exemption provisions under 1200-03-16-.01(5)(c). Frequent periods of press startups and shutdowns are normal operations and constitute representative conditions for the purpose of a performance test.
- (b) If an affected facility uses waterborne ink systems or a combination of waterborne and solvent-borne ink systems with a solvent recovery system, compliance is determined by the following procedures, except as provided in subparagraphs (d), (e), (f), and (g) of this paragraph.
1. The mass of VOC in the solvent-borne and waterborne raw inks and related coatings used is determined by the following equation:

$$(M_o)_a = \sum_{i=1}^k (M_{ci})_a (W_{oi})_a + \sum_{i=1}^m (L_{ci})_a (D_{ci})_a (W_{oi})_a + \sum_{i=1}^n (L_{ci})_a (V_{oi})_a (D_{oi})_a$$

Where:

- k is the total number of raw inks and related coatings measured as used in direct mass quantities with different amounts of VOC content.
  - m is the total number of raw inks and related coatings measured as used by volume with different amounts of VOC content or different densities.
  - n is the total number of raw inks and related coatings measured as used by volume with different amounts of VOC content or different VOC solvent densities.
2. The total mass of VOC used is determined by the following equation:

$$(M_t)_a = (M_o)_a + \sum_{i=1}^m (L_{di})_a (D_{di})_a + (M_d)_a + \sum_{i=1}^n (L_{gi})_a (D_{gi})_a + (M_g)_a$$

Where “m” and “n” are the respective total numbers of VOC dilution and cleaning solvents measured as used by volume with different densities.

3. The mass of water in the waterborne raw inks and related coatings used is determined by the following equation:

$$(M_w)_a = \sum_{i=1}^k (M_{ci})_a (W_{wi})_a + \sum_{i=1}^m (L_{ci})_a (D_{ci})_a (W_{wi})_a + \sum_{i=1}^n (L_{ci})_a (V_{wi})_a (D_{wi})_a$$

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- k is the total number of raw inks and related coatings measured as used in direct mass quantities with different amounts of water content.
  - m is the total number of raw inks and related coatings measured as used by volume with different amounts of water content or different densities.
  - n is the total number of raw inks and related coatings measured as used by volume with different amounts of water content or different water densities.
4. The total mass of water used is determined by the following equation:

$$(M_v)_a = (M_w)_a + (M_h)_a + \sum_{i=1}^m (L_{hi})_a (D_{hi})_a$$

Where “m” is the total number of water dilution additions measured as used by volume with different densities.

5. The total mass of VOC solvent recovered is determined by the following equation:

$$(M_r)_a = (M_m)_a + \sum_{i=1}^k (L_{mi})_a (D_{mi})_a$$

Where “k” is the total number of VOC solvents, miscellaneous solvent-borne waste inks, and waste VOC solvents measured as recovered by volume with different densities.

6. The average VOC emission percentage for the affected facility is determined by the following equation:

$$P_a = \left[ \frac{((M_t)_a - (M_r)_a)}{((M_t)_a + (M_v)_a)} \right] \times 100$$

- (c) If an affected facility controlled by a solvent recovery system uses only solvent-borne ink systems, the owner or operator may choose to determine compliance on a direct mass or a density-corrected liquid volume basis. Except as provided in subparagraphs (d), (e), (f) and (g) of this paragraph, compliance is determined as follows:

1. On a direct mass basis, compliance is determined according to subparagraph (b) of this paragraph, except that the water term,  $M_v$ , does not apply.
2. On a density-corrected liquid volume basis, compliance is determined by the following procedures:
  - (i) A base temperature corresponding to that for the largest individual amount of VOC solvent used or recovered from the affected facility, or other reference temperature, is chosen by the owner or operator.
  - (ii) The corrected liquid volume of VOC in the raw inks and related coatings used is determined by the following equation:

$$(L_o)_a = \sum_{i=1}^k \frac{(M_{ci})_a (W_{oi})_a}{DB} + \sum_{i=1}^m \frac{(L_{ci})_a (D_{ci})_a (W_{oi})_a}{DB} + \sum_{i=1}^n \frac{(L_{ci})_a (V_{oi})_a (D_{oi})_a}{DB}$$

(Rule 1200-03-16-.39, continued)

Where:

- k is the total number of raw inks and related coatings measured as used in direct mass quantities with different amounts of VOC content.
  - m is the total number of raw inks and related coatings measured as used by volume with different amounts of VOC content or different densities.
  - n is the total number of raw inks and related coatings measured as used by volume with different amounts of VOC content or different VOC solvent densities.
- (iii) The total corrected liquid volume of VOC used is determined by the following equation:

$$(L_t)_a = (L_o)_a + \sum_{i=1}^m \frac{(L_{di})_a (D_{di})_a}{DB} + \frac{(M_d)_a}{DB} + \sum_{i=1}^n \frac{(L_{gi})_a (D_{gi})_a}{DB} + \frac{(M_g)_a}{DB}$$

Where “m” and “n” are the respective total numbers of VOC dilution and cleaning solvents measured as used by volume with different densities.

- (iv) The total corrected liquid volume of VOC solvent recovered is determined by the following equation:

$$(L_r)_a = \frac{(M_m)_a}{DB} + \sum_{i=1}^k \frac{(L_{mi})_a (D_{mi})_a}{DB}$$

Where “k” is the total number of VOC solvents, miscellaneous solvent-borne waste inks, and waste VOC solvents measured as recovered by volume with different densities.

- (v) The average VOC emission percentage for the affected facility is determined by the following equation:

$$Pe = \frac{(Lt)e - (Lr)e}{(Lt)e} \times 100$$

- (d) If two or more affected facilities are controlled by the same solvent recovery system, compliance is determined by the procedures specified in subparagraph (b) or (c) of this paragraph, whichever applies, except that (Lt)a and (Lr)a, (Mt)a, (Mr)a, and (Mv)a, are the collective amounts of VOC solvent and water corresponding to all the affected facilities controlled by that solvent recovery system. The average VOC emission percentage for each of the affected facilities controlled by that same solvent recovery system is assumed to be equal.
- (e) Except as provided under subparagraph (f) of this paragraph, if an existing facility (or facilities) and an affected facility (or facilities) are controlled in common by the same solvent recovery system, the owner or operator shall determine compliance by conducting a separate emission test on the existing facility (or facilities) and then conducting a performance test on the combined facilities as follows:

(Rule 1200-03-16-.39, continued)

1. Before the initial startup of the affected facility (or facilities) and at any other time as requested by the Technical Secretary, the owner or operator shall conduct emission test(s) on the existing facility (or facilities) controlled by the subject solvent recovery system. The solvent recovery system must handle VOC emissions from only the subject existing facility (or facilities), not from affected facilities, during the emission test.
2. During the emission test, the affected facilities are subject to the standard stated in paragraph (3) of this rule.
3. The emission test is conducted over a 30 consecutive calendar day averaging period according to the conditions stipulated in parts (a)1. through (a)5. of this paragraph except that the conditions pertain to only existing facilities instead of affected facilities.
4. The owner or operator of the existing facility (or facilities) shall provide the Technical Secretary at least 30 days prior notice of the emission test to afford the Technical Secretary the opportunity to have an observer present.
5. The emission percentage for the existing facility (or facilities) during the emission test is determined by one of the following procedures:

- (i) If the existing facility (or facilities) uses a combination of waterborne and solvent-borne ink systems, the average VOC emission percentage must be determined on a direct mass basis according to subparagraph (b) or (d) of this paragraph, whichever applies, with the following equation:

$$Pe = \frac{(Mt)e - (Mr)e}{(Mt)e + (Mv)e} \times 100$$

where the water and VOC solvent amounts pertain to only existing facilities.

- (ii) If the existing facility (or facilities) uses only solvent-borne ink systems, the owner or operator may choose to determine the emission percentage either on a direct mass basis or a density-corrected liquid volume basis according to subparagraph (c) or (d) of this paragraph, whichever applies. On a direct mass basis, the average VOC emission percentage is determined by the equation presented in subpart (i) of this part. On a density-corrected liquid volume basis, the average VOC emission percentage is determined by the following equation:

$$Pa = \frac{(Lt)a - (Lr)a}{(Lt)a} \times 100$$

where the VOC solvent amounts pertain to only existing facilities.

6. The owner or operator of the existing facility (or facilities) shall furnish the Technical Secretary a written report of the results of the emission test.
7. After completion of the separate emission test on the existing facility (or facilities), the owner or operator shall conduct performance test(s) on the combined facilities with the solvent recovery system handling VOC emissions from both the existing and affected facilities.

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8. During performance test(s), the emission percentage for the existing facility (or facilities),  $P_e$ , is assumed to be equal to that determined in the latest emission test. The Technical Secretary may request additional emission tests if any physical or operational changes occur to any of the subject existing facilities.
9. The emission percentage for the affected facility (or facilities) during performance test(s) with both existing and affected facilities connected to the solvent recovery system is determined by one of the following procedures:
  - (i) If any of the combined facilities uses both waterborne and solvent-borne ink systems, the average VOC emission percentage must be determined on a direct mass basis according to subparagraph (b) or (d) of this paragraph, whichever applies, with the following equation:

$$P_a = \frac{(M_t)_b - (M_r)_b - \frac{(P_e)}{100} ((M_t)_e + (M_v)_e)}{(M_t)_a + (M_v)_a} \times 100$$

where  $(M_t)_a$  and  $(M_r)_b$  are the collective VOC solvent amounts pertaining to all the combined facilities.

- (ii) If all of the combined facilities use only solvent-borne ink systems, the owner or operator may choose to determine performance of the affected facility (or facilities) either on a direct mass basis or a density-corrected liquid volume basis according to subparagraph (c) or (d) of this paragraph, whichever applies. On a direct mass basis, the average VOC emission percentage is determined by the equation presented in subpart (i) of this part. On a density-corrected liquid volume basis, the average VOC emission percentage is determined by the following equation:

$$P_a = \frac{(L_t)_b - (L_r)_e - \frac{(P_e)}{100}}{(L_t)_a} \times 100$$

where  $(L_t)_b$  and  $(L_r)_e$  are the collective VOC solvent amounts pertaining to all the combined facilities.

- (f) The owner or operator may choose to show compliance of the combined performance of existing and affected facilities controlled in common by the same solvent recovery system. A separate emission test for existing facilities is not required for this option. The combined performance is determined by one of the following procedures:
  1. If any of the combined facilities uses both waterborne and solvent-borne ink systems, the combined average VOC emission percentage must be determined on a direct mass basis according to subparagraph (b) or (d) of this paragraph, whichever applies, with the following equation:

$$P_b = \frac{(M_t)_b - (M_r)_b}{(M_t)_b + (M_v)_b} \times 100$$

(Rule 1200-03-16-.39, continued)

2. If all of the combined facilities use only solvent-borne ink systems, the owner or operator may choose to determine performance either on a direct mass basis or a density-corrected liquid volume basis according to subparagraph (c) or (d) of this paragraph, whichever applies. On a direct mass basis, the average VOC emission percentage is determined by the equation presented in part 1 of this subparagraph. On a density-corrected liquid volume basis, the average VOC emission percentage is determined by the following equation:

$$P_b = \frac{(L_t)b - (L_r)b}{(L_t)b} \times 100$$

- (g) If all existing and affected facilities located within the same plant boundary use waterborne ink systems or solvent-borne ink systems with solvent recovery systems, the owner or operator may choose to show compliance on a plantwide basis for all the existing and affected facilities together. No separate emission tests on existing facilities and no temporary segregated liquid measurement procedures for affected facilities are required for this option. The plantwide performance is determined by one of the following procedures:

1. If any of the facilities use waterborne ink systems, the total plant average VOC emission percentage must be determined on a direct mass basis according to subparagraph (b) of this paragraph with the following equation:

$$P_f = \frac{(M_t)f - (M_r)a - (M_r)e - (M_r)b}{(M_t)f + (M_v)f} \times 100$$

where (M<sub>t</sub>)<sub>f</sub> and (M<sub>v</sub>)<sub>f</sub> are the collective VOC solvent and water amounts used at all the subject plant facilities during the performance test.

2. If all of the plant facilities use only solvent-borne ink systems, the owner or operator may choose to determine performance either on a direct mass basis or a density-corrected liquid volume basis according to subparagraph (c) of this paragraph. On a direct mass basis, the total plant average VOC emission percentage is determined by the equation presented in part 1. of this subparagraph. On a density-corrected liquid volume basis, the total plant average VOC emission percentage is determined by the following equation:

$$P_f = \frac{(L_t)f - (L_r)a - (L_r)e - (L_r)b}{(L_t)f} \times 100$$

Where (L<sub>t</sub>)<sub>f</sub> is the collective VOC solvent amount used at all the subject plant facilities during the performance test.

- (5) Monitoring of operations and recordkeeping.

- (a) After completion of the performance test required under 1200-03-16-.01(5), the owner or operator of any affected facility using waterborne ink systems or solvent-borne ink systems with solvent recovery systems shall record the amount of solvent and water used, solvent recovered, and estimated emission percentage for each performance averaging period and shall maintain these records for 2 years. The emission percentage is estimated as follows:



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1. The performance averaging period for monitoring of proper operation and maintenance is a calendar month or 4 consecutive weeks, at the option of the owner or operator.
  2. If affected facilities share the same raw ink storage/handling system with existing facilities, solvent and water used, solvent recovered, and emission percentages for the combined facilities may be documented. Separate emission percentages for only the affected facilities are not required in this case. The combined emission percentage is compared to the overall average for the existing and affected facilities' emission percentage determined during the most recent performance test.
  3. Except as provided in part 4. of this subparagraph, temperatures and liquid densities determined during the most recent performance test are used to calculate corrected volumes and mass quantities.
  4. The owner or operator may choose to measure temperatures for determination of actual liquid densities during each performance averaging period. A different base temperature may be used for each performance averaging period if desired by the owner or operator.
  5. The emission percentage is calculated according to the procedures under subparagraphs (4)(b) through (g) of this rule, whichever applies, or by a comparable calculation which compares the total solvent recovered to the total solvent used at the affected facility.
- (6) Test methods and procedures.
- (a) The owner or operator of any affected facility using solvent-borne ink systems shall determine the VOC content of the raw inks and related coatings used at the affected facility by:
    1. Analysis using Reference Method 24A, of routine weekly samples of raw ink and related coatings in each respective storage tank; or
    2. Analysis using Reference Method 24A of samples of each shipment of all purchased raw inks and related coatings; or
    3. Determination of the VOC content from the formulation data supplied by the ink manufacturer with each shipment of raw inks and related coatings used.
  - (b) The owner or operator of any affected facility using solvent-borne ink systems shall use the results of verification analyses by Reference Method 24A to determine compliance when discrepancies with ink manufacturer's formulation data occur.
  - (c) The owner or operator of any affected facility using waterborne ink systems shall determine the VOC and water content of raw inks and related coatings used at the facility by:
    1. Determination of the VOC and water content from the formulation data supplied by the ink manufacturer with each shipment of purchased raw inks and related coatings used; or

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2. Analysis of samples of each shipment of purchased raw inks and related coatings using a test method approved by the Technical Secretary in accordance with 1200-03-16-.01(5)(b).
- (d) The owner or operator of any affected facility shall determine the density of raw inks, related coatings, and VOC solvents by:
1. Making a total of three determinations for each liquid sample at specified temperatures using the procedure outlined in ASTM D 1475-60 (Reapproved 1980). It is available from the American Society of Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103 or by writing to the Tennessee Division of Air Pollution Control, 4th Floor, Customs House, 701 Broadway, Nashville, Tennessee 37219. Be sure and specify which method is desired. The temperature and density is recorded as the arithmetic average of three determinations; or
  2. Using literature values, at specified temperatures, acceptable to the Technical Secretary.
- (e) If compliance is determined according to subparagraph (4)(e), (f), or (g) of this rule, the existing as well as affected facilities are subject to the requirements of subparagraphs (a) through (d) of this paragraph.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed September 21, 1988; effective November 6, 1988.

#### 1200-03-16-.40 BEVERAGE CAN SURFACE COATING.

- (1) Applicability.
  - (a) The provisions of this rule apply to the following affected facilities in beverage can surface coating lines: each exterior base coat operation, each overvarnish coating operation, and each inside spray coating operation.
  - (b) The provisions of this rule apply to each affected facility which is identified in subparagraph (a) of this paragraph and commences construction, modification, or reconstruction after November 6, 1988.
- (2) Definitions and Symbols.
  - (a) Definitions.
    1. "Beverage can" means any two-piece steel or aluminum container in which soft drinks or beer, including malt liquor, are packaged. The definition does not include containers in which fruit or vegetable juices are packaged.
    2. "Exterior base coating operation" means the system on each beverage can surface coating line used to apply a coating to the exterior of a two-piece beverage can body. The exterior base coat provides corrosion resistance and a background for lithography or printing operations. The exterior base coat operation consists of the coating application station, flashoff area, and curing oven. The exterior base coat may be pigmented or clear (unpigmented).
    3. "Inside spray coating operating" means the system on each beverage can surface coating line used to apply a coating to the interior of a two-piece beverage can body. This coating provides a protective film between the contents

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of the beverage can and the metal can body. The inside spray coating operation consists of the coating application station, flashoff area, and curing oven. Multiple applications of an inside spray coating are considered to be a single coating operation.

4. "Overvarnish coating operation" means the system on each beverage can surface coating line used to apply a coating over ink which reduces friction for automated beverage can filling equipment, provides gloss, and protects the finished beverage can body from abrasion and corrosion. The overvarnish coating is applied to two-piece beverage can bodies. The overvarnish coating operation consists of the coating application station, flashoff area, and curing oven.
5. "Two-piece can" means any beverage can that consists of a body manufactured from a single piece of steel or aluminum and a top. Coatings for a two-piece can are usually applied after fabrication of the can body.
6. "VOC content" means all volatile organic compounds (VOC) that are in a coating. VOC content is expressed in terms of kilograms of VOC per litre of coating solids.

(b) Symbols.

- Ca = the VOC concentration in each gas stream leaving the control device and entering the atmosphere (parts per million as carbon)
- Cb = the VOC concentration in each gas stream entering the control device (parts per million as carbon)
- Dc = density of each coating, as received (kilograms per litre)
- Dd = density of each VOC-solvent added to coatings (kilogram per litre)
- Dr = density of VOC-solvent recovered by an emission control device (kilograms per litre)
- E = VOC destruction efficiency of the control device (fraction)
- F = the proportion of total VOC emitted by an affected facility which enters the control device to total emissions (fraction)
- G = the volume-weighted average of VOC in coatings consumed in a calendar month per volume of coating solids applied (kilograms per litre of coating solids)
- He = the fraction of VOC emitted at the coater and flashoff areas captured by a collection system
- Hh = the fraction of VOC emitted at the cure oven captured by a collection system
- Lc = the volume of each coating consumed, as received (litres)
- Ld = the volume of each VOC-solvent added to coatings (litres)
- Lr = the volume of VOC-solvent recovered by an emission control device (litres)

(Rule 1200-03-16-.40, continued)

- Ls = the volume of coating solids consumed (litres)
- Md = the mass of VOC-solvent added to coatings (kilograms)
- Mo = the mass of VOC-solvent in coatings consumed, as received (kilograms)
- Mr = the mass of VOC-solvent recovered by emission control device (kilograms)
- N = the volume-weighted average mass of VOC emissions to atmosphere per unit volume of coating solids applied (kilograms per litre of coating solids)
- Qa = the volumetric flow rate of each gas stream leaving the control device and entering the atmosphere (dry standard cubic meters per hour)
- Qb = the volumetric flow of each gas stream entering the control device (dry standard cubic meters per hour)
- R = the overall emission reduction efficiency for an affected facility (fraction)
- Se = the fraction of VOC in coating and diluent VOC-solvent emitted at the coater and flashoff area for a coating operation
- Sh = the fraction of VOC in coating and diluent solvent emitted at the cure oven for a coating operation
- Vs = the proportion of solids in each coating, as received (fraction by volume)
- Wo = the proportion of VOC in each coating, as received (fraction by weight).

(3) Standards for volatile organic compounds.

On or after the date on which the initial performance test required by 1200-03-16-.01(5)(a) is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge of VOC emissions to the atmosphere that exceed the following volume-weighted calendar-month average emissions:

- (a) 0.29 kilogram of VOC per litre of coating solids from each two-piece can exterior base coating operation, except clear base coat;
- (b) 0.46 kilogram of VOC per litre of coating solids from each two-piece can clear base coating operation and from each overvarnish coating operation; and
- (c) 0.89 kilogram of VOC per litre of coating solids from each two-piece can inside spray coating operation.

(4) Performance test and compliance provisions.

- (a) 1200-03-16-.01(5)(d) does not apply to monthly performance tests and 1200-03-16-.01(5)(f) does not apply to the performance test procedures required by this rule.
- (b) The owner or operator of an affected facility shall conduct an initial performance test as required under 1200-03-16-.01(5)(a) and thereafter a performance test each calendar month for each affected facility.
  1. The owner or operator shall use the following procedures for each affected facility that does not use a capture system and a control device to comply with

(Rule 1200-03-16-.40, continued)

the emission limit specified under paragraph (3) of this rule. The owner or operator shall determine the VOC-content of the coatings from formulation data supplied by the manufacturer of the coating or by an analysis of each coating, as received, using Reference Method 24 (as specified in rule 1200-03-16-.01(5)(g)24.). The Technical Secretary may require the owner or operator who uses formulation data supplied by the manufacturer of the coating to determine the VOC content of coatings using Reference Method 24 or an equivalent or alternative method. The owner or operator shall determine from company records the volume of coating and the mass of VOC-solvent added to coatings. If a common coating distribution system serves more than one affected facility or serves both affected and existing facilities, the owner or operator shall estimate the volume of coating used at each facility by using the average dry weight of coating, number of cans, and size of cans being processed by each affected and existing facility or by other procedures acceptable to the Technical Secretary.

- (i) Calculate the volume-weighted average of the total mass of VOC per volume of coating solids used during the calendar month for each affected facility, except as provided under sub-part (iv) of this part. The volume-weighted average of the total mass of VOC per volume of coating solids used each calendar month will be determined by the following procedures.
- (I) Calculate the mass of VOC used ( $M_o + M_d$ ) during the calendar month for the affected facility by the following equation:

$$M_o + M_d = \sum_{i=1}^n L_{ci} D_{ci} W_{oi} + \sum_{j=1}^m L_{dj} D_{dj} \quad \text{Equation (1)}$$

(Sum  $L_{dj} D_{dj}$  will be 0 if no VOC solvent is added to the coatings, as received.) where  $n$  is the number of different coatings used during the calendar month and  $m$  is the number of different diluent VOC-solvents used during the calendar month.

- (II) Calculate the total volume of coating solids used ( $L_s$ ) in the calendar month for the affected facility by the following equation:

$$L_s = \sum_{i=1}^n L_{ci} V_{si} \quad \text{Equation (2)}$$

where  $n$  is the number of different coatings used during the calendar month.

- (III) Calculate the volume-weighted average mass of VOC per volume of solids used ( $G$ ) during the calendar month for the affected facility by the following equation:

$$G = \frac{M_o + M_d}{L_s} \quad \text{Equation (3)}$$

- (ii) Calculate the volume-weighted average of VOC emissions discharged to the atmosphere ( $N$ ) during the calendar month for the affected facility by the following equation:

$$N = G$$

(Rule 1200-03-16-.40, continued)

- (iii) Where the value of the volume-weighted average of mass of VOC per volume of solids discharged to the atmosphere (N) is equal to or less than the applicable emission limit specified under paragraph (3) of this rule, the affected facility is in compliance.
  - (iv) If each individual coating used by an affected facility has a VOC content equal to or less than the limit specified in paragraph (3) of this rule, the affected facility is in compliance provided no VOC-solvents are added to the coating during distribution or application.
2. An owner or operator shall use the following procedures for each affected facility that uses a capture system and control device that destroys VOC (e.g. incinerator) to comply with emissions limit specified in paragraph (3) of this rule.
- (i) Determine the overall reduction efficiency (R) for the capture system and control device.

For the initial performance test, the overall reduction efficiency (R) shall be determined as prescribed in items (I), (II), and (III) below. In subsequent months, the owner or operator may use the most recently determined overall reduction efficiency for the performance test providing control device and capture system operating conditions have not changed. The procedure in items (I), (II) and (III) below, shall be repeated when directed by the Technical Secretary or when the owner or operator elects to operate the control device or capture system at conditions different from the initial performance test.

- (I) Determine the fraction (F) of total VOC used by the affected facility that enters the control device using the following equation:

$$F = \frac{Se}{He} + \frac{Sh}{Hh} \quad \text{Equation (5)}$$

where He and Hh shall be determined by a method that has been previously approved by the Technical Secretary. The owner or operator may use the values of Se and Sh specified in Table 1 or other values determined by a method that has been previously approved by the Technical Secretary.

Table 1. – Distribution of VOC Emissions

| Coating operation                | Emission distribution       |                        |
|----------------------------------|-----------------------------|------------------------|
|                                  | Coater/<br>flashoff<br>(Se) | Curing<br>oven<br>(Sh) |
| Two-piece aluminum or steel can: |                             |                        |
| Exterior base coat operation     | 0.75                        | 0.25                   |
| Overvarnish coating operation    | 0.75                        | 0.25                   |
| Inside spray coating operation   | 0.80                        | 0.20                   |

- (II) Determine the destruction efficiency of the control device (E) using values of the volumetric flow rate of each of the gas streams and the VOC content (as carbon) of each of the gas streams in and out of the device by the following equation:

(Rule 1200-03-16-.40, continued)

$$E = \frac{\sum_{i=1}^n Q_{bi} C_{bi} - \sum_{j=1}^m Q_{aj} C_{aj}}{\sum_{i=1}^n Q_{bi} C_{bi}} \quad \text{Equation (6)}$$

where n is the number of vents before the control device, and m is the number of vents after the control device.

(III) Determine overall reduction efficiency (R) using the following equation:

$$R = EF \quad \text{Equation (7)}$$

(ii) Calculate the volume-weighted average of the total mass of VOC per volume of coating solids (G) used during the calendar month for the affected facility using equations (1), (2) and (3).

(iii) Calculate the volume-weighted average of VOC emissions discharged to the atmosphere (N) during the calendar month by the following equation:

$$N = G \times (1 - R) \quad \text{Equation (8)}$$

(iv) If the volume-weighted average of mass of VOC emitted to the atmosphere for the calendar month (N) is equal to or less than the applicable emission limit specified in paragraph (3) of this rule, the affected facility is in compliance.

3. An owner or operator shall use the following procedure for each affected facility that uses a capture system and a control device that recovers the VOC (e.g., carbon adsorber) to comply with the applicable emission limit specified in paragraph (3) of this rule.

(i) Calculate the volume-weighted average of the total mass of VOC per unit volume of coating solids applied (G) used during the calendar month for the affected facility using equations (1), (2) and (3).

(ii) Calculate the total mass of VOC recovered (Mr) during each calendar month using the following equation:

$$Mr = Lr Dr \quad \text{Equation (9)}$$

(iii) Calculate overall reduction efficiency of the control device (R) for the calendar month for the affected facility using the following equation:

$$R = \frac{Mr}{Mo + Md} \quad \text{Equation (10)}$$

(iv) Calculate the volume-weighted average mass of VOC discharged to the atmosphere (N) for the calendar month for the affected facility using equation (8).

(Rule 1200-03-16-.40, continued)

- (v) If the weighted average of VOC emitted to the atmosphere for the calendar month (N) is equal to or less than the applicable emission limit specified in paragraph (3) of this rule, the affected facility is in compliance.

(5) Monitoring of emissions and operations.

The owner or operator of an affected facility that uses a capture system and an incinerator to comply with the emission limits specified under paragraph (3) of this rule shall install, calibrate, maintain, and operate temperature measurement devices as prescribed below.

- (a) Where thermal incineration is used, a temperature measurement device shall be installed in the firebox. Where catalytic incineration is used, temperature measurement devices shall be installed in the gas stream immediately before and after the catalyst bed.
- (b) Each temperature measurement device shall be installed, calibrated, and maintained according to the manufacturer's specifications. This device shall have an accuracy the greater of  $\pm 0.75$  percent of the temperature being measured expressed in degrees Celsius or  $\pm 2.5^{\circ}\text{C}$ .
- (c) Each temperature measurement device shall be equipped with a recording device so that a permanent continuous record is produced.

(6) Reporting and recordkeeping requirements.

- (a) The owner or operator of an affected facility shall include the following data in the initial compliance report required under rule 1200-03-16-.01(5)(a).
  1. Where only coatings which individually have a VOC content equal to or less than the limits specified in paragraph (3) of this rule are used, and no VOC is added to the coating during the application or distribution process, the owner or operator shall provide a list of the coatings used for each affected facility and the VOC content of each coating calculated from data determined using either Reference Method 24 (as specified in 1200-03-16-.01(5)(g)24.) or data supplied by the manufacturer of the coatings.
  2. Where one or more coatings which individually have a VOC content greater than the limits specified under paragraph (3) of this rule are used or where VOC are added or used in the coating process, the owner or operator shall report for each affected facility the volume-weighted average of the total mass of VOC per volume of coating solids.
  3. Where compliance is achieved through the use of incineration, the owner or operator shall include in the initial performance test required under 1200-03-16-.01(5)(a) the combustion temperature (or the gas temperature upstream and downstream of the catalyst bed), the total mass of VOC per volume of coating solids before and after the incinerator, capture efficiency, and the destruction of efficiency of the incinerator used to attain compliance with the applicable emission limit specified under paragraph (3) of this rule. The owner or operator shall also include a description of the method used to establish the amount of VOC captured by the capture system and sent to the control device.
- (b) Following the initial performance test, each owner or operator shall submit for each semiannual period ending June 30 and December 31 a written report to the Technical Secretary of exceedances of VOC content and incinerator operating temperatures when compliance with paragraph (3) of this rule is achieved through the use of



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incineration. All semiannual reports shall be postmarked by the 30th day following the end of each semiannual period. For the purposes of these reports, exceedances are defined as:

1. Each performance period in which the volume-weighted average of the total mass of VOC per volume of coating solids, after the control device, if capture devices and control systems are used, is greater than the limit specified under paragraph (3) of this rule.
  2. Where compliance with paragraph (3) of this rule is achieved through the use of thermal incineration, each 3-hour period when cans are processed, during which the average temperature of the device was more than 28°C below the average temperature of the device during the most recent performance test at which destruction efficiency was determined as specified under paragraph (4) of this rule.
  3. Where compliance with paragraph (3) of this rule is achieved through the use of catalytic incineration, each 3-hour period when cans are being processed during which the average temperature of the device immediately before the catalyst bed is more than 28°C below the average temperature of the device immediately before the catalyst bed during the most recent performance test at which destruction efficiency was determined as specified under paragraph (4) of this rule and all 3-hour periods, when cans are being processed, during which the average temperature difference across the catalyst bed is less than 80 percent of the average temperature difference across the catalyst bed during the most recent performance test at which destruction efficiency was determined as specified under paragraph (4) of this rule.
- (c) Each owner or operator subject to the provisions of this rule shall maintain at the source, for a period of at least 2 years, records of all data and calculations used to determine VOC emissions from each affected facility in the initial and monthly performance tests. Where compliance is achieved through the use of thermal incineration, each owner or operator shall maintain, at the source, daily records of the incinerator combustion chamber temperature. If catalytic incineration is used, the owner or operator shall maintain at the source daily records of the gas temperature, both upstream and downstream of the incinerator catalyst bed. Where compliance is achieved through the use of a solvent recovery system, the owner or operator shall maintain at the source daily records of the amount of solvent recovered by the system for each affected facility.
- (7) Test methods and procedures.
- (a) The reference methods in 1200-03-16-.01(5)(g) except as provided in 1200-03-16-.01(5)(b), shall be used to conduct performance tests.
    1. Reference Method 24 (as specified in 1200-03-16-.01(5)(g)24.), an equivalent or alternative method approved by the Technical Secretary, or manufacturers formulation for data from which the VOC content of the coatings used for each affected facility can be calculated. In the event of dispute, Reference Method 24 shall be the reference method. When VOC content of waterborne coatings, determined from data generated by Reference Method 24, is used to determine compliance of affected facilities, the results of the Method 24 analysis shall be adjusted as described in Section 4.4 of Method 24.
    2. Reference Method 25 or an equivalent or alternative method for the determination of the VOC concentration in the effluent gas entering and leaving

(Rule 1200-03-16-.40, continued)

the control device for each stack equipped with an emission control device. The owner or operation shall notify the Technical Secretary 30 days in advance of any test using Reference Method 25. The following reference methods are to be used in conjunction with Reference Method 25:

- (i) Method 1 for sample and velocity traverses,
  - (ii) Method 2 for velocity and volumetric flow rate,
  - (iii) Method 3 for gas analysis, and
  - (iv) Method 4 for stack gas moisture.
- (b) For Reference Method 24, the coating sample must be a 1 liter sample collected in a 1-liter container at a point where the sample will be representative of the coating material.
- (c) For Reference Method 25, the sampling time for each of three runs must be at least 1 hour. The minimum sample volume must be 0.003 dscm except that shorter sampling times or smaller volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary. The Technical Secretary will approve the sampling of representative stacks on a case-by-case basis if the owner or operator can demonstrate to the satisfaction of the Technical Secretary that the testing of representative stacks would yield results comparable to those that would be obtained by testing all stacks.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed September 21, 1988; effective November 6, 1988.

#### 1200-03-16-.41 METALLIC MINERAL PROCESSING PLANTS.

- (1) Applicability.
- (a) The provisions of this rule are applicable to the following affected facilities in metallic mineral processing plants: Each crusher and screen in open-pit mines; each crusher, screen, bucket elevator, conveyor belt transfer point, thermal dryer, product packaging station, storage bin, enclosed storage area, truck loading station, truck unloading station, railcar loading station, and railcar unloading station at the mill or concentrator with the following exceptions. All facilities located in underground mines are exempted from the provisions of this rule. At uranium ore processing plants, all facilities subsequent to and including the beneficiation of uranium ore are exempted from the provisions of this rule.
  - (b) An affected facility under subparagraph (a) of this paragraph that commences construction or modification after November 6, 1988 is subject to the requirements of this rule.
- (2) Definitions.
- (a) "Bucket elevator" means a conveying device for metallic minerals consisting of a head and foot assembly that supports and drives an endless single or double strand chain or belt to which buckets are attached.
  - (b) "Capture system" means the equipment used to capture and transport particulate matter generated by one or more affected facilities to a control device.

(Rule 1200-03-16-.41, continued)

- (c) “Control device” means the air pollution control equipment used to reduce particulate matter emissions released to the atmosphere from one or more affected facilities at a metallic mineral processing plant.
- (d) “Conveyor belt transfer point” means a point in the conveying operation where the metallic mineral or metallic mineral concentrate is transferred to or from a conveyor belt except where the metallic mineral is being transferred to a stockpile.
- (e) “Crusher” means a machine used to crush any metallic mineral and includes feeders or conveyors located immediately below the crushing surfaces. Crushers include, but are not limited to, the following types: jaw, gyratory, cone, and hammermill.
- (f) “Enclosed storage area” means any area covered by a roof under which metallic minerals are stored prior to further processing or loading.
- (g) “Metallic mineral concentrate” means a material containing metallic compounds in concentrations higher than naturally occurring in ore but requiring additional processing if pure metal is to be isolated. A metallic mineral concentrate contains at least one of the following metals in any of its oxidation states and at a concentration that contributes to the concentrate’s commercial value: aluminum, copper, gold, iron, lead, molybdenum, silver, titanium, tungsten, uranium, zinc, and zirconium. This definition shall not be construed as requiring that material containing metallic compounds be refined to a pure metal in order for the material to be considered a metallic mineral concentrate to be covered by the standards.
- (h) “Metallic mineral processing plant” means any combination of equipment that produces metallic mineral concentrates for ore. Metallic mineral processing commences with the mining of ore and includes all operations either up to and including the loading of wet or dry concentrates or solutions of metallic minerals for transfer to facilities at nonadjacent locations that will subsequently process metallic concentrates into purified metals (or other products), or up to and including all material transfer and storage operations that precede the operations that produce refined metals (or other products) from metallic mineral concentrates at facilities adjacent to the metallic mineral processing plant. This definition shall not be construed as requiring that mining of ore be conducted in order for the combination of equipment to be considered a metallic mineral processing plant.
- (i) “Process fugitive emissions” means particulate matter emissions from an affected facility that are not collected by a capture system.
- (j) “Product packaging station” means the equipment used to fill containers with metallic compounds or metallic mineral concentrates.
- (k) “Railcar loading station” means that portion of a metallic mineral processing plant where metallic minerals or metallic mineral concentrates are loaded by a conveying system into railcars.
- (l) “Railcar unloading station” means that portion of a metallic mineral processing plant where metallic ore is unloaded from a railcar into a hopper, screen, or crusher.
- (m) “Screen” means a device for separating material according to size by passing undersize material through one or more mesh surfaces (screens) in series and retaining oversize materials on the mesh surfaces (screens).
- (n) “Stack emissions” means the particulate matter captured and released to the atmosphere through a stack, chimney, or flue.

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- (o) "Storage bin" means a facility for storage (including surge bins and hoppers) of metallic minerals prior to further processing or loading.
  - (p) "Surface moisture" means water that is not chemically bound to a metallic mineral or metallic mineral concentrate.
  - (q) "Thermal dryer" means a unit in which the surface moisture content of a metallic mineral or a metallic mineral concentrate is reduced by direct or indirect contact with a heated gas steam.
  - (r) "Truck loading station" means that portion of a metallic mineral processing plant where metallic minerals or metallic mineral concentrates are loaded by a conveying system into trucks.
  - (s) "Truck unloading station" means that portion of a metallic mineral processing plant where metallic ore is unloaded from a truck into a hopper, screen, or crusher.
- (3) Standards:
- (a) On and after the date on which the performance test required to be conducted by paragraph 1200-03-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from an affected facility any stack emissions that:
    - 1. Contain particulate matter in excess of 0.05 grams per dry standard cubic meter.
    - 2. Exhibit greater than 7 percent opacity, unless the stack emissions are discharged from an affected facility using a wet scrubbing emission control device.
  - (b) On and after the sixtieth day after achieving the maximum production rate at which the affected facility will be operated, but no later than 180 days after initial startup, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from an affected facility any process fugitive emissions that exhibit greater than 10 percent opacity.
- (4) Reconstruction:
- (a) The cost of replacement of ore-contact surfaces on processing equipment shall not be considered in calculating either the "fixed capital cost of the new components" or the "fixed capital cost that would be required to construct a comparable new facility" under subparagraph 1200-03-16-.01(9)(b). Ore-contact surfaces are: Crushing surfaces; screen meshes, bars, and plates; conveyor belts; elevator buckets; and pan feeders.
  - (b) Under subparagraph 1200-03-16-.01(9)(b), the "fixed capital cost of the new components" includes the fixed capital cost of all depreciable components (except components specified in subparagraph (a) of this paragraph) that are or will be replaced pursuant to all continuous programs of component replacement commenced within any 2-year period following November 6, 1988.
- (5) Monitoring:
- (a) The owner or operator subject to the provisions of this rule shall install, calibrate, maintain, and operate a monitoring device for the continuous measurement of the change in pressure of the gas stream through the scrubber for any affected facility using a wet scrubbing emission control device. The monitoring device must be certified by the manufacturer to be accurate within  $\pm 250$  pascals ( $\pm 1$  inch water) gauge

(Rule 1200-03-16-.41, continued)

pressure and must be calibrated on an annual basis in accordance with manufacturer's instructions.

- (b) The owner or operator subject to the provisions of this rule shall install, calibrate, maintain, and operate a monitoring device for the continuous measurement of the scrubbing liquid flow rate to a wet scrubber for any affected facility using any type of wet scrubbing emission control device. The monitoring device must be certified by the manufacturer to be accurate within  $\pm 5$  percent of design scrubbing liquid flow rate and must be calibrated on at least an annual basis in accordance with manufacturer's instructions.
- (6) Recordkeeping and reporting:
- (a) The owner or operator subject to the provisions of this rule shall conduct a performance test and submit to the Technical Secretary a written report of the results of the test as specified in subparagraph 1200-03-16-.01(5)(a).
  - (b) During the initial performance test of a wet scrubber, and at least weekly thereafter, the owner or operator shall record the measurements of both the change in pressure of the gas stream across the scrubber and the scrubbing liquid flow rate.
  - (c) After the initial performance test of a wet scrubber, the owner or operator shall submit semiannual reports to the Technical Secretary of occurrences when the measurements of the scrubber pressure loss (or gain) and liquid flow differ by more than  $\pm 30$  percent from those measurements recorded during the most recent performance test.
  - (d) The reports required under subparagraph (c) of this paragraph shall be postmarked within 30 days following the end of the second and fourth calendar quarters.
- (7) Test methods and procedures:
- (a) Reference Methods in subparagraph 1200-03-16-.01(5)(g) except as provided under 1200-03-16.01(5)(b), shall be used to determine compliance with the standards prescribed under paragraph (3) of this rule as follows:
    - 1. Method 5 or Method 17 for concentration of particulate matter and associated moisture content;
    - 2. Method 1 for sample and velocity traverses;
    - 3. Method 2 for velocity and volumetric flow rate;
    - 4. Method 3 for gas analysis;
    - 5. Method 9 for measuring opacity from stack emissions and process fugitive emissions.
  - (b) For Method 5, the following stipulations shall apply:
    - 1. The sampling probe and filter holder may be operated without heaters if the gas stream being sampled is at ambient temperature;
    - 2. For gas streams above ambient temperature, the sampling train shall be operated with a probe and filter temperature slightly above the effluent temperature (up to a maximum filter temperature of 121°C (250°F)) in order to prevent water condensation on the filter;

(Rule 1200-03-16-.41, continued)

3. The minimum sample volume shall be 1.7 dscm (60 dscf).
- (c) For Method 9, the following stipulation shall apply; the observer shall read opacity only when emissions are clearly identified as emanating solely from the affected facility being observed.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed September 21, 1988; effective November 6, 1988.

#### **1200-03-16-.42 PRESSURE SENSITIVE TAPE AND LABEL SURFACE COATING OPERATIONS.**

- (1) Applicability.
  - (a) The affected facility to which the provisions of this rule apply is each coating line used in the manufacture of pressure sensitive tape and label materials.
  - (b) Any affected facility which inputs to the coating process 45 Mg of VOC or less per 12 month period is not subject to the emission limits of subparagraph (3)(a) of this rule, however, the affected facility is subject to the requirements of all other applicable paragraphs of this rule. If the amount of VOC input exceeds 45 Mg per 12 month period, the coating line will become subject to subparagraph (3)(a) of this rule and all other paragraphs of this rule.
  - (c) This rule applies to any affected facility which begins construction, modification, or reconstruction after November 6, 1988.
- (2) Definitions and Symbols.
  - (a) Definitions
    1. "Coating applicator" means an apparatus used to apply a surface coating to a continuous web.
    2. "Coating line" means any number or combination of adhesive, release, or precoat coating applicators, flashoff areas, and ovens which coat a continuous web, located between a web unwind station and a web rewind station, to produce pressure sensitive tape and label materials.
    3. "Coating solids applied" means the solids content of the coated adhesive, release, or precoat as measured by Reference Method 24 (as specified in 1200-03-16-.01(5)(g)24.).
    4. "Flashoff area" means the portion of a coating line after the coating applicator and usually before the oven entrance.
    5. "Fugitive volatile organic compounds" means any volatile organic compounds which are emitted from the coating applicator and flashoff areas and are not emitted in the oven.
    6. "Hood or enclosure" means any device used to capture fugitive volatile organic compounds.
    7. "Oven" means a chamber which uses heat or irradiation to bake, cure, polymerize, or dry a surface coating.

(Rule 1200-03-16-.42, continued)

8. "Precoat" means a coating operation in which a coating other than an adhesive or release is applied to a surface during the production of a pressure sensitive tape or label product.
9. "Solvent applied in the coating" means all organic solvent contained in the adhesive, release, and precoat formulations that is metered into the coating applicator from the formulation area.
10. "Total enclosure" means a structure or building around the coating applicator and flashoff area or the entire coating line for the purpose of confining and totally capturing fugitive VOC emissions.
11. "VOC" means volatile organic compound.

(b) Symbols

- "a" means the gas stream vents exiting the emission control device.
- "b" means the gas stream vents entering the emission control device.
- "Caj" means the concentration of VOC (carbon equivalent) in each gas stream (j) exiting the emission control device, in parts per million by volume.
- "Cbi" means the concentration of VOC (carbon equivalent) in each gas stream (i) entering the emission control device, in parts per million by volume.
- "Cfk" means the concentration of VOC (carbon equivalent) in each gas stream (k) emitted directly to the atmosphere in parts per million by volume.
- "G" means the calculated weighted average mass (kg) of VOC per mass (kg) of coating solids applied each calendar month.
- "Mci" means the total mass (kg) of each coating (i) applied during the calendar month as determined from facility records.
- "Mr" means the total mass (kg) of solvent recovered for a calendar month.
- "Qaj" means the volumetric flow rate of each effluent gas stream (j) exiting the emission control device, in dry standard cubic meters per hour.
- "Qbi" means the volumetric flow rate of each effluent gas stream (i) entering the emission control device, in dry standard cubic meters per hour.
- "Qfk" means the volumetric flow rate of each effluent gas stream (k) emitted to the atmosphere, in dry standard cubic meters per hour.
- "R" means the overall VOC emission reduction achieved for a calendar month (in percent).
- "Rq" means the required overall VOC emission reduction (in percent).
- "Woi" means the weight fraction of organics applied of each coating (i) applied during a calendar month as determined from Reference Method 24 or coating manufacturer's formulation data.

(Rule 1200-03-16-.42, continued)

“W<sub>si</sub>” means the weight fraction of solids applied of each coating (i) applied during a calendar month as determined from Reference Method 24 or coating manufacturer’s formulation data.

(3) Standard for volatile organic compounds:

(a) On and after the date on which the performance test required by paragraph 1200-03-16-.01(5) has been completed each owner or operator subject to this rule shall:

1. Cause the discharge into the atmosphere from an affected facility not more than 0.20 kg VOC/kg of coating solids applied as calculated on a weighted average basis for one calendar month; or
2. Demonstrate for each affected facility;
  - (i) a 90 percent overall VOC emission reduction as calculated over a calendar month; or
  - (ii) the percent overall VOC emission reduction specified in subparagraph (4)(b) of this rule as calculated over a calendar month.

(4) Compliance provisions:

(a) To determine compliance with paragraph (3) of this rule the owner or operator of the affected facility shall calculate a weighted average of the mass of solvent used per mass of coating solids applied for a one calendar month period according to the following procedures:

1. Determine the weight fraction of organics and the weight fraction of solids of each coating applied by using Reference Method 24 (as specified in 1200-03-16-.01(5)(g)) or by the coating manufacturer’s formulation data.
2. Compute the weighted average by the following equation:

$$G = \frac{\sum_{i=1}^n W_{oi} M_{ci}}{\sum_{i=1}^n W_{si} M_{ci}}$$

Where:

n = the number of coatings

3. For each affected facility where the value of G is less than or equal to 0.20 kg VOC per kg of coating solids applied, the affected facility is in compliance with part (3)(a)1. of this rule.

(b) To determine compliance with part (3)(a)2. of this rule, the owner or operator shall calculate the required overall VOC emission reduction according to the following equation:

$$R_q = \frac{G - 0.20}{G} \times 100$$



(Rule 1200-03-16-.42, continued)

If Rq is less than or equal to 90 percent, then the required overall VOC emission reduction is Rq. If Rq is greater than 90 percent, then the required overall VOC emission reduction is 90 percent.

- (c) Where compliance with the emission limits specified in part (3)(a)2. of this rule is achieved through the use of a solvent recovery system, the owner or operator shall determine the overall VOC emission reduction for a one calendar month period by the following equation:

$$R = \sum_{i=1}^n \frac{M_r}{W_{oi} M_{ci}} \times 100$$

Where:

n = the number of coatings

If the R value is equal to or greater than the Rq value specified in subparagraph (b) of this paragraph, then compliance with part (3)(a)2. of this rule is demonstrated.

- (d) Where compliance with emission limit specified in part (3)(a)2. of this rule is achieved through the use of a solvent destruction device, the owner or operator shall determine calendar monthly compliance by comparing the monthly required overall VOC emission reduction specified in subparagraph (b) of this paragraph to the overall VOC emission reduction demonstrated in the most recent performance test which complied with part (3)(a)2. of this rule. If the monthly required overall VOC emission reduction is less than or equal to the overall VOC reduction of the most recent performance test, the affected facility is in compliance with part (3)(a)2. of this rule.
- (e) Where compliance with part (3)(a)2. of this rule is achieved through the use of a solvent destruction device, the owner or operator shall continuously record the destruction device combustion temperature during coating operations for thermal incineration destruction devices or the gas temperature upstream and downstream of the incinerator catalyst bed during coating operations for catalytic incineration destruction devices. For thermal incineration destruction devices the owner or operator shall record all 3-hour periods (during actual coating operations) during which the average temperature of the device is more than 28°C (50°F) below the average temperature of the device during the most recent performance test complying with part (3)(a)2. of this rule. For catalytic incineration destruction devices, the owner or operator shall record all 3-hour periods (during actual coating operations) during which the average temperature of the device immediately before the catalyst bed is more than 28°C (50°F) below the average temperature of the device during the most recent performance test complying with part (3)(a)2. of this rule, and all 3-hour periods (during actual coating operations) during which the average temperature difference across the catalyst bed is less than 80 percent of the average temperature difference of the device during the most recent performance test complying with part (3)(a)2. of this rule.
- (f) After the initial performance test required for all affected facilities under paragraph 1200-03-16-.01(5), compliance with the VOC emission limitation and percentage reduction requirements under paragraph (3) of this rule is based on the average emission reduction for one calendar month. A separate compliance test is completed at the end of each calendar month after the initial performance test, and a new calendar month's average VOC emission reduction is calculated to show compliance with the standard.

(Rule 1200-03-16-.42, continued)

- (g) If a common emission control device is used to recover or destroy solvent from more than one affected facility, the performance of that control device is assumed to be equal for each of the affected facilities. Compliance with part (3)(a)2. of this rule is determined by the methods specified in subparagraphs (c) and (d) of this paragraph and is performed simultaneously on all affected facilities.
  - (h) If a common emission control device is used to recover solvent from an existing facility (or facilities) as well as from an affected facility (or facilities), the overall VOC emission reduction for the affected facility (or facilities), for the purpose of compliance, shall be determined by the following procedures:
    1. The owner or operator of the existing facility (or facilities) shall determine the mass of solvent recovered for a calendar month period from the existing facility (or facilities) prior to the connection of the affected facility (or facilities) to the emission control device.
    2. The affected facility (or facilities) shall then be connected to the emission control device.
    3. The owner or operator shall determine the total mass of solvent recovered from both the existing and affected facilities over a calendar month period. The mass of solvent determined in part (h)1. of this paragraph from the existing facility shall be subtracted from the total mass of recovered solvent to obtain the mass of solvent recovered from the affected facility (or facilities). The overall VOC emission reduction of the affected facility (or facilities) can then be determined as specified in subparagraph (c) of this paragraph.
  - (i) If a common emission control devices is used to destruct solvent from an existing facility (or facilities) as well as from an affected facility (or facilities), the overall VOC emission reduction for the affected facility (or facilities), for the purpose of compliance, shall be determined by the following procedures:
    1. The owner or operator shall operate the emission control device with both the existing and affected facilities connected.
    2. The concentration of VOC (in parts per million by volume) after the common emission control device shall be determined as specified in subparagraph (5)(c) of this rule. This concentration is used in the calculation for both the existing and affected facilities.
    3. The volumetric flow out of the common control device attribute to the affected facility (or facilities) shall be calculated by first determining the ratio of the volumetric flow entering the common control device attributable to the affected facility (facilities) to the total volumetric flow entering the common control device from both existing and affected facilities. The multiplication of this ratio by the total volumetric flow out of the common control device yields the flow attributable to the affected facility (facilities). Compliance is determined by the use of the equation specified in subparagraph (5)(c) of this rule.
  - (j) Startups and shutdowns are normal operation for this source category. Emissions from these operations are to be included when determining if the standard specified at part (3)(a)2. of this rule is being attained.
- (5) Performance test procedures:

(Rule 1200-03-16-.42, continued)

- (a) The performance test for affected facilities complying with paragraph (3) of this rule without the use of add-on controls shall be identical to the procedures specified in subparagraph (4)(a) of this rule.
- (b) The performance test for affected facilities controlled by a solvent recovery device shall be conducted as follows:
1. The performance test shall be a one calendar month test and not the average of three runs as specified in subparagraph 1200-03-16-.01(5)(f).
  2. The weighted average mass of VOC per mass of coating solids applied for a one calendar month period shall be determined as specified in parts (4)(a)1. and 2. of this rule.
  3. Calculate the required percent overall VOC emission reduction as specified in subparagraph (4)(b) of this rule.
  4. Inventory VOC usage and VOC recovery for a one calendar month period.
  5. Determine the percent overall VOC emission reduction as specified in subparagraph (4)(c) of this rule.
- (c) The performance test for affected facilities controlled by a solvent destruction device shall be conducted as follows:
1. The performance of the solvent destruction device shall be determined by averaging the results of three test runs as specified in subparagraph 1200-03-16-.01(5)(f).
  2. Determine for each affected facility prior to each test run the weighted average mass of VOC per mass of coating solids applied being used at the facility. The weighted average shall be determined as specified in subparagraph (4)(a) of this rule. In this application the quantities of  $W_{oi}$ ,  $W_{si}$  and  $M_{ci}$  shall be determined for the time period of each test run and not a calendar month as specified in paragraph (2) of this rule.
  3. Calculate the required percent overall VOC emission reduction as specified in subparagraph (4)(b) of this rule.
  4. Determine the percent overall VOC emission reduction of the solvent destruction device by the following equation and procedures:

$$R = \frac{\sum_{i=1}^n Q_{bi} C_{bi} - \sum_{j=1}^m Q_{aj} C_{aj}}{\sum_{i=1}^n Q_{bi} C_{bi} + \sum_{k=1}^p Q_{fk} C_{fk}} \times 100$$

Where:

$m$  = the number of effluent gas streams (j) exiting the emission control device.

$n$  = the number of effluent gas streams (i) entering the emission control device.

(Rule 1200-03-16-.42, continued)

- p = the number of effluent gas streams (k) that emit to the atmosphere.
- (i) The owner or operator of the affected facility shall construct the overall VOC emission reduction system so that all volumetric flow rates and total VOC emissions can be accurately determined by the applicable test methods and procedures specified in subparagraph (7)(b) of this rule.
  - (ii) The owner or operator of an affected facility shall construct a temporary total enclosure around the coating line applicator and flashoff area during the performance test for the purpose of capturing fugitive VOC emissions. If a permanent total enclosure exists in the affected facility prior to the performance test and the Technical Secretary is satisfied that the enclosure is totally capturing fugitive VOC emissions, then no additional total enclosure will be required for the performance test.
  - (iii) For each affected facility where the value of R is greater than or equal to the value of R<sub>q</sub>, calculated in subparagraph (4)(b) of this rule, compliance with part (3)(a)2. of this rule is demonstrated.
- (6) Monitoring of operations and recordkeeping:
- (a) The owner or operator of an affected facility subject to this rule shall maintain a calendar month record of all coatings used and the results of the reference test method specified in subparagraph (7)(a) of this rule or the manufacturer's formulation data used for determining the VOC content of those coatings.
  - (b) The owner or operator of an affected facility controlled by a solvent recovery device shall maintain a calendar month record of the amount of solvent applied in the coating at each affected facility.
  - (c) The owner or operator of an affected facility controlled by a solvent recovery device shall install, calibrate, maintain, and operate a monitoring device for indicating the cumulative amount of solvent recovered by the device over a calendar month period. The monitoring device shall be accurate within  $\pm 2.0$  percent. The owner or operator shall maintain a calendar month record of the amount of solvent recovered by the device.
  - (d) The owner or operator of an affected facility operating at the conditions specified in subparagraph (1)(b) of this rule shall maintain a 12 month record of the amount of solvent applied in the coating at the facility.
  - (e) The owner or operator of an affected facility controlled by a thermal incineration solvent destruction device shall install, calibrate, maintain, and operate a monitoring device which continuously indicates and records the temperature of the solvent destruction device's exhaust gases. The monitoring device shall have an accuracy of the greater of  $\pm 0.75$  percent of the temperature being measured expressed in degrees Celsius or  $\pm 2.5^{\circ}\text{C}$ .
  - (f) The owner or operator of an affected facility controlled by a catalytic incineration solvent destruction device shall install, calibrate, maintain, and operate a monitoring device which continuously indicates and records the gas temperature both upstream and downstream of the catalyst bed.
  - (g) The owner or operator of an affected facility controlled by a solvent destruction device which uses a hood or enclosure to capture fugitive VOC emissions shall install,

(Rule 1200-03-16-.42, continued)

calibrate, maintain, and operate a monitoring device which continuously indicates that the hood or enclosure is operating. No continuous monitor shall be required if the owner or operator can demonstrate that the hood or enclosure system is interlocked with the affected facility's oven recirculation air system.

- (h) Records of the measurements required in paragraphs (4) and (6) of this rule must be retained for at least two years following the date of the measurements.
- (7) Test methods and procedures:
- (a) The VOC content per unit of coating solids applied and compliance with part (3)(a)1. of this rule shall be determined by either Reference Method 24 and the equations specified in paragraph (4) of this rule or by manufacturer's formulation data. In the event of any inconsistency between a Method 24 test and manufacturer's formulation data, the Method 24 test will govern. The Technical Secretary may require an owner or operator to perform Method 24 tests during such months as he deems appropriate. For Reference Method 24, the coating sample must be a one liter sample taken into a one liter container at a point where the sample will be representative of the coating applied to the web substrate.
  - (b) Reference Method 25 shall be used to determine the VOC concentration, in parts per million by volume, of each effluent gas stream entering and exiting the solvent destruction device or its equivalent, and each effluent gas stream emitted directly to the atmosphere. Reference Methods 1, 2, 3, and 4 shall be used to determine the sampling location, volumetric flowrate, molecular weight, and moisture of all sampled gas streams. For Reference Method 25, the sampling time for each of three runs must be at least 1 hour. The minimum sampling volume must be 0.003 dscm except that shorter sampling times or smaller volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.
- (8) Reporting requirements:
- (a) For all affected facilities subject to compliance with paragraph (3) of this rule, the performance test data and results from the performance test shall be submitted to the Technical Secretary as specified in subparagraph 1200-03-16-.01(5)(a).
  - (b) The owner or operator of each affected facility shall submit semiannual reports to the Technical Secretary of exceedances of the following:
    - 1. The VOC emission limits specified in paragraph (3) of this rule; and
    - 2. The incinerator temperature drops as defined under subparagraph (4)(e) of this rule. The reports required under subparagraph (b) shall be postmarked within 30 days following the end of the second and fourth calendar quarters.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed September 21, 1988; effective November 6, 1988.

**1200-03-16-.43 RESERVED.**

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-201-101, et seq. **Administrative History:** Original rule filed September 22, 1988; effective November 6, 1988. Amendment filed March 21, 2013; effective June 19, 2013.

**1200-03-16-.44 BULK GASOLINE TERMINALS.**

- (1) Applicability.
  - (a) The affected facility to which the provisions of this rule apply is the total of all the loading racks at a bulk gasoline terminal which deliver liquid product into gasoline tank trucks.
  - (b) Each facility under subparagraph (a) of this paragraph, the construction, reconstruction, or modification of which is commenced after November 6, 1988 is subject to the provisions of this rule.
- (2) Definitions.
  - (a) "Bulk gasoline terminal" means any gasoline facility which receives gasoline by pipeline, ship or barge, and has a gasoline throughput greater than 75,700 liters per day. Gasoline throughput shall be the maximum calculated design throughput as may be limited by compliance with an enforceable condition under Federal, State or local law and discoverable by the Technical Secretary and any other person.
  - (b) "Continuous vapor processing system" means a vapor processing system that treats total organic compounds vapors collected from gasoline tank trucks on a demand basis without intermediate accumulation in a vapor holder.
  - (c) "Existing vapor processing system" means a vapor processing system (capable of achieving emissions to the atmosphere no greater than 80 milligrams of total organic compounds per liter of gasoline loaded), the construction or refurbishment of which was commenced before November 6, 1988 and which was not constructed or refurbished after that date.
  - (d) "Gasoline" means any petroleum distillate or petroleum distillate/alcohol blend having a Reid vapor pressure of 27.6 kilopascals or greater which is used as a fuel for internal combustion engines.
  - (e) "Gasoline tank truck" means a delivery tank truck used at bulk gasoline terminals which is loading gasoline or which has loaded gasoline on the immediately previous load.
  - (f) "Intermittent vapor processing system" means a vapor processing system that employs an intermediate vapor holder to accumulate total organic compounds vapors collected from gasoline tank trucks, and treats the accumulated vapors only during automatically controlled cycles.
  - (g) "Loading rack" means the loading arms, pumps, meters, shutoff valves, relief valves, and other piping and valves necessary to fill delivery tank trucks.
  - (h) "Refurbishment" means with reference to a vapor processing system replacement of components of, or addition of components to, the system within any 2-year period such that the fixed capital cost of the new components required for such component replacement or addition exceeds 50 percent of the cost of a comparable entirely new system.
  - (i) "Total organic compounds" means those compounds measured according to the procedures in paragraph (4) of this rule.
  - (j) "Vapor collection system" means any equipment used for containing total organic compounds vapors displaced during the loading of gasoline tank trucks.

(Rule 1200-03-16-.44, continued)

- (k) "Vapor processing system" means all equipment used for recovering or oxidizing total organic compounds vapors displaced from the affected facility.
  - (l) "Vapor-tight gasoline tank truck" means a gasoline tank truck which has demonstrated within the 12 preceding months that its product delivery tank will sustain a pressure change of not more than 750 pascals (75 mm of water) within 5 minutes after it is pressurized to 4,500 pascals (450 mm of water). This capability is to be demonstrated using the pressure test procedure specified in Reference Method 27 (as specified in 1200-03-16-.01(5)(g)27.).
- (3) Standard for Volatile Organic Compound (VOC) emissions.

On and after the date on which 1200-03-16-.01(5) requires a performance test to be completed, the owner or operator of each bulk gasoline terminal containing an affected facility shall comply with the requirements of this paragraph.

- (a) Each affected facility shall be equipped with a vapor collection system designed to collect the total organic compounds vapors displaced from tank trucks during product loading.
- (b) The emissions to the atmosphere from the vapor collection system due to the loading of liquid product into gasoline tank trucks are not to exceed 35 milligrams of total organic compounds per liter of gasoline loaded, except as noted in subparagraph (c) of this paragraph.
- (c) For each affected facility equipped with an existing vapor processing system, the emissions to the atmosphere from the vapor collection system due to the loading of liquid product into gasoline tank trucks are not to exceed 80 milligrams of total organic compounds per liter of gasoline loaded.
- (d) Each vapor collection system shall be designed to prevent any total organic compounds vapors collected at one loading rack from passing to another loading rack.
- (e) Loadings of liquid product into gasoline tank trucks shall be limited to vapor-tight gasoline tank trucks using the following procedures:
  - 1. The owner or operator shall obtain the vapor tightness documentation described in subparagraph (5)(b) of this rule for each gasoline tank truck which is to be loaded at the affected facility.
  - 2. The owner or operator shall require the tank identification number to be recorded as each gasoline tank truck is loaded at the affected facility.
  - 3. The owner or operator shall cross-check each tank identification number obtained in part (2) of this subparagraph with the file of tank vapor tightness documentation within 2 weeks after the corresponding tank is loaded.
  - 4. The terminal owner or operator shall notify the owner or operator of each nonvapor-tight gasoline tank truck loaded at the affected facility within 3 weeks after the loading has occurred.
  - 5. The terminal owner or operator shall take steps assuring that the nonvapor-tight gasoline tank truck will not be reloaded at the affected facility until vapor tightness documentation for that tank is obtained.

(Rule 1200-03-16-.44, continued)

6. Alternate procedures to those described in parts 1. through 5. of this subparagraph for limiting gasoline tank truck loadings may be used upon application to, and approval by, the Technical Secretary.
  - (f) The owner or operator shall act to assure that loadings of gasoline tank trucks at the affected facility are made only into tanks equipped with vapor collection equipment that is compatible with the terminal's vapor collection system.
  - (g) The owner or operator shall act to assure that the terminal's and the tank truck's vapor collection systems are connected during each loading of a gasoline tank truck at the affected facility. Examples of actions to accomplish this include training drivers in the hookup procedures and posting visible reminder signs at the affected loading racks.
  - (h) The vapor collection and liquid loading equipment shall be designed and operated to prevent gauge pressure in the delivery tank from exceeding 4,500 pascals (450 mm of water) during product loading. This level is not to be exceeded when measured by the procedures specified in subparagraph (4)(b) of this rule.
  - (i) No pressure-vacuum vent in the bulk gasoline terminal's vapor collection system shall begin to open at a system pressure less than 4,500 pascals (450 mm of water).
  - (j) Each calendar month, the vapor collection system, the vapor processing system, and each loading rack handling gasoline shall be inspected during the loading of gasoline tank trucks for total organic compounds liquid or vapor leaks. For purposes of this subparagraph, detection methods incorporating sight, sound, or smell are acceptable. Each detection of a leak shall be recorded and the source of the leak repaired within 15 calendar days after it is detected.
- (4) Test methods and procedures.
  - (a) 1200-03-16-.01(5)(f) does not apply to the performance test procedures required by this rule.
  - (b) For the purpose of determining compliance with subparagraph (3)(h) of this rule, the following procedures shall be used:
    1. Calibrate and install a pressure measurement device (liquid manometer, magnehelic gauge, or equivalent instrument), capable of measuring up to 500 mm of water gauge pressure with  $\pm 2.5$  mm of water precision.
    2. Connect the pressure measurement device to a pressure tap in the terminal's vapor collection system, located as close as possible to the connection with the gasoline tank truck.
    3. During the performance test, record the pressure every 5 minutes while a gasoline tank truck is being loaded, and record the highest instantaneous pressure that occurs during each loading. Every loading position must be tested at least once during the performance test.
  - (c) For the purpose of determining compliance with the mass emission limitations of subparagraphs (3)(b) and (c) of this rule, the following reference methods shall be used:
    1. For the determination of volume at the exhaust vent:



(Rule 1200-03-16-.44, continued)

- (i) Method 2B (as specified in 1200-03-16-.01(5)(g)) for combustion vapor processing systems.
  - (ii) Method 2A for all other vapor processing systems.
2. For the determination of total organic compounds concentration at the exhaust vent, Method 25A or 25B. The calibration gas shall be either propane or butane.
- (d) Immediately prior to a performance test required for determination of compliance with subparagraph (3)(b), (c) and (h) of this rule, all potential sources of vapor leakage in the terminal's vapor collection system equipment shall be monitored for leaks using Method 21. The monitoring shall be conducted only while a gasoline tank truck is being loaded. A reading of 10,000 ppmv or greater as methane shall be considered a leak. All leaks shall be repaired prior to conducting the performance test.
- (e) The test procedure for determining compliance with subparagraphs (3)(b) and (c) of this rule is as follows:
  1. All testing equipment shall be prepared and installed as specified in the appropriate test methods.
  2. The time period for a performance test shall be not less than 6 hours, during which at least 300,000 liters of gasoline are loaded. If the throughput criterion is not met during the initial 6 hours, the test may be either continued until the throughput criterion is met, or resumed the next day with another complete 6 hours of testing. As much as possible, testing should be conducted during the 6-hour period in which the highest throughput normally occurs.
  3. For intermittent vapor processing systems:
    - (i) The vapor holder level shall be recorded at the start of the performance test. The end of the performance test shall coincide with a time when the vapor holder is at its original level.
    - (ii) At least two startups and shutdowns of the vapor processor shall occur during the performance test. If this does not occur under automatically controlled operation, the system shall be manually controlled.
  4. The volume of gasoline dispensed during the performance test period at all loading racks whose vapor emissions are controlled by the processing system being tested shall be determined. This volume may be determined from terminal records or from gasoline dispensing meters at each loading rack.
  5. An emission testing interval shall consist of each 5-minute period during the performance test. For each interval:
    - (i) The reading from each measurement instrument shall be recorded, and
    - (ii) The volume exhausted and the average total organic compounds concentration in the exhaust vent shall be determined, as specified in the appropriate test method. The average total organic compounds concentration shall correspond to the volume measurement by taking into account the sampling system response time.
  6. The mass emitted during each testing interval shall be calculated as follows:

(Rule 1200-03-16-.44, continued)

$$M_{ei} = 10^{-6} * K * V_{es} * C_e$$

where:

Mei = mass of total organic compounds emitted during testing interval i, mg.

Ves = volume of air-vapor mixture exhausted, m<sup>3</sup>, at standard conditions.

Ce = total organic compounds concentration (as measured) at the exhaust vent, ppmv.

K = density of calibration gas, mg/m<sup>3</sup>, at standard conditions = 1.83 x 10<sup>6</sup>, for propane; = 2.41 x 10<sup>6</sup> for butane.

s = standard conditions, 20°C and 760 mm Hg.

7. The total organic compounds mass emissions shall be calculated as follows:

$$E = \frac{\sum_{i=1}^n M_{ei}}{L}$$

where:

E = mass of total organic compounds emitted per volume of gasoline loaded, mg/liter.

Mei = mass of total organic compounds emitted during testing interval i, mg.

L = total volume of gasoline loaded, liters.

n = number of testing intervals.

(f) The owner or operator may adjust the emission results to exclude the methane and ethane content in the exhaust vent by any method approved by the Technical Secretary.

(5) Reporting and Recordkeeping.

(a) The tank truck vapor tightness documentation required under part (3)(e)1. of this rule shall be kept on file at the terminal in a permanent form available for inspection.

(b) The documentation file for each gasoline tank truck shall be updated at least once per year to reflect current test results as determined by Method 27. This documentation shall include, as a minimum, the following information:

1. Test Title: Gasoline Delivery Tank Pressure Test - EPA Reference Method 27.
2. Tank Owner and Address.
3. Tank Identification Number.
4. Testing Location.
5. Date of Test.

(Rule 1200-03-16-.44, continued)

6. Tester Name and Signature.
  7. Witnessing Inspector, if any: Name, Signature, and Affiliation.
  8. Test Results: Actual Pressure Change in 5 minutes, mm of water (average for 2 runs).
- (c) A record of each monthly leak inspection required under subparagraph (3)(j) of this rule shall be kept on file at the terminal for at least 2 years. Inspection records shall include, as a minimum, the following information:
1. Date of Inspection.
  2. Findings (may indicate no leaks discovered; or location, nature and severity of each leak).
  3. Leak determination method.
  4. Corrective Action (date each leak repaired; reasons for any repair interval in excess of 15 days).
  5. Inspector Name and Signature.
- (d) The terminal owner or operator shall keep documentation of all notifications required under part (3)(e)4. of this rule on file at the terminal for at least 2 years.
- (e) (Reserved)
- (f) The owner or operator of an affected facility shall keep records of all replacements or additions of components performed on an existing vapor processing system for at least 3 years.
- (6) Reconstruction

For purposes of this rule:

- (a) The cost of the following frequently replaced components of the affected facility shall not be considered in calculating either the “fixed capital cost of the new components” or the “fixed capital costs that would be required to construct a comparable entirely new facility.” pump seals, loading arm gaskets and swivels, coupler gaskets, overflow sensor couplers and cables, flexible vapor hoses, and grounding cables and connectors.
- (b) The “fixed capital cost of the new components” includes the fixed capital of all depreciable components (except components specified in subparagraph (a) of this paragraph) which are or will be replaced pursuant to all continuous programs of component replacement which are commenced within any 2-year period following November 6, 1988. For purposes of this subparagraph, “commenced” means that an owner or operator has undertaken a continuous program of component replacement or that an owner or operator has entered into a contractual obligation to undertake and complete within a reasonable time, a continuous program of component replacement.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed September 22, 1988; effective November 6, 1988.

**1200-03-16-.45 SYNTHETIC FIBER PRODUCTION FACILITIES.**

- (1) Applicability.
  - (a) Except as provided in subparagraph (b) this paragraph, the affected facility to which the provisions of the rule apply is each solvent-spun synthetic fiber process that produces more than 500 megagrams of fiber per year.
  - (b) The provisions of this rule do not apply to any facility that uses the reaction spinning process to produce spandex fiber or the viscose process to produce rayon fiber.
  - (c) The provisions of this rule apply to each facility as identified in subparagraph (a) of this paragraph and that commences construction or reconstruction after November 6, 1988. The provisions of this rule do not apply to facilities that commence modification but not reconstruction after November 6, 1988.
- (2) Definitions.
  - (a) "Acrylic fiber" means a manufactured synthetic fiber in which the fiber forming substance is any long-chain synthetic polymer composed of at least 85 percent by weight of acrylonitrile units.
  - (b) "Makeup solvent" means the solvent introduced into the affected facility that compensates for solvent lost from the affected facility during the manufacturing process.
  - (c) "Nongaseous losses" means the solvent that is not volatilized during fiber production, and that escapes the process and is unavailable for recovery, or is in a form or concentration unsuitable for economical recovery.
  - (d) "Polymer" means any of the natural or synthetic compounds of usually high molecular weight that consist of many repeated links, each link being a relatively light and simple molecule.
  - (e) "Precipitation bath" means the water, solvent, or other chemical bath into which the polymer or prepolymer (partially reacted material) solution is extruded, and that causes physical or chemical changes to occur in the extruded solution to result in a semihardened polymer fiber.
  - (f) "Rayon fiber" means a manufactured fiber composed of regenerated cellulose, as well as manufactured fibers composed of regenerated cellulose in which substituents have replaced not more than 15 percent of the hydrogens of the hydroxyl groups.
  - (g) "Reaction spinning process" means the fiber-forming process where a prepolymer is extruded into a fluid medium and solidification takes place by chemical reaction to form the final polymeric material.
  - (h) "Recovered solvent" means the solvent captured from liquid and gaseous process streams that is concentrated in a control device and that may be purified for reuse.
  - (i) "Solvent feed" means the solvent introduced into the spinning solution preparation system or precipitation bath. This feed stream includes the combination of recovered solvent and makeup solvent.
  - (j) "Solvent inventory variation" means the normal changes in the total amount of solvent contained in the affected facility.

(Rule 1200-03-16-.45, continued)

- (k) "Solvent recovery system" means the equipment associated with capture, transportation, collection, concentration, and purification of organic solvents. It may include enclosures, hoods, ducting, piping, scrubbers, condensers, carbon absorbers, distillation equipment, and associated storage vessels.
  - (l) "Solvent-spun synthetic fiber" means any synthetic fiber produced by a process that uses an organic solvent in the spinning solution, the precipitation bath, or processing of the spun fiber.
  - (m) "Solvent-spun synthetic fiber process" means the total of all equipment having a common spinning solution preparation system or a common solvent recovery system, and that is used in the manufacture of solvent-spun synthetic fiber. It includes spinning solution preparation, spinning, fiber processing and solvent recovery, but does not include the polymer production equipment.
  - (n) "Spandex fiber" means a manufactured fiber in which the fiber-forming substance is a long chain synthetic polymer comprised of at least 85 percent of a segmented polyurethane.
  - (o) "Spinning solution" means the mixture of polymer, prepolymer, or copolymer and additives dissolved in solvent. The solution is prepared at a viscosity and solvent-to-polymer ratio that is suitable for extrusion into fibers.
  - (p) "Spinning solution preparation system" means the equipment used to prepare spinning solutions; the system includes equipment for mixing, filtering, blending, and storage of the spinning solutions.
  - (q) "Synthetic fiber" means any fiber composed partially or entirely of materials made by chemical synthesis, or made partially or entirely from chemically-modified naturally-occurring materials.
  - (r) "Viscose process" means the fiber-forming process where cellulose and concentrated caustic soda are reacted to form soda or alkali cellulose. This reacts with carbon disulfide to form sodium cellulose xanthate, which is then dissolved in a solution of caustic soda. After ripening, the solution is spun into an acid coagulating bath. This precipitates the cellulose in the form of a regenerate cellulose filament.
- (3) Standard for volatile organic compounds.
- (a) On and after the date on which the initial performance test required to be conducted by paragraph 1200-03-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall cause the discharge into the atmosphere from any affected facility that produces acrylic fibers, VOC emissions that exceed 10 kilograms (kg) VOC per megagram (Mg) solvent feed to the spinning solution preparation system or precipitation bath. VOC emissions from affected facilities that produce both acrylic and nonacrylic fiber types shall not exceed 10 kg VOC per Mg solvent feed. VOC emissions from affected facilities that produce only nonacrylic fiber types shall not exceed 17 kg VOC per Mg solvent feed. Compliance with the emission limitations is determined on a 6-month rolling average basis as described in paragraph (4) of this rule.
- (4) Performance test and compliance provisions.
- (a) Subparagraph 1200-03-16-.01(5)(f) does not apply to the performance test procedures required by this rule.

(Rule 1200-03-16-.45, continued)

- (b) Each owner or operator of an affected facility shall determine compliance with the applicable standard in subparagraph (3)(a) of this rule by determining and recording monthly the VOC emissions per Mg solvent feed from each affected facility for the current and preceding 5 consecutive calendar months and using these values to calculate the 6-month average emissions. Each calculation is considered a performance test. The owner or operator of an affected facility shall use the following procedure to determine VOC emissions for each calendar month:

1. Install, calibrate, maintain, and operate monitoring devices that continuously measure and permanently record for each calendar month the amount of makeup solvent and solvent feed. These values shall be used in calculating VOC emissions according to part (4)(b)2. of this rule. All monitoring devices, meters, and peripheral equipment shall be calibrated and any error recorded. Total compounded error of the flow measuring and recording devices shall not exceed 1 percent accuracy over the operating range. As an alternative to measuring solvent feed, the owner or operator may:

- (i) Measure the amount of recovered solvent returned to the solvent feed storage tanks, and use the following equation to determine the amount of solvent feed:

Solvent Feed = Makeup Solvent + Recovered Solvent + Change in the Amount of Solvent Contained in the Solvent Feed Holding Tank.

- (ii) Measure and record the amount of polymer introduced into the affected facility and the solvent-to-polymer ratio of the spinning solutions, and use the following equation to determine the amount of solvent feed:

n

Solvent Feed =  $\sum_{i=1}^n (\text{Polymer Used})_i \times (\text{Solvent-to-Polymer Ratio})_i$

i=1

where subscript “i” denotes each particular spinning solution used during the test period; values of “i” vary from one to the total number of spinning solutions “n,” used during the calendar month.

2. VOC emissions shall be determined each calendar month by use of the following equations:

$$E = \frac{M_W}{S_W} - N - I \quad \text{and} \quad M_W = M_V S_P D$$

$$S_W = \frac{S_P S_V D}{1000} \quad \text{and} \quad I = \frac{I_E - I_S}{S_W}$$

where all values are for the calendar month only and where

E = Emissions in kg per Mg solvent feed;

Sv = Measured or calculated volume of solvent feed in liters;

Sw = Weight of solvent feed in Mg;

(Rule 1200-03-16-.45, continued)

- $M_v$  = Measured volume of makeup solvent in liters;
- $M_w$  = Weight of makeup in kg;
- $N$  = Allowance for nongaseous losses per Mg solvent feed: (13 kg/Mg);
- $S_p$  = Fraction of measured volume that is actual solvent (excludes water);
- $D$  = Density of the solvent in kg/liter;
- $I$  = Allowance for solvent inventory variation or changes in the amount of solvent contained in the affected facility per Mg solvent feed (may be positive or negative);
- $I_s$  = Amount in kg of solvent contained in the affected facility at the beginning of test period, as determined by owner or operator;
- $I_E$  = Amount in kg of solvent contained in the affected facility at the close of test period, as determined by owner or operator.
- (i)  $N$ , as used in the equation in this part, equals 13 kg per Mg solvent feed to the spinning solution preparation system and precipitation bath. This value shall be used in all cases unless an owner or operator demonstrates to the satisfaction of the Technical Secretary that greater nongaseous losses occur at the affected facility. In this case, the greater value may be substituted in the equation.

(5) Reporting requirements.

- (a) The owner or operator of an affected facility shall submit a written report to the Technical Secretary of the following:
1. The results of the initial performance test; and
  2. The results of subsequent performance tests that indicate that VOC emissions exceed the standards in paragraph (3) of this rule. These reports shall be submitted semiannually, at six month intervals after the initial performance test.
- (b) Solvent-spun synthetic fiber producing facilities exempted from these standards in subparagraph (1)(a) of this rule (those producing less than 500 megagrams annually) shall report to the Technical Secretary within 30 days whenever extruded fiber for the preceding 12 calendar months exceeds 500 megagrams.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed September 22, 1988; effective November 6, 1988.

**1200-03-16-.46 LEAD ACID BATTERY MANUFACTURING PLANTS.**

(1) Applicability.

- (a) The provisions of this rule are applicable to the affected facilities listed in subparagraph (b) of this paragraph at any lead-acid battery manufacturing plant that produces or has the design capacity to produce in one day (24 hours) batteries containing an amount of lead equal to or greater than 5.9 Mg (6.5 tons).

(Rule 1200-03-16-.46, continued)

- (b) The provisions of this rule are applicable to the following affected facilities used in the manufacture of lead-acid storage batteries:
    - 1. Grid casting facility.
    - 2. Paste mixing facility.
    - 3. Three-process operation facility.
    - 4. Lead oxide manufacturing facility.
    - 5. Lead reclamation facility.
    - 6. Other lead-emitting operations.
  - (c) Any facility under subparagraph (b) of this paragraph the construction or modification of which is commenced after November 6, 1988, is subject to the requirements of this rule.
- (2) Definitions.
- (a) "Grid casting facility" means the facility which includes all lead melting pots and machines used for casting the grid used in battery manufacturing.
  - (b) "Lead-acid battery manufacturing plant" means any plant that produces a storage battery using lead and lead compounds for the plates and sulfuric acid for the electrolyte.
  - (c) "Lead oxide manufacturing facility" means a facility that produces lead oxide from lead, including product recovery.
  - (d) "Lead reclamation facility" means the facility that remelts lead scrap and casts it into lead ingots for use in the battery manufacturing process, and which is not a furnace affected under rule 1200-03-16-.12.
  - (e) "Other lead-emitting operation" means any lead-acid battery manufacturing plant operation from which lead emissions are collected and ducted to the atmosphere and which is not part of a grid casting, lead oxide manufacturing, lead reclamation, paste mixing, or three-process operation facility, or a furnace affected under rule 1200-03-16-.12.
  - (f) "Paste mixing facility" means the facility including lead oxide storage, conveying, weighing, metering, and charging operations; paste blending, handling, and cooling operations; and plate pasting, takeoff, cooling, and drying operations.
  - (g) "Three-process operation facility" means the facility including those processes involved with plate stacking, burning or strap casting, and assembly of elements into the battery case.
- (3) Standards for Lead:
- (a) On and after the date on which the performance test required to be conducted by paragraph 1200-03-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere:



(Rule 1200-03-16-.46, continued)

1. From any grid casting facility any gases that contain lead in excess of 0.40 milligram of lead per dry standard cubic meter of exhaust (0.000176 gr/dscf).
  2. From any paste mixing facility any gases that contain in excess of 1.00 milligram of lead per dry standard cubic meter of exhaust (0.00044 gr/dscf).
  3. From any three-process operation facility any gases that contain in excess of 1.00 milligram of lead per dry standard cubic meter of exhaust (0.00044 gr/dscf).
  4. From any lead oxide manufacturing facility any gases that contain in excess of 5.0 milligrams of lead per kilogram of lead feed (0.010 lb/ton).
  5. From any lead reclamation facility any gases that contain in excess of 4.50 milligrams of lead per dry standard cubic meter of exhaust (0.00198 gr/dscf).
  6. From any other lead-emitting operation any gases that contain in excess of 1.00 milligram of lead per dry standard cubic meter of exhaust (0.00044 gr/dscf).
  7. From any affected facility other than a lead reclamation facility any gases with greater than 0 percent opacity (measured according to Method 9 (as specified in 1200-03-16-.01(5)(g)), and rounded to the nearest whole percentage).
  8. From any lead reclamation facility any gases with greater than 5 percent opacity (measured according to Method 9 and rounded to the nearest whole percentage).
- (b) When two or more facilities at the same plant (except the lead oxide manufacturing facility) are ducted to a common control device, an equivalent standard for the total exhaust from the commonly controlled facilities shall be determined as follows:

$$S_e = \sum_{a=1}^N S_a \left( \frac{Q_{sda}}{Q_{sdT}} \right)$$

Where:

- $S_e$  = is the equivalent standard for the total exhaust stream.
- $S_a$  = is the actual standard for each exhaust stream ducted to the control device.
- $N$  = is the total number of exhaust streams ducted to the control device.
- $Q_{sda}$  = is the dry standard volumetric flow rate of the effluent gas stream from each facility ducted to the control device.
- $Q_{sdT}$  = is the total dry standard volumetric flow rate of all effluent gas streams ducted to the control device.

## (4) Monitoring of emissions and operations:

The owner or operator of any lead-acid battery manufacturing facility subject to the provisions of this rule and controlled by a scrubbing system(s) shall install, calibrate, maintain, and operate a monitoring device(s) that measures and records the pressure drop across the

(Rule 1200-03-16-.46, continued)

scrubbing system(s) at least once every 15 minutes. The monitoring device shall have an accuracy of  $\pm 5$  percent over its operating range.

(5) Test methods and procedures:

(a) Reference methods in subparagraph 1200-03-16-.01(5)(g), except as provided under subparagraph 1200-03-16-.01(5)(b), shall be used to determine compliance according to paragraph 1200-03-16-.01(5) as follows:

1. Method 12 for the measurement of lead concentrations,
2. Method 1 for sample and velocity traverses,
3. Method 2 for velocity and volumetric flow rate, and
4. Method 4 for stack gas moisture.

(b) For Method 12, the sampling time for each run shall be at least 60 minutes and the sampling rate shall be at least 0.85 dscm/h (0.53 dscf/min.), except that shorter sampling times, when necessitated by process variables or other factors, may be approved by the Technical Secretary.

(c) When different operations in a three-process operation facility are ducted to separate control devices, the lead emission concentration from the facility shall be determined using the equation:

$$C_{pbT} = \sum_{a=1}^N \frac{C_{pba} Q_{sda}}{Q_{sdT}}$$

Where:

$C_{pbT}$  = is the facility emission concentration for the entire facility.

$N$  = is the number of control devices to which separate operations in the facility are ducted.

$C_{pba}$  = is the emission concentration from each control device.

$Q_{sda}$  = is the dry standard volumetric flow rate of the effluent gas stream from each control device.

$Q_{sdT}$  = is the total dry standard volumetric flow rate from all of the control devices.

(d) For lead oxide manufacturing facilities, the average lead feed rate to a facility, expressed in kilograms per hour, shall be determined for each test run as follows:

1. Calculate the total amount of lead charged to the facility during the run by multiplying the number of lead pigs (ingots) charged during the run by the average mass of a pig in kilograms or by another suitable method.
2. Divide the total amount of lead charged to the facility during the run by the duration of the run in hours.

(e) Lead emissions from lead oxide manufacturing facilities, expressed in milligrams per kilogram of lead charged, shall be determined using the following equation:

(Rule 1200-03-16-.46, continued)

$$E_{pb} = C_{pb} Q_{sd} / F$$

Where:

$E_{pb}$  = is the lead emission rate from the facility in milligrams per kilogram of lead charged.

$C_{pb}$  = is the concentration of lead in the exhaust stream in milligrams per dry standard cubic meter as determined according to part (a)1. of this paragraph.

$Q_{sd}$  = is the dry standard volumetric flow rate in dry standard cubic meters per hour as determined according to part (a)3. of this paragraph.

$F$  = is the lead feed rate to the facility in kilograms per hour as determined according to subparagraph (d) of this paragraph.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed September 22, 1988; effective November 6, 1988.

#### 1200-03-16-.47 EQUIPMENT LEAKS OF VOC IN PETROLEUM REFINERIES.

(1) Applicability.

- (a) 1. The provisions of this rule apply to affected facilities in petroleum refineries.
2. The group of all equipment within a process unit is an affected facility.
3. A compressor is an affected facility.
- (b) Any affected facility under subparagraph (a) of this paragraph that commences construction or modification after November 6, 1988, shall be subject to the requirements of this rule.
- (c) Addition or replacement of equipment for the purpose of process improvement which is accomplished without a capital expenditure shall not by itself be considered a modification under this rule.
- (d) Facilities subject to rule 1200-03-16-.43 are not subject to this rule.

(2) Definitions:

- (a) "Capital expenditure" means, in addition to the definition in part 1200-03-16-.01(4)(a)2., an expenditure for a physical or operational change to an existing facility that:
  1. Exceeds P, the product of the facility's replacement cost, R, and an adjusted annual asset guideline repair allowance, A, as reflected by the following equation:  $P = R \times A$ , where
    - (i) The adjusted annual asset guideline repair allowance, A, is the product of the percent of the replacement cost, Y, and the applicable basic annual asset guideline repair allowance, B, as reflected by the following equation:  $A = Y \times (B / 100)$ ;

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- (ii) The percent Y is determined from the following equation:  $Y = 1.0 - 0.575 \log X$ , where X is 1982 minus the year of construction; and
  - (iii) The applicable basic annual asset guideline repair allowance, B, is 7.0.
- (b) "Closed vent system" means a system that is not open to the atmosphere and that is composed of piping, connections, and if necessary, flow inducing devices that transport gas or vapor from a piece or pieces of equipment to a control device.
  - (c) "Connector" means flanged, screwed, welded, or other joined fittings used to connect two pipe lines or a pipe line and a piece of process equipment.
  - (d) "Control device" means an enclosed combustion device, vapor recovery system or flare.
  - (e) "Distance piece" means an open or enclosed casing through which the piston rod travels, separating the compressor cylinder from the crankcase.
  - (f) "Double block and bleed system" means two block valves connected in series with a bleed valve or line that can vent the line between the two block valves.
  - (g) "Equipment" means each valve, pump, pressure relief device, sampling connection system, open-ended valve or line, valve, and flange or other connector in VOC service. For the purpose of record-keeping and reporting only, compressors are considered equipment.
  - (h) "First attempt at repair" means to take rapid action for the purpose of stopping or reducing leakage of organic material to atmosphere using best practices.
  - (i) "In gas/vapor service" means that the piece of equipment contains process fluid that is in the gaseous state at operating conditions.
  - (j) "In heavy liquid service" means that the piece of equipment is not in gas/vapor service or in light liquid service.
  - (k) "In Hydrogen Service" means that a compressor contains a process fluid that meets the conditions specified in subparagraph (9)(b) of this rule.
  - (l) "In Light Liquid Service" means that the piece of equipment contains a liquid that meets the conditions specified in subparagraph (9)(d) of this rule.
  - (m) "Liquids dripping" means any visible leakage from the seal including spraying, misting, clouding, and ice formation.
  - (n) "Open-ended valve or line" means any valve, except safety relief valves, having one side of the valve seat in contact with process fluid and one side open to the atmosphere, either directly or through open piping.
  - (o) "Petroleum" means the crude oil removed from the earth and the oils derived from tar sands, shale, and coal.
  - (p) "Petroleum Refinery" means any facility engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants, or other products through the distillation of petroleum, or through the redistillation, cracking, or reforming of unfinished petroleum derivatives.

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- (q) "Pressure release" means the emission of materials resulting from system pressure being greater than set pressure of the pressure relief device.
  - (r) "Process improvement" means routine changes made for safety and occupational health requirements, for energy savings, for better utility, for ease of maintenance and operation, for correction of design deficiencies, for bottleneck removal, for changing product requirements, or for environmental control.
  - (s) "Process Unit" means components assembled to produce intermediate or final products from petroleum, unfinished petroleum derivatives, or other intermediates; a process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the product.
  - (t) "Process unit shutdown" means a work practice or operational procedure that stops production from a process unit or part of a process unit. An unscheduled work practice or operational procedure that stops production from a process unit or part of a process unit for less than 24 hours is not a process unit shutdown. The use of spare equipment and technically feasible bypassing of equipment without stopping production are not process unit shutdowns.
  - (u) "Quarter" means a 3-month period; the first quarter concludes on the last day of the last full month during the 180 days following initial startup.
  - (v) "Repaired" means that equipment is adjusted, or otherwise altered, in order to eliminate a leak as indicated by one of the following: an instrument reading of 10,000 ppm or greater, indication of liquids dripping, or indication by a sensor that a seal or barrier fluid system has failed.
  - (w) "Replacement cost" means the capital needed to purchase all the depreciable components in a facility.
  - (x) "Sensor" means a device that measures a physical quantity or the change in a physical quantity such as temperature, pressure, flow rate, pH, or liquid level.
  - (y) "In-situ sampling systems" means nonextractive samplers or in-line samplers.
  - (z) "In vacuum service" means that equipment is operating at an internal pressure which is at least 5 kilopascals (kPa) below ambient pressure.
  - (aa) "In VOC Service" means that the piece of equipment contains or contacts a process fluid that is at least 10 percent VOC by weight. (The provisions of subparagraph (6)(d) of this rule specify how to determine that a piece of equipment is not in VOC service.)
- (3) Standards:
- (a) General
    1. Each owner or operator subject to the provisions of this rule shall comply with the requirements of subparagraphs (3)(a) to (j) as soon as practicable, but no later than 180 days after initial startup.
    2. An owner or operator may elect to comply with the requirements of subparagraphs (4)(a) and (b) of this rule.
    3. An owner or operator may apply to the Technical Secretary for a determination of equivalency for any means of emission limitation that achieves a reduction in

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emissions of VOC at least equivalent to the reduction in emissions of VOC achieved by the controls required in this rule. In doing so, the owner or operator shall comply with requirements of paragraph (5) of this rule.

4. Each owner or operator subject to the provisions of this rule shall comply with the provisions of paragraph (6) of this rule except as provided in paragraph (9) of this rule.
5. Each owner or operator subject to the provisions of this rule shall comply with the provisions of paragraphs (7) and (8) of this rule.
6. Compliance with subparagraphs (3)(a) to (j) of this rule will be determined by review of records and reports, review of performance test results, and inspection using the methods and procedures specified in paragraph (6) of this rule.
7. Equipment that is in vacuum service is excluded from the requirements of subparagraphs (3)(b) to (j) of this rule if it is identified as required in part (7)(e)5 of this rule.

(b) Pumps in light liquid service

1. (i) Each pump in light liquid service shall be monitored monthly to detect leaks by the methods specified in subparagraph (6)(b) of this rule, except as provided in part (3)(a)3. of this rule and parts 4., 5., and 6. of this subparagraph.  
(ii) Each pump in light liquid service shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal.
2. (i) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.  
(ii) If there are indications of liquids dripping from the pump seal, a leak is detected.
3. (i) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected except as provided in subparagraph (3)(i) of this rule.  
(ii) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.
4. Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of part I. of this rule, provided the following requirements are met:
  - (i) Each dual mechanical seal system is:
    - (I) Operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure; or
    - (II) Equipment with a barrier fluid degassing reservoir that is connected by a closed vent system to a control device that complies with the requirements of subparagraph (3)(j) of this rule; or

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- (III) Equipped with a system that purges the barrier fluid into a process stream with zero VOC emissions to the atmosphere.
    - (ii) The barrier fluid system is in heavy liquid service or is not in VOC service.
    - (iii) Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.
    - (iv) Each pump is checked by visual inspection, each calendar week, for indications of liquids dripping from the pump seals.
    - (v)
      - (I) Each sensor as described in sub-part 4.(iii) of this subparagraph is checked daily or is equipped with an audible alarm, and
      - (II) The owner or operator determines, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.
    - (vi)
      - (I) If there are indications of liquids dripping from the pump seal or the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion determined in item 4.(v)(II) of this subparagraph, a leak is detected.
      - (II) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in subparagraph (3)(i) of this rule.
      - (III) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.
  - 5. Any pump that is designated, as described in parts (7)(e)1. and 2. of this rule, for no detectable emission, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of parts 1., 3., and 4. of this subparagraph, if the pump:
    - (i) Has no externally actuated shaft penetrating the pump housing.
    - (ii) Is demonstrated to be operating with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background as measured by the methods specified in subparagraph (6)(c) of this rule, and
    - (iii) Is tested for compliance with sub-part 5.(ii) of this subparagraph initially upon designation, annually, and at other times requested by the Technical Secretary.
  - 6. If any pump is equipped with a closed vent system capable of capturing and transporting any leakage from the seal or seals to a control device that complies with the requirements of subparagraph (3)(j) of this rule, it is exempt from the parts I. through 5. of this subparagraph.
- (c) Compressors
- 1. Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of VOC to the atmosphere, except as provided in parts (3)(a)3. of this rule and parts 8. and 9. of this subparagraph.

(Rule 1200-03-16-.47, continued)

2. Each compressor seal system as required in part 1. of this subparagraph shall be:
  - (i) Operated with the barrier fluid at a pressure that is greater than the compressor stuffing box pressure; or
  - (ii) Equipped with a barrier fluid system that is connected by a closed vent system to a control device that complies with the requirements of subparagraph (3)(j) of this rule; or
  - (iii) Equipped with a system that purges the barrier fluid into a process stream with zero VOC emissions to the atmosphere.
3. The barrier fluid system shall be in heavy liquid service or shall not be in VOC service.
4. Each barrier fluid system as described in part 1. of this subparagraph shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.
  5. (i) Each sensor as required in part 4. of this subparagraph shall be checked daily or shall be equipped with an audible alarm.
  - (ii) The owner or operator shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.
6. If the sensor indicates failure of the seal system, the barrier system, or both based on the criterion determined under sub-part 5.(ii) of this subparagraph, a leak is detected.
7. (i) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in subparagraph (3)(i) of this rule.
  - (ii) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.
8. A compressor is exempt from the requirements of parts 1. and 2. of this subparagraph, if it is equipped with a closed vent system capable of capturing and transporting any leakage from the seal to a control device that complies with the requirements of subparagraph (3)(j) of this rule, except as provided in part 9. of this subparagraph.
9. Any compressor that is designated, as described in parts (7)(e)1. and 2. of this rule, for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of parts 1 through 8 of this subparagraph, if the compressor:
  - (i) Is demonstrated to be operating with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the methods specified in subparagraph (6)(c) of this rule; and
  - (ii) Is tested for compliance with sub-part 9.(i) of this subparagraph initially upon designation, annually, and at other times requested by the Technical Secretary.



(Rule 1200-03-16-.47, continued)

10. Any existing reciprocating compressor in a process unit which becomes an affected facility under provisions of subparagraphs 1200-03-16-.01(9)(a) or (b) is exempt from parts (3)(c)1., 2., 3., 4., 5., and 8. of this rule, provided the owner or operator demonstrates that recasting the distance piece or replacing the compressor are the only options available to bring the compressor into compliance with the provisions of parts 1., 2., 3., 4., 5., and 8. of this subparagraph.

(d) Pressure relief devices in gas/vapor service

1. Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as determined by the methods specified in subparagraph (6)(c) of this rule.
2.
  - (i) After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than 5 calendar days after the pressure release, except as provided in subparagraph (3)(i) of this rule.
  - (ii) No later than 5 calendar days after the pressure release, the pressure relief device shall be monitored to confirm the conditions of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, by the methods specified in subparagraph (6)(c) of this rule.
3. Any pressure relief device that is equipped with a closed vent system capable of capturing and transporting leakage through the pressure relief device to a control device as described in subparagraph (3)(j) of this rule is exempted from the requirements of parts 1. and 2. of this subparagraph.

(e) Sampling connection systems

1. Each sampling connection system shall be equipped with a closed purge system or closed vent system, except as provided in part (3)(a)3. of this rule.
2. Each closed purge system or closed vent system as required in part I. of this subparagraph shall:
  - (i) Return the purged process fluid directly to the process line with zero VOC emissions to the atmosphere; or
  - (ii) Collect and recycle the purged process fluid with zero VOC emissions to the atmosphere; or
  - (iii) Be designed and operated to capture and transport all the purged process fluid to a control device that complies with the requirements of subparagraph (3)(j) of this rule.
3. In-situ sampling systems are exempt from parts 1. and 2. of this subparagraph.

(f) Open-ended valves or lines

(Rule 1200-03-16-.47, continued)

1. (i) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in part (3)(a)3. of this rule.
    - (ii) The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line.
  2. Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.
  3. When a double block-and-bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with part 1. of this subparagraph at all other times.
- (g) Valves in gas/vapor service and light liquid service.
1. Each valve shall be monitored monthly to detect leaks by the methods specified in subparagraph (6)(b) of this rule and shall comply with parts 2. through 5. of this subparagraph, except as provided in parts 6., 7., and 8. of this subparagraph, subparagraphs (4)(a), (b) of this rule, and part (3)(a)3. of this rule.
  2. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.
  3. (i) Any valve for which a leak is not detected for 2 successive months may begin monitoring the first month of every quarter, beginning with the next quarter, until a leak is detected.
    - (ii) If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months.
  4. (i) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in subparagraph (3)(i) of this rule.
    - (ii) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.
  5. First attempts at repair include, but are not limited to, the following best practices where practicable:
    - (i) Tightening of bonnet bolts;
    - (ii) Replacement of bonnet bolts;
    - (iii) Tightening of packing gland nuts;
    - (iv) Injection of lubricant into lubricated packing.
  6. Any valve that is designated, as described in part (7)(e)2. of this rule, for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of part 1. of this subparagraph if the valve:
    - (i) Has no external actuating mechanism in contact with the process fluid,

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- (ii) Is operated with emissions less than 500 ppm above background as determined by the method specified in subparagraph (6)(c) of this rule, and
  - (iii) Is tested for compliance with subpart 6.(ii) of this subparagraph initially upon designation, annually, and at other times requested by the Technical Secretary.
- 7. Any valve that is designated, as described in part (7)(f)1. of this rule, as an unsafe-to-monitor valve is exempt from the requirements of part 1. of this subparagraph if:
  - (i) The owner or operator of the valve demonstrates that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with part 1. of this subparagraph, and
  - (ii) The owner or operator of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times.
- 8. Any valve that is designated, as described in part (7)(f)2. of this rule, as a difficult-to-monitor valve is exempt from the requirements of part 1. of this subparagraph if:
  - (i) The owner or operator of the valve demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface.
  - (ii) The process unit within which the valve is located becomes an affected facility through subparagraphs 1200-03-16-.01(9)(a) or (b), or the owner or operator designates less than 3.0 percent of the total number of valves as difficult-to-monitor and
  - (iii) The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.
- (h) Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and flanges and other connectors.
  - 1. Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and flanges and other connectors shall be monitored within 5 days by the method specified in subparagraph (6)(b) of this rule if evidence of a potential leak is found by visual, audible, olfactory, or any other detection method.
  - 2. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.
  - 3.
    - (i) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in subparagraph (3)(i) of this rule.
    - (ii) The first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

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4. First attempts at repair include, but are not limited to, the best practices described under part (3)(g)5. of this rule.
  - (i) Delay of repair.
    1. Delay of repair of equipment for which leaks have been detected will be allowed if the repair is technically infeasible without a process unit shutdown. Repair of this equipment shall occur before the end of the next process unit shutdown.
    2. Delay of repair of equipment will be allowed for equipment which is isolated from the process and which does not remain in VOC service.
    3. Delay of repair for valves will be allowed if:
      - (i) The owner or operator demonstrates that emissions of purged material resulting from immediate repair are greater than the fugitive emissions likely to result from delay of repair, and
      - (ii) When repair procedures are affected, the purged material is collected and destroyed or recovered in a control device complying with subparagraph (3)(j) of this rule.
    4. Delay of repair for pumps will be allowed if:
      - (i) Repair requires the use of a dual mechanical seal system that includes a barrier fluid system, and
      - (ii) Repair is completed as soon as practicable, but not later than 6 months after the leak was detected.
    5. Delay of repair beyond a process unit shutdown will be allowed for a valve, if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next process unit shutdown will not be allowed unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown.
  - (j) Closed vent systems and control devices.
    1. Owners or operators of closed vent systems and control devices used to comply with provisions of this rule shall comply with the provisions of this subparagraph.
    2. Vapor recovery systems (for example, condensers and adsorbers) shall be designed and operated to recover the VOC emissions vented to them with an efficiency of 95 percent or greater.
    3. Enclosed combustion devices shall be designed and operated to reduce the VOC emissions vented to them with an efficiency of 95 percent or greater, or to provide a minimum residence time of 0.75 seconds at a minimum temperature of 816°C.
    4. (i) Flares shall be designed for and operated with no visible emissions as determined by the methods specified in subparagraph (6)(g) of this rule, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

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- (ii) Flares shall be operated with a flame present at all times, as determined by the methods specified in subparagraph (6)(g) of this rule.
  - (iii) Flares shall be used only with the net heating value of the gas being combusted being 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or with the net heating value of the gas being combusted being 7.45 MJ/scm or greater if the flare is nonassisted. The net heating value of the gas being combusted shall be determined by the methods specified in subparagraph (6)(g) of this rule.
  - (iv) Steam-assisted and nonassisted flares shall be designed for and operated with an exit velocity, as determined by the methods specified in part (6)(g)4. of this rule, less than 18m/sec (60 ft/sec).
  - (v) Flares used to comply with this rule shall be steam-assisted, air-assisted, or nonassisted.
  - (vi) Air-assisted flares shall be designed and operated with an exit velocity less than the velocity,  $V_{max}$  as determined by the methods specified in part (6)(g)5. of this rule.
5. Owners or operators of control devices used to comply with the provisions of this rule shall monitor these control devices to ensure that they are operated and maintained in conformance with their designs.
6. (i) Closed vent systems shall be designed and operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background and visual inspections, as determined by the methods specified in subparagraph (6)(c) of this rule.
- (ii) Closed vent systems shall be monitored to determine compliance with this subparagraph initially in accordance with paragraph 1200-03-16-.01(5), annually and at other times requested by the Technical Secretary.
7. Closed vent systems and control devices used to comply with provisions of this rule shall be operated at all times when emissions may be vented to them.
- (4) Alternative standards for valves:
- (a) Allowable percentage of valves leaking
    - 1. An owner or operator may elect to comply with an allowable percentage of valves leaking of equal to or less than 2.0 percent.
    - 2. The following requirements shall be met if an owner or operator wishes to comply with an allowable percentage of valves leaking:
      - (i) An owner or operator must notify the Technical Secretary that the owner or operator has elected to comply with the allowable percentage of valves leaking before implementing this alternative standard, as specified in subparagraph (8)(d) of this rule.
      - (ii) A performance test as specified in part 3. of this subparagraph shall be conducted initially upon designation, annually, and at other times requested by the Technical Secretary.

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- (iii) If a valve leak is detected, it shall be repaired in accordance with parts (3)(g)4. and 5. of this rule.
3. Performance tests shall be conducted in the following manner:
- (i) All valves in gas/vapor and light liquid service within the affected facility shall be monitored within 1 week by the methods specified in subparagraph (6)(b) of this rule.
  - (ii) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.
  - (iii) The leak percentage shall be determined by dividing the number of valves for which leaks are detected by the number of valves in gas/vapor and light liquid service within the affected facility.
4. Owners and operators who elect to comply with this alternative standard shall not have an affected facility with a leak percentage greater than 2.0 percent.
- (b) Skip period leak detection and repair:
- 1.
    - (i) An owner or operator may elect to comply with one of the alternative work practices specified in sub-parts 2.(ii) and (iii) of this subparagraph.
    - (ii) An owner or operator must notify the Technical Secretary before implementing one of the alternative work practices, as specified in subparagraph (8)(d) of this rule.
  - 2.
    - (i) An owner or operator shall comply initially with the requirements for valves in gas/vapor service and valves in light liquid service, as described in subparagraph (3)(g) of this rule.
    - (ii) After 2 consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0, an owner or operator may begin to skip 1 of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.
    - (iii) After 5 consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0, an owner or operator may begin to skip 3 of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.
    - (iv) If the percent of valves leaking is greater than 2.0, the owner or operator shall comply with the requirements of subparagraph (3)(g) of this rule but can again elect to use this subparagraph.
    - (v) The percent of valves leaking shall be determined by dividing the sum of valves found leaking during current monitoring and valves for which repair has been delayed by the total number of valves subject to the requirements of subparagraph (4)(b) of this rule.
    - (vi) An owner or operator must keep a record of the percent of valves found leaking during each leak detection period.
- (5) Equivalence of means of emission limitation:

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- (a) Each owner or operator subject to the provisions of this rule may apply to the Technical Secretary for determination of equivalence for any means of emission limitation that achieves a reduction in emissions of VOC at least equivalent to the reduction in emissions of VOC achieved by the controls required in this rule.
  - (b) Determination of equivalence to the equipment, design, and operational requirements of this rule will be evaluated by the following guidelines:
    - 1. Each owner or operator applying for an equivalence determination shall be responsible for collecting and verifying test data to demonstrate equivalence of means of emission limitation.
    - 2. The Technical Secretary will compare test data for the means of emission limitation to test data for the equipment, design, and operational requirements.
    - 3. The Technical Secretary may condition the approval of equivalence on requirements that may be necessary to assure operation and maintenance to achieve the same emission reduction as the equipment, design, and operational requirements.
  - (c) Determination of equivalence to the required work practices in this rule will be evaluated by the following guidelines:
    - 1. Each owner or operator applying for a determination of equivalence shall be responsible for collecting and verifying test data to demonstrate equivalence of an equivalent means of emission limitation.
    - 2. For each affected facility for which a determination of equivalence is requested, the emission reduction achieved by the required work practice shall be demonstrated.
    - 3. For each affected facility, for which a determination of equivalence is requested, the emission reduction achieved by the equivalent means of emission limitation shall be demonstrated.
    - 4. Each owner or operator applying for a determination of equivalence shall commit in writing to work practices(s) that provide for emission reductions equal to or greater than the emission reductions achieved by the required work practice.
    - 5. The Technical Secretary will compare the demonstrated emission reduction for the equivalent means of emission limitation to the demonstrated emission reduction for the required work practices and will consider the commitment in part (c)4. of this paragraph.
    - 6. The Technical Secretary may condition the approval of equivalence on requirements that may be necessary to assure operation and maintenance to achieve the same emission reduction as the required work practice.
  - (d) An owner or operator may offer a unique approach to demonstrate the equivalence of any equivalent means of emission limitation.
- (6) Test methods and procedures:
- (a) Each owner or operator subject to the provisions of this rule shall comply with the test method and procedure requirements provided in this paragraph.

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- (b) Monitoring, as required in paragraphs (3), (4), and (5) of this rule, shall comply with the following requirements:
1. Monitoring shall comply with Reference Method 21 as specified in 1200-03-16-.01(5)(g)21.
  2. The detection instrument shall meet the performance criteria of Reference Method 21.
  3. The instrument shall be calibrated before use on each day of its use by the methods specified in Method 21.
  4. Calibration gases shall be:
    - (i) Zero air (less than 10 ppm of hydrocarbon in air); and
    - (ii) A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane.
  5. The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Reference Method 21.
- (c) When equipment is tested for compliance with no detectable emissions as required in parts (3)(b)5., (c)9., (g)6., and (j)5. and subparagraph (3)(d) of this rule, the test shall comply with the following requirements:
1. The requirements of parts (b)1. through 4. of this paragraph shall apply.
  2. The background level shall be determined, as set forth in Reference Method 21.
  3. The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Reference Method 21.
  4. The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.
- (d) 1. Each piece of equipment within a process unit is presumed to be in VOC service unless an owner or operator demonstrates that the piece of equipment is not in VOC service. For a piece of equipment to be considered not in VOC service, it must be determined that the percent VOC content can be reasonably expected never to exceed 10 percent by weight. For purposes of determining the percent VOC content in the process fluid that is contained in or contacts equipment, procedures that conform to the general methods described in ASTM E-260, E-168, E-169 shall be used. (Note: All references to ASTM in this rule refers to the American Society for Testing Materials. Copies of methods are available for purchase by writing to ASTM, 1916 Race Street, Philadelphia, PA 19103 or by writing to the Tennessee Division of Air Pollution Control, 701 Broadway, 4th Floor Customs House, Nashville, TN 37219. Be sure and specify which method is desired.)
2. If an owner or operator decides to exclude non-reactive organic compounds from the total quantity of organic compounds in determining the percent VOC content of the process fluid, the exclusion will be allowed if:



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- (i) Those substances excluded are those considered as having negligible photochemical reactivity by the Technical Secretary; and
  - (ii) The owner or operator demonstrates that the percent organic content, excluding non-reactive organic compounds, can be reasonably expected never to exceed 10 percent by weight.
3. (i) An owner or operator may use engineering judgment rather than the procedures in parts (d)1. and 2. of this paragraph to demonstrate that the percent VOC content does not exceed 10 percent by weight, provided that the engineering judgment demonstrates that the VOC content clearly does not exceed 10 percent by weight. When an owner or operator and the Technical Secretary do not agree on whether a piece of equipment is not in VOC service, however, the procedures in parts (d)1. and 2. of this paragraph shall be used to resolve the disagreement.
- (ii) If an owner or operator determines that a piece of equipment is in VOC service, the determination can be revised only after following the procedures in parts (d)1. and 2. of this paragraph.
- (e) Equipment is in light liquid service if the following conditions apply:
- 1. The vapor pressure of one or more of the components is greater than 0.3 kPa at 20°C. Vapor pressures may be obtained from standard reference texts or may be determined by ASTM D-2879. (Note: All references to ASTM in this rule refers to the American Society for Testing Materials. Copies of methods are available for purchase by writing to ASTM, 1916 Race Street, Philadelphia, PA 19103 or by writing to the Tennessee Division of Air Pollution Control, 701 Broadway, 4th Floor Customs House, Nashville, TN 37219. Be sure and specify which method is desired.)
  - 2. The total concentration of the pure components having a vapor pressure greater than 0.3 kPa at 20°C is equal to or greater than 20 percent by weight and
  - 3. The fluid is a liquid at operating conditions.
- (f) Samples used in conjunction with subparagraphs (d), (e), and (g) of this paragraph shall be representative of the process fluid that is contained in or contacts the equipment or the gas being combusted in the flare.
- (g) 1. Reference Method 22 as specified in rule 1200-03-16-.01(5)(g) shall be used to determine the compliance of the flares with the visible emission provisions of this rule.
2. The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.
3. The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K \sum_{i=1}^n C_i H_i$$

Where:

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$H_T$  = Net heating value of the sample, MJ/ scm; where the net enthalpy per mole of offgas is based on combustion at 250C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20.

$K$  = Constant,  $1.740 \times 10^{-7}$   $\frac{1}{\text{ppm}}$   $\frac{\text{g mole}}{\text{scm}}$   $\frac{\text{MJ}}{\text{kcal}}$

Where the standard temperature for  $\frac{\text{g mole}}{\text{scm}}$  is 20°C

$C_i$  = Concentration of sample component i in ppm, as measured by Reference Method I8 and ASTM D2504 67 (reapproved 1977).

$H_i$  = Net heat of combustion of sample component i, kcal/g mole. The heats of combustion may be determined using ASTM D2382-76 if published values are not available or cannot be calculated.

4. The actual exit velocity of a flare shall be determined by dividing the volumetric flowrate (in units of standard temperature and pressure), as determined by Reference Method 2 or 2A, as appropriate; by the unobstructed (free) cross sectional area of the flare tip.
5. The maximum permitted velocity,  $V_{max}$  for air-assisted flares shall be determined by the following equation:

$$V_{max} = 8.706 + 0.7084 (HT)$$

$V_{max}$  = Maximum permitted velocity, m/sec.

8.706 = Constant.

0.7084 = Constant,

$H_T$  = The net heating value as determined in part (g)3. of this paragraph.

(7) Record-keeping requirements:

- (a)
  1. Each owner or operator subject to the provisions of this rule shall comply with the record-keeping requirements of this paragraph.
  2. An owner or operator of more than one affected facility subject to the provisions of this rule may comply with the record-keeping requirements for these facilities in one record-keeping system if the system identifies each record by each facility.
- (b) When each leak is detected as specified in subparagraphs (3)(b), (c), (g), (h), and (4)(b) of this rule, the following requirements apply:
  1. A weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment.
  2. The identification on a valve may be removed after it has been monitored for 2 successive months as specified in part (3)(g)3. of this rule and no leak has been detected during those 2 months.

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3. The identification on equipment, except on a valve, may be removed after it has been repaired.
- (c) When each leak is detected as specified in subparagraphs (3)(b), (c), (g), (h), and (4)(b) of this rule, the following information shall be recorded in a log and shall be kept for 2 years in a readily accessible location:
1. The instrument and operator identification numbers and the equipment identification number.
  2. The date the leak was detected and the dates of each attempt to repair the leak.
  3. Repair methods applied in each attempt to repair the leak.
  4. "Above 10,000" if the maximum instrument reading measured by the methods specified in subparagraph (6)(a) of this rule after each repair attempt is equal to or greater than 10,000 ppm.
  5. "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.
  6. The signature of the owner or operator (or designate) whose decision it was that repair could not be affected without a process shutdown.
  7. The expected date of successful repair of the leak if a leak is not repaired within 15 days.
  8. Dates of process unit shutdown that occur while the equipment is unrepaired.
  9. The date of successful repair of the leak.
- (d) The following information pertaining to the design requirements for closed vent systems and control devices described in subparagraph (3)(j) of this rule shall be recorded and kept in a readily accessible location:
1. Detailed schematics, design specifications, and piping and instrumentation diagrams.
  2. The dates and descriptions of any changes in the design specifications.
  3. A description of the parameter or parameters monitored, as required in part (3)(j)5. of this rule, to ensure that control devices are operated and maintained in conformance with their design and an explanation of why that parameter (or parameters) was selected for the monitoring.
  4. Periods when the closed vent systems and control devices required in subparagraphs (3)(b), (c), (d), and (e) of this rule are not operated as designed, including periods when a flare pilot light does not have a flame.
  5. Dates of startups and shutdowns of the closed vent systems and control devices required in subparagraphs (3)(b), (c), (d), and (e) of this rule.
- (e) The following information pertaining to all equipment subject to the requirements in subparagraphs (3)(a) to (j) of this rule shall be recorded in a log that is kept in a readily accessible location:

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1. A list of identification numbers for equipment subject to the requirements of this rule.
  2.
    - (i) A list of identification numbers for equipment that are designated for no detectable emissions under the provisions of parts (3)(b)5., (c)9. and (g)6. of this rule.
    - (ii) The designation of equipment as subject to the requirements of parts (3)(b)5., (c)9., and (g)6. of this rule shall be signed by the owner or operator.
  3. A list of equipment identification numbers for pressure relief devices required to comply with subparagraph (3)(d) of this rule.
  4.
    - (i) The dates of each compliance test as required in parts (3)(b)5. and (c)9., subparagraph (3)(d), and part (3)(g)6. of this rule.
    - (ii) The background level measured during each compliance test.
    - (iii) The maximum instrument reading measured at the equipment during each compliance test.
  5. A list of identification numbers for equipment in vacuum service.
- (f) The following information pertaining to all valves subject to the requirements of parts (3)(g)7. and 8. of this rule shall be recorded in a log that is kept in a readily accessible location:
1. A list of identification numbers for valves that are designated as unsafe-to-monitor, an explanation for each valve stating why the valve is unsafe-to-monitor, and the plan for monitoring each valve.
  2. A list of identification numbers for valves that are designated as difficult-to-monitor, an explanation for each valve stating why the valve is difficult-to-monitor, and the schedule for monitoring each valve.
- (g) The following information shall be recorded for valves complying with subparagraph (4)(b) of this rule:
1. A schedule of monitoring.
  2. The percent of valves found leaking during each monitoring period.
- (h) The following information shall be recorded in a log that is kept in a readily accessible location:
1. Design criterion required in sub-parts (3)(b)4.(v) and (3)(c)5.(ii) of this rule and explanation of the design criterion; and
  2. Any changes to this criterion and the reasons for the changes.
- (i) The following information shall be recorded in a log that is kept in a readily accessible location for use in determining exemptions as provided in subparagraph (1)(d) of this rule:

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1. An analysis demonstrating the design capacity of the affected facility,
  2. A statement listing the feed or raw materials and products from the affected facilities and an analysis demonstrating whether these chemicals are heavy liquids or beverage alcohol, and
  3. An analysis demonstrating that equipment is not in VOC service.
- (j) Information and data used to demonstrate that a piece of equipment is not in VOC service shall be recorded in a log that is kept in a readily accessible location.
- (k) The provisions of subparagraphs 1200-03-16-.01(7)(b) and (d) do not apply to affected facilities subject to this rule.
- (8) Reporting requirements:
- (a) Each owner or operator subject to the provisions of this rule shall submit semiannual reports to the Technical Secretary beginning six months after the initial start up date.
  - (b) The initial semiannual report to the Technical Secretary shall include the following information:
    1. Process unit identification.
    2. Number of valves subject to the requirements of subparagraph (3)(g) of this rule, excluding those valves designated for no detectable emissions under the provisions of part (3)(g)6. of this rule.
    3. Number of pumps subject to the requirements of subparagraph (3)(b) of this rule, excluding those pumps designated for no detectable emissions under the provisions of part (3)(b)5. of this rule and those pumps complying with part (3)(b)6. of this rule.
    4. Number of compressors subject to the requirements of subparagraph (3)(c) of this rule, excluding those compressors designated for no detectable emissions under the provisions of part (3)(c)9. of this rule and those compressors complying with part (3)(c)8. of this rule.
  - (c) All semiannual reports to the Technical Secretary shall include the following information, summarized from the information in paragraph (7) of this rule:
    1. Process unit identification.
    2. For each month during the semiannual reporting period,
      - (i) Number of valves for which leaks were detected as described in part (3)(g)2. or subparagraph (4)(b) of this rule,
      - (ii) Number of valves for which leaks were not repaired as required in sub-part (3)(g)4.(i) of this rule,
      - (iii) Number of pumps for which leaks were detected as described in part (3)(b)2. and item (3)(b)4.(vi)(I) of this rule,
      - (iv) Number of pumps for which leaks were not repaired as required in sub-part (3)(b)3.(i) and item (3)(b)4.(vi)(II) of this rule,

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- (v) Number of compressors for which leaks were detected as described in part (3)(c)6. of this rule,
    - (vi) Number of compressors for which leaks were not repaired as required in sub-part (3)(c)7.(i) of this rule, and
    - (vii) The facts that explain each delay of repair and, where appropriate, why a process unit shutdown was technically infeasible.
  - 3. Dates of process unit shutdowns which occurred within the semiannual reporting period.
  - 4. Revisions to items reported according to subparagraph (b) of this paragraph if changes have occurred since the initial report or subsequent revisions to the initial report.
  - (d) An owner or operator electing to comply with the provisions of subparagraphs (4)(a) and (b) of this rule shall notify the Technical Secretary of the alternative standard selected 90 days before implementing either of the provisions.
  - (e) An owner or operator shall report the results of all performance tests in accordance with paragraph 1200-03-16-.01(5). The provisions of subparagraph 1200-03-16-.01(5)(d) do not apply to affected facilities subject to the provisions of this rule except that an owner or operator must notify the Technical Secretary of the schedule for the initial performance tests at least 30 days before the initial performance tests.
- (9) Exceptions:
- (a) Each owner or operator subject to the provisions of this rule may comply with the following exceptions.
  - (b)
    - 1. Compressors in hydrogen service are exempt from the requirements of paragraph (3) of this rule if an owner or operator demonstrates that a compressor is in hydrogen service.
    - 2. Each compressor is presumed not to be in hydrogen service unless an owner or operator demonstrates that the piece of equipment is in hydrogen service. For a piece of equipment to be considered in hydrogen service, it must be determined that the percent hydrogen content can be reasonably expected always to exceed 50 percent by volume. For purposes of determining the percent hydrogen content in the process fluid that is contained in or contacts a compressor, procedures that conform to the general method described in ASTM E- 260, E-168, or E-169 shall be used. (Note: All references to ASTM in this rule refers to the American Society for Testing Materials. Copies of methods are available for purchase by writing to ASTM, 1916 Race Street, Philadelphia, PA 19103 or by writing to the Tennessee Division of Air Pollution Control, 701 Broadway, 4th Floor Customs House, Nashville, TN 37219. Be sure and specify which method is desired.)
    - 3.
      - (i) An owner or operator may use engineering judgment rather than procedures in part 2. of this subparagraph to demonstrate that the percent content exceeds 50 percent by volume, provided the engineering judgment demonstrates that the content clearly exceeds 50 percent by volume. When an owner or operator and the Technical Secretary do not agree on whether a piece of equipment is in hydrogen service, however, the

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procedures in part 2. of this subparagraph shall be used to resolve the disagreement.

- (ii) If an owner or operator determines that a piece of equipment is in hydrogen service, the determination can be revised only after following the procedures in part 2. of this subparagraph.
- (c) Any existing reciprocating compressor that becomes an affected facility under provisions of subparagraphs 1200-03-16-.01(9)(a) and (b) is exempt from subparagraphs (3)(a), (b), (c), (d), (e), and (h) of this rule provided the owner or operator demonstrates that recasting the distance piece or replacing the compressor are the only options available to bring the compressor into compliance with the provisions of subparagraphs (3)(a), (b), (c), (d), (e), and (h) of this rule.
- (d) An owner or operator may use the following provision in addition to subparagraph (6)(e) of this rule: Equipment is in light liquid service if the percent evaporated is greater than 10 percent at 15° C as determined by ASTM Method D-86.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed September 22, 1988; effective November 6, 1988.

#### **1200-03-16-.48 FLEXIBLE VINYL AND URETHANE COATING AND PRINTING.**

- (1) Applicability.
  - (a) The affected facility to which the provisions of this rule apply is each rotogravure printing line used to print or coat flexible vinyl or urethane products.
  - (b) This rule applies to any affected facility which begins construction, modification, or reconstruction after November 6, 1988.
  - (c) For facilities controlled by a solvent recovery emission control device, the provisions of subparagraph (5)(a) of this rule requiring monitoring of operations will not apply until performance specifications for the continuous monitoring system have been promulgated. After the promulgation of performance specifications, these provisions will apply to each affected facility under subparagraph (b) of this paragraph. Facilities controlled by a solvent recovery emission control device that become subject to the standard prior to promulgation of performance specifications must conduct performance tests in accordance with subparagraph 1200-03-16-.01(8)(b) after performance specifications are promulgated.
- (2) Definitions and symbols:
  - (a) Definitions:
    - 1. "Emission control device" means any solvent recovery or solvent destruction device used to control volatile organic compounds (VOC) emissions from flexible vinyl and urethane rotogravure printing lines.
    - 2. "Emission control system" means the combination of an emission control device and a vapor capture system for the purpose of reducing VOC emissions from flexible vinyl and urethane rotogravure printing lines.
    - 3. "Flexible vinyl and urethane products" mean those products, except for resilient floor coverings (1977 Standard Industry Code 3996) and flexible packaging, that

(Rule 1200-03-16-.48, continued)

- are more than 50 micrometers (0.002 inches) thick, and that consist of or contain a vinyl or urethane sheet or a vinyl or urethane coated web.
4. "Gravure cylinder" means a plated cylinder with a printing image consisting of minute cells or indentations, specifically engraved or etched into the cylinder's surface to hold ink when continuously revolved through a fountain of ink.
  5. "Ink" means any mixture of ink, coating solids, organic solvents including dilution solvent, and water that is applied to the web of flexible vinyl or urethane on a rotogravure printing line.
  6. "Ink solids" means the solids content of an ink as determined by Method 24 (as specified in rule 1200-03-16-.01(5)(g), ink manufacturer's formulation data, or plant blending records.
  7. "Inventory system" means a method of physically accounting for the quantity of ink, solvent, and solids used at one or more affected facilities during a time period. The system is based on plant purchase or inventory records.
  8. "Plant blending records" means those records which document the weight fraction of organic solvents and solids used in the formulation or preparation of inks at the vinyl or urethane printing plant where they are used.
  9. "Rotogravure print station" means any device designed to print or coat inks on one side of a continuous web or substrate using the intaglio printing process with a gravure cylinder.
  10. "Rotogravure printing line" means any number of rotogravure print stations and associated dryers capable of printing or coating simultaneously on the same continuous vinyl or urethane web or substrate, which is fed from a continuous roll.
  11. "Vapor capture system" means any device or combination of devices designed to contain, collect, and route organic solvent vapors emitted from the flexible vinyl or urethane rotogravure printing line.
- (b) Symbols:
1. "a" means the gas stream vents exiting the emission control device.
  2. "b" means the gas stream vents entering the emission control device.
  3. "f" means the gas stream vents which are not directed to an emission control device.
  4. "C<sub>aj</sub>" means the concentration of VOC in each gas stream (j) for the time period exiting the emission control device, in parts per million by volume.
  5. "C<sub>bi</sub>" means the concentration of VOC in each gas stream (i) for the time period entering the emission control device, in parts per million by volume.
  6. "C<sub>fk</sub>" means the concentration of VOC in each gas stream (k) for the time period which is not directed to an emission control device, in parts per million by volume.



(Rule 1200-03-16-.48, continued)

7. "G" means the weighted average mass of VOC per mass of ink solids applied in kilograms per kilogram.
8. "Mci" means the total mass of each ink (i) applied in the time period as determined from plant records, in kilograms.
9. "Mdj" means the total mass of each dilution solvent (j) added at the print line in the time period determined from plant records, in kilograms.
10. "Qaj" means the volumetric flow rate of each effluent gas stream (j) exiting the emission control device, in standard cubic meters per hour.
11. "Qbi" means the volumetric flow rate of each effluent gas stream (i) entering the emission control device, in standard cubic meters per hour.
12. "Qfk" means the volumetric flow rate of each effluent gas stream (k) not directed to an emission control device, in standard cubic meters per hour.
13. "E" means the VOC emission reduction efficiency (as a fraction) of the emission control device during performance testing.
14. "F" means the VOC emission capture efficiency (as a fraction) of the vapor capture system during performance testing.
15. "Woi" means the weight fraction of VOC in each ink (i) used in the time period as determined from Reference Method 24, manufacturer's formulation data, or plant blending records, in kilograms per kilogram.
16. "Wsi" means the weight fraction of solids in each ink (i) used in the time period as determined from Reference Method 24, manufacturer's formulation data, or plant blending records, in kilograms per kilogram.
17. "Woj" means the weight fraction of VOC in each dilution solvent (j) added at the print line in the time period determined from Reference Method 24, manufacturer's formulation data, or plant blending records, in kilograms per kilogram.
18. "n" = the number of different inks (i) used.
19. "m" = the number of different dilution solvents (j) added at the print line.
20. "p" = the number of effluent gas streams (k) not directed to an emissions control device.

(3) Standard:

- (a) On and after the date on which the performance test required by paragraph 1200-03-16-.01(5) has been completed, each owner or operator subject to this rule shall either:
  1. Use inks with a weighted average VOC content less than 1.0 kilogram VOC per kilogram ink solids at each affected facility, or
  2. Reduce VOC emissions to the atmosphere by 85 percent from each affected facility.

(4) Test methods and procedures:

(Rule 1200-03-16-.48, continued)

- (a) Reference Methods as specified in rule 1200-03-16-.01(5)(g), except as provided under subparagraph 1200-03-16-.01(5)(b), shall be used to determine compliance with subparagraph (3)(a) of this rule as follows:
1. Method 24 for analysis of inks. If nonphotochemically reactive solvents are used in the inks, standard gas chromatographic techniques may be used to identify and quantify these solvents. The results of Reference Method 24 may be adjusted to subtract these solvents from the measured VOC content.
  2. Method 25A for VOC concentration (the calibration gas shall be propane);
  3. Method 1 for sample and velocity traverses;
  4. Method 2 for velocity and volumetric flow rates;
  5. Method 3 for gas analysis;
  6. Method 4 for stack gas moisture.
- (b) To demonstrate compliance with part (3)(a)1. of this rule, the owner or operator of an affected facility shall determine the weighted average VOC content of the inks according to the following procedures:
1. Determine and record the VOC content and amount of each ink used at the print head, including the VOC content and amount of diluted solvent, for any time periods when VOC emission control equipment is not used.
  2. Compute the weighted average VOC content by the following equation:

$$G = \frac{\sum_{i=1}^n M_{ci} W_{oi} + \sum_{j=1}^m W_{oj} M_{dj}}{\sum_{i=1}^n M_{ci} W_{si}}$$

3. The weighted average VOC content of the inks shall be calculated over a period that does not exceed one calendar month, or four consecutive weeks. A facility that uses an accounting system based on quarters consisting of two 28 calendar day periods and one 35 calendar day period may use an averaging period of 35 calendar days four times per year, provided the use of such an accounting system is documented in the initial performance test.
4. Each determination of the weighted average VOC content shall constitute a performance test for any period when VOC emission control equipment is not used. Results of the initial performance test must be reported to the Technical Secretary. Reference Method 24 or ink manufacturer's formulation data along with plant blending records (if plant blending is done) may be used to determine VOC content. The Technical Secretary may require the use of Reference Method 24 if there is a question concerning the accuracy of the ink manufacturer's data or plant blending records.
5. If, during the time periods when emission control equipment is not used, all inks used contain less than 1.0 kilogram VOC per kilogram ink solids, the owner or operator is not required to calculate the weighted average VOC content, but must

(Rule 1200-03-16-.48, continued)

verify and record the VOC content of each ink (including any added dilution solvent) used as determined by Referenced Method 24, ink manufacturers' formulation data, or plant blending records.

- (c) To demonstrate compliance with part (3)(a)1. of this rule, the owner or operator may determine the weighted average VOC content using an inventory system.
1. The inventory system shall accurately account to the nearest kilogram for the VOC content of all inks and dilution solvent used, recycled, and discarded for each affected facility during the averaging period. Separate records must be kept for each affected facility.
  2. To determine VOC content of inks and dilution solvent used or recycled, Reference Method 24 or ink manufacturers' formulation data must be used in combination with plant blending records (if plant blending is done) or inventory records or purchase records for new inks or dilution solvent.
  3. For inks to be discarded, only Reference Method 24 shall be used to determine the VOC content. Inks to be discarded may be combined prior to measurement of volume or weight and testing by Reference Method 24.
  4. The Technical Secretary may require the use of Reference Method 24 if there is a question concerning the accuracy of the ink manufacturer's data or plant records.
  5. The Technical Secretary shall approve the inventory system of accounting for VOC content prior to the initial performance test.
- (d) To demonstrate compliance with part (3)(a)2. of this rule, the owner or operator of an affected facility controlled by a solvent recovery emission control device or an incineration control device shall conduct a performance test to determine overall VOC emission control efficiency according to the following procedures:
1. The performance test shall consist of three runs. Each test run must last a minimum of 30 minutes and shall continue until the printing operation is interrupted or until 180 minutes of continuous operation occurs. During each test run, the print line shall be printing continuously and operating normally. The VOC emission reduction efficiency achieved for each test run is averaged over the entire test run period.
  2. VOC concentration values at each site shall be measured simultaneously.
  3. The volumetric flow rate shall be determined from one Method 2 measurement for each test run conducted immediately prior to, during, or after that test run. Volumetric flow rates at each site do not need to be measured simultaneously.
  4. In order to determine capture efficiency from an affected facility, all fugitive VOC emissions from the affected facility shall be captured and vented through stacks suitable for measurement. During a performance test, the owner or operator of an affected facility located in an area with other sources of VOC shall isolate the affected facility from other sources of VOC. These two requirements shall be accomplished using one of the following methods:
    - (i) Build a permanent enclosure around the affected facility;

(Rule 1200-03-16-.48, continued)

- (ii) Build a temporary enclosure around the affected facility and duplicate, to an extent that is reasonably feasible, the ventilation conditions that are in effect when the affected facility is not enclosed (one way to do this is to divide the room exhaust rate by the volume of the room and then duplicate that quotient or 20 air changes per hour, whichever is smaller, in the temporary enclosure); or
  - (iii) Shut down all other sources of VOC and continue to exhaust fugitive emissions from the affected facility through any building ventilation system and other room exhausts such as print line ovens and embossers.
5. For each affected facility, compliance with part (3)(a)2. of this rule has been demonstrated if the average value of the overall control efficiency (EF) for the three runs is equal to or greater than 85 percent. An overall control efficiency is calculated for each run as follows:

- (i) For efficiency of the emission control device:

$$E = \frac{\sum_{i=1}^n Q_{bi} C_{bi} - \sum_{j=1}^m Q_{aj} C_{aj}}{\sum_{i=1}^n Q_{bi} C_{bi}}$$

- (ii) For efficiency of the vapor capture system.

$$F = \frac{\sum_{i=1}^n Q_{bi} C_{bi}}{\sum_{i=1}^n Q_{bi} C_{bi} + \sum_{k=1}^p Q_{fk} C_{fk}}$$

- (5) Monitoring of operations and record keeping requirements:

- (a) The owner or operator of an affected facility controlled by a solvent recovery emission control device shall install, calibrate, operate, and maintain a monitoring system which continuously measures and records the VOC concentration of the exhaust vent stream from the control device and shall comply with the following requirements:
  1. The continuous monitoring system shall be installed in a location that is representative of the VOC concentration in the exhaust vent, at least two equivalent stack diameters from the exhaust point, and protected from interferences due to wind, weather, or other processes.
  2. During the performance test, the owner or operator shall determine and record the average exhaust vent VOC concentration in parts per million by volume. After the performance test, the owner or operator shall determine and, in addition to the record made by the continuous monitoring device, record the average exhaust vent VOC concentration for each 3-hour clock period of printing operation when the average concentration is greater than 50 ppm and more than 20 percent greater than the average concentration value demonstrated during the most recent performance test.

(Rule 1200-03-16-.48, continued)

- (b) The owner or operator of an affected facility controlled by a thermal incineration emission control device shall install, calibrate, operate, and maintain a monitoring device that continuously measures and records the temperature of the control device exhaust gases and shall comply with the following requirements:
    - 1. The continuous monitoring device shall be calibrated annually and have an accuracy of  $\pm 0.75$  percent of the temperature being measured or  $\pm 2.5^{\circ}\text{C}$ , whichever is greater.
    - 2. During the performance test, the owner or operator shall determine and record the average temperature of the control device exhaust gases. After the performance test, the owner or operator shall determine and record, in addition to the record made by the continuous monitoring device, the average temperature for each 3-hour clock period of printing operation when the average temperature of the exhaust gases is more than  $28^{\circ}\text{C}$  below the average temperature demonstrated during the most recent performance test.
  - (c) The owner or operator of an affected facility controlled by a catalytic incineration emission control device shall install, calibrate, operate, and maintain monitoring devices that continuously measure and record the gas temperatures both upstream and downstream of the catalyst bed and shall comply with the following requirements:
    - 1. Each continuous monitoring device shall be calibrated annually and have an accuracy of  $\pm 0.75$  percent of the temperature being measured or  $\pm 2.5^{\circ}\text{C}$ , whichever is greater.
    - 2. During the performance test, the owner or operator shall determine and record the average gas temperature both upstream and downstream of the catalyst bed. After the performance test, the owner or operator shall determine and record, in addition to the record made by the continuous monitoring device, the average temperatures for each 3-hour clock period of printing operation when the average temperature of the gas stream before the catalyst bed is more than  $28^{\circ}\text{C}$  below the average temperature demonstrated during the most recent performance or the average temperature difference across the catalyst bed is less than 80 percent of the average temperature difference of the device during the most recent performance test.
  - (d) The owner or operator of an affected facility shall record time periods of operation when an emission control device is not in use.
- (6) Reporting requirements:
- (a) For all affected facilities subject to compliance with paragraph (3) of this rule, the performance test shall be submitted to the Technical Secretary as specified in subparagraph 1200-03-16-.01(5)(a).
  - (b) The owner or operator of each affected facility shall submit semiannual reports to the Technical Secretary of occurrences of the following:
    - 1. Exceedances of the weighted average VOC content specified in part (3)(a)1. of this rule;
    - 2. Exceedances of the average value of the exhaust vent VOC concentration as defined under part (5)(a)2. of this rule;

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3. Drops in the incinerator temperature as defined under part (5)(b)2. of this rule; and
  4. Drops in the average temperature of the gas stream immediately before the catalyst bed or drops in the average temperature across the catalyst bed as defined under part (5)(c)2. of this rule.
- (c) The reports required under subparagraph (b) of this paragraph shall be postmarked within 30 days following the end of the second and fourth calendar quarters.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed September 22, 1988; effective November 6, 1988.

#### **1200-03-16-.49 PETROLEUM DRY CLEANERS.**

(1) Applicability.

- (a) The provisions of this rule are applicable to the following affected facilities located at a petroleum dry cleaning plant with a total manufacturers' rated dryer capacity equal to or greater than 38 kilograms (84 pounds): Petroleum solvent dry cleaning dryers, washers, filters, stills, and settling tanks.
1. When the affected facility is installed in an existing plant that is not expanding the manufacturers' rated capacity of its petroleum solvent dryer(s), the total manufacturers' rated dryer capacity is the summation of the manufacturer's rated capacity for each existing petroleum solvent dryer.
  2. When the affected facility is installed in a plant that is expanding the manufacturers' rated capacity of its petroleum solvent dryers, the total manufacturers' rated dryer capacity is the summation of the manufacturers' rated dryer capacity for each existing and proposed new petroleum solvent dryer.
  3. When the affected facility is installed in a new plant, the total manufacturers' rated dryer capacity is the summation of the manufacturers' rated dryer capacity for each proposed new petroleum solvent dryer.
  4. The petroleum solvent dryers considered in the determination of the total manufacturers' rated dryer capacity are those new and existing dryers in the plant that will be in service at any time after the proposed new source or modification commences operation.
- (b) Any facility under subparagraph (a) of this paragraph that commences construction or modification after November 6, 1988 is subject to the requirements of this rule.

(2) Definitions:

- (a) "Cartridge filter" means a discrete filter unit containing both filter paper and activated carbon that traps and removes contaminants from petroleum solvent, together with the piping and ductwork used in the installation of this device.
- (b) "Dryer" means a machine used to remove petroleum solvent from articles of clothing or other textile or leather goods, after washing and removing of excess petroleum solvent, together with the piping and ductwork used in the installation of this device.
- (c) "Manufacturers' rated dryer capacity" means the dryer's rated capacity of articles, in pounds or kilograms of clothing articles per load, dry basis, that is typically found on

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each dryer on the manufacturer's name-plate or in the manufacturer's equipment specifications.

- (d) "Perceptible leaks" means any petroleum solvent vapor or liquid leaks that are conspicuous from visual observation or that bubble after application of a soap solution, such as pools or droplets of liquid, open containers or solvent, or solvent laden waste standing open to the atmosphere.
  - (e) "Petroleum dry cleaner" means a dry cleaning facility that uses petroleum solvent in a combination of washers, dryers, filters, stills, and settling tanks.
  - (f) "Settling tank" means a container that gravimetrically separates oils, grease, and dirt from petroleum solvent, together with the piping and ductwork used in the installation of this device.
  - (g) "Solvent filter" means a discrete solvent filter unit containing a porous medium that traps and removes contaminants from petroleum solvent, together with the piping and ductwork used in the installation of this device.
  - (h) "Solvent recovery dryer" means a class of dry cleaning dryers that employs a condenser to condense and recover solvent vapors evaporated in a closed-loop stream of heated air, together with the piping and ductwork used in the installation of this device.
  - (i) "Still" means a device used to volatilize, separate, and recover petroleum solvent from contaminated solvent, together with the piping and ductwork used in the installation of this device.
  - (j) "Washer" means a machine which agitates fabric articles in a petroleum solvent bath and spins the articles to remove the solvent, together with the piping and ductwork used in the installation of this device.
- (3) Standards:
- (a) Each affected petroleum solvent dry cleaning dryer that is installed at a petroleum dry cleaning plant shall be a solvent recovery dryer. The solvent recovery dryer(s) shall be properly installed, operated, and maintained.
  - (b) Each affected petroleum solvent filter that is installed at a petroleum dry cleaning plant shall be a cartridge filter. Cartridge filters shall be drained in their sealed housings for at least 8 hours prior to their removal.
  - (c) Each manufacturer of an affected petroleum solvent dryer shall include leak inspection and leak repair cycle information in the operating manual and on a clearly visible label posted on each affected facility. Such information should state:  
  
To protect against fire hazards, loss of valuable solvents, and emissions of solvent to the atmosphere, periodic inspection of this equipment for evidence of leaks and prompt repair of any leaks is recommended. The U.S. Environmental Protection Agency recommends that the equipment be inspected every 15 days and all vapor or liquid leaks be repaired within the subsequent 15 day period.

(4) Equivalent Equipment and Procedures:

Upon written application from any person, the Technical Secretary may approve the use of equipment or procedures that have been demonstrated to his satisfaction to be equivalent, in

(Rule 1200-03-16-.49, continued)

terms of reducing VOC emissions to the atmosphere, to those prescribed for compliance within a specified subparagraph of this rule. The application must contain a complete description of the equipment or procedure, the testing method, the date, time and location of the test, and a description of the test results. Written applications shall be submitted to the Technical Secretary.

(5) Test Methods and Procedures:

Each owner or operator of an affected facility subject to the provisions of subparagraph (3)(a) of this rule shall perform an initial test to verify that the flow rate of recovered solvent from the solvent recovery dryer at the termination of the recovery cycle is no greater than 0.05 liters per minute. This test shall be conducted for a duration of no less than 2 weeks during which no less than 50 percent of the dryer loads shall be monitored for their final recovered solvent flow rate. The suggested point for measuring the flow rate of recovered solvent is from the outlet of the solvent-water separator. Near the end of the recovery cycle, the entire flow of recovered solvent should be diverted to a graduated cylinder. As the recovered solvent collects in the graduated cylinder, the elapsed time is monitored and recorded in periods of greater than or equal to 1 minute. At the same time, the volume of solvent in the graduated cylinder is monitored and recorded to determine the volume of recovered solvent that is collected during each time period. The recovered solvent flow rate is calculated by dividing the volume of solvent collected per period by the length of time elapsed during the period and converting the result with appropriate factors into units of liters per minute. The recovery cycle and the monitoring procedure should continue until the flow rate of solvent is less than or equal to 0.05 liter per minute. The type of articles cleaned and the total length of the cycle should then be recorded.

(6) Recordkeeping Requirements:

Each owner or operator of an affected facility subject to the provisions of this rule shall maintain a record of the performance test required under paragraph (5) of this rule.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed September 22, 1988; effective November 6, 1988.

### 1200-03-16-.50 PHOSPHATE ROCK PLANTS.

(1) Applicability.

(a) The provisions of this rule are applicable to the following affected facilities used in phosphate rock plants which have a maximum plant production capacity greater than 3.6 megagrams per hour (4 tons/hr): dryers, calciners, grinders, and ground rock handling and storage facilities, except those facilities producing or preparing phosphate rock solely for consumption in elemental phosphorus production.

(b) Any facility under subparagraph (a) of this paragraph which commences construction, modification, or reconstruction after November 6, 1988 is subject to the requirements of this rule.

(2) Definitions.

(a) "Phosphate rock plant" means any plant which produces or prepares phosphate rock product by any or all of the following processes: Mining, beneficiation, crushing, screening, cleaning, drying, calcining, and grinding.



(Rule 1200-03-16-.50, continued)

- (b) "Phosphate rock feed" means all material entering the process unit including, moisture and extraneous material as well as the following ore minerals: Fluorapatite, hydroxylapatite, chlorapatite, and carbonateapatite.
  - (c) "Dryer" means a unit in which the moisture content of phosphate rock is reduced by contact with a heated gas stream.
  - (d) "Calciner" means a unit in which the moisture and organic matter of phosphate rock is reduced within a combustion chamber.
  - (e) "Grinder" means a unit which is used to pulverize dry phosphate rock to the final product size used in the manufacture of phosphate fertilizer and does not include crushing devices used in mining.
  - (f) "Ground phosphate rock handling and storage system" means a system which is used for the conveyance and storage of ground phosphate rock from grinders at phosphate rock plants.
  - (g) "Beneficiation" means the process of washing the rock to remove impurities or to separate size fractions.
- (3) Standards:
- (a) On and after the date on which the performance test required to be conducted by paragraph 1200-03-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere:
    - 1. From any phosphate rock dryer any gases which:
      - (i) Contain particulate matter in excess of 0.030 kilogram per megagram of phosphate rock feed (0.06 lb/ton), or
      - (ii) Exhibit greater than 10 percent opacity.
    - 2. From any phosphate rock calciner processing unbeneficiated rock or blends of beneficiated and unbeneficiated rock, any gases which:
      - (i) Contains particulate matter in excess of 0.12 kilogram per megagram of phosphate rock feed (0.23 lb/ton), or
      - (ii) Exhibit greater than 10 percent opacity.
    - 3. From any phosphate rock calciner processing beneficiated rock any gases which:
      - (i) Contain particulate matter in excess of 0.055 kilogram per megagram of phosphate rock feed (0.11 lb/ton), or
      - (ii) Exhibit greater than 10 percent opacity.
    - 4. From any phosphate rock grinder any gases which:
      - (i) Contain particulate matter in excess of 0.006 kilogram per megagram of phosphate rock feed (0.012 lb/ton), or
      - (ii) Exhibit greater than zero-percent opacity.

(Rule 1200-03-16-.50, continued)

5. From any ground phosphate rock handling and storage system any gases which exhibit greater than zero-percent opacity.
- (4) Monitoring of emissions and operations:
- (a) Any owner or operator subject to the provisions of this rule shall install, calibrate, maintain, and operate a continuous monitoring system, except as provided in subparagraphs (b) and (c) of this paragraph, to monitor and record the opacity of the gases discharged into the atmosphere from any phosphate rock dryer, calciner, or grinder. The span of this system shall be set at 40 percent opacity.
  - (b) For ground phosphate rock storage and handling systems, continuous monitoring systems for measuring opacity are not required.
  - (c) The owner or operator of any affected phosphate rock facility using a wet scrubbing emission control device shall not be subject to the requirements in subparagraph (a) of this paragraph, but shall install, calibrate, maintain, and operate the following continuous monitoring devices:
    1. A monitoring device for the continuous measurement of the pressure loss of the gas stream through the scrubber. The monitoring device must be certified by the manufacturer to be accurate within  $\pm 250$  pascals ( $\pm 1$  inch water) gauge pressure.
    2. A monitoring device for the continuous measurement of the scrubbing liquid supply pressure to the control device. The monitoring device must be accurate within  $\pm 5$  percent of design scrubbing liquid supply pressure.
  - (d) For the purpose of conducting a performance test under paragraph 1200-03-16-.01(5), the owner or operator of any phosphate rock plant subject to the provisions of this rule shall install, calibrate, maintain, and operate a device for measuring the phosphate rock feed to any affected dryer, calciner, or grinder. The measuring device used must be accurate to within  $\pm 5$  percent of the mass rate over its operating range.
  - (e) For the purpose of reports required under subparagraph 1200-03-16-.01(7)(c), periods of excess emissions that shall be reported are defined as all 6-minute periods during which the average opacity of the plume from any phosphate rock dryer, calciner, or grinder subject to subparagraph (a) of this paragraph exceeds the applicable opacity limit.
  - (f) Any owner or operator subject to the requirements under subparagraph (c) of this paragraph shall report for each calendar quarter all measurement results that are less than 90 percent of the average levels maintained during the most recent performance test conducted under paragraph 1200-03-16-.01(5) in which the affected facility demonstrated compliance with the standard under paragraph (3) of this rule.
- (5) Test methods and procedures:
- (a) Reference methods, (as specified in rule 1200-03-16-.01(5)(g)) except as provided under subparagraph 1200-03-16-.01(5)(b), shall be used to determine compliance with paragraph (3) of this rule as follows:
    1. Method 5 for the measurement of particulate matter and associated moisture content,
    2. Method 1 for sample and velocity traverses,

(Rule 1200-03-16-.50, continued)

3. Method 2 for velocity and volumetric flow rates,
  4. Method 3 for gas analysis, and
  5. Method 9 for the measurement of the opacity of emissions.
- (b) For Method 5, the sampling time for each run shall be at least 60 minutes and have a minimum sampled volume of 0.84 dscm (30 dscf). However, shorter sampling times and smaller sample volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.
- (c) For each run, the average phosphate rock feed rate in megagrams per hour shall be determined using a device meeting the requirements of subparagraph (4)(d) of this rule.
- (d) For each run, emissions expressed in kilograms per megagram of phosphate rock feed shall be determined using the following equation:

$$E = \frac{(C_s Q_s) * 10^{-6}}{M}$$

where:

E= Emissions of particulates in kg/Mg of phosphate rock feed.

Cs= Concentration of particulates in mg/dscm as measured by Method 5.

Qs= Volumetric flow rate in dscm/hr as determined by Method 2.

10<sup>-6</sup>= Conversion factor for milligrams to kilograms.

M= Average phosphate rock feed rate in Mg/hr.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-108. **Administrative History:** Original rule filed September 22, 1988; effective November 6, 1988.

#### **1200-03-16-.51 EQUIPMENT LEAKS OF VOC FROM ONSHORE NATURAL GAS PROCESSING PLANTS.**

- (1) Applicability and designation of affected facility.
  - (a) 1. The provisions of this rule apply to affected facilities in onshore natural gas processing plants.
    2. A compressor in VOC service or in wet gas service is an affected facility.
    3. The group of all equipment except compressors (defined in paragraph (2) of this rule) within a process unit is an affected facility.
  - (b) Any affected facility under subparagraph (a) of this paragraph that commences construction, reconstruction, or modification after November 6, 1988 is subject to the requirements of this rule.

(Rule 1200-03-16-.51, continued)

- (c) Addition or replacement of equipment (defined in paragraph (2) of this rule) for the purpose of process improvement that is accomplished without a capital expenditure shall not by itself be considered a modification under this rule.
  - (d) Facilities covered by rule 1200-03-16-.43 or rule 1200-03-16-.47 are excluded from this rule.
  - (e) A compressor station, dehydration unit, sweetening unit, underground storage tank, field gas gathering system, or liquefied natural gas unit is covered by this rule if it is located at an onshore natural gas processing plant. If the unit is not located at the plant site, then it is exempt from the provisions of this rule.
- (2) Definitions.
- (a) Terms not defined in this paragraph shall have the meanings given in rule 1200-03-16-.43.
  - (b) "Equipment" means each pump, pressure relief device, open-ended valve or line, valve, compressor, and flange or other connector that is in VOC service or in wet gas service, and any device or system required by this rule.
  - (c) "Field gas" means feedstock gas entering the natural gas processing plant.
  - (d) "In light liquid service" means that the piece of equipment contains a liquid that meets the conditions specified in 1200-03-16-.43(6)(e) or part (4)(h)2. of this rule.
  - (e) "Natural gas liquids" means the hydrocarbons, such as ethane, propane, butane, and pentane, that are extracted from field gas.
  - (f) "Natural gas processing plant" (gas plant) means any processing site engaged in the extraction of natural gas liquids from field gas, fractionation of mixed natural gas liquids to natural gas products, or both.
  - (g) "Nonfractionating plant" means any gas plant that does not fractionate mixed natural gas liquids into natural gas products.
  - (h) "Onshore" means all facilities except those that are located in the territorial seas or on the outer continental shelf.
  - (i) "Process unit" means equipment assembled for the extraction of natural gas liquids from field gas, the fractionation of the liquids into natural gas products, or other operations associated with the processing of natural gas products. A process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the products.
  - (j) "Reciprocating compressor" means a piece of equipment that increases the pressure of a process gas by positive displacement, employing linear movement of the driveshaft.
  - (k) "In wet gas service" means that a piece of equipment contains or contacts the field gas before the extraction step in the process.
- (3) Standards
- (a) Each owner or operator subject to the provisions of this rule shall comply with the requirements of 1200-03-16-.43(3)(a)1., 2., and 4. and 1200-03-16-.43(3)(b) through

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- (j), except as provided in paragraph (4) of this rule, as soon as practicable, but no later than 180 days after initial startup.
  - (b) An owner or operator may elect to comply with the requirements of 1200-03-16-.43(4)(a) and (b).
  - (c) An owner or operator may apply to the Technical Secretary for permission to use an alternative means of emission limitation that achieves a reduction in emissions of VOC at least equivalent to that achieved by the controls required in this rule. In doing so, the owner or operator shall comply with requirements of paragraph (5) of this rule.
  - (d) Each owner or operator subject to the provisions of this rule shall comply with the applicable test methods and procedures specified in 1200-03-16-.43(6) except as provided in subparagraph (4)(f) of this rule.
  - (e) Each owner or operator subject to the provisions of this rule shall comply with the provisions of 1200-03-16-.43(7) and (8) except as provided in paragraphs (4), (6), and (7) of this rule.
  - (f) An owner or operator shall use the following provision instead of the provisions of 1200-03-16-.43(6)(d)1.: Each piece of equipment is presumed to be in VOC service or in wet gas service unless an owner or operator demonstrates that the piece of equipment is not in VOC service or in wet gas service. For a piece of equipment to be considered not in VOC service, it must be determined that the percent VOC content can be reasonably expected never to exceed 10.0 percent by weight. For a piece of equipment to be considered in wet gas service, it must be determined that it contains or contacts the field gas before the extraction step in the process. For purposes of determining the percent VOC content of the process fluid that is contained in or contacts a piece of equipment, procedures that conform to the methods described in ASTM Methods E169, E168, or E260 shall be used. (Note: All references to ASTM in this rule refers to the American Society for Testing Materials. Copies of methods are available for purchase by writing to ASTM, 1916 Race Street, Philadelphia, PA 19103 or by writing to the Tennessee Division of Air Pollution Control, 701 Broadway, 4th Floor Customs House, Nashville, TN 37219. Be sure and specify which method is desired.)
- (4) Exceptions
- (a) Each owner or operator subject to the provisions of this rule may comply with the following exceptions to the provisions of rule 1200-03-16-.43.
  - (b)
    1. Each pressure relief device in gas/vapor service may be monitored quarterly and within 5 days after each pressure release to detect leaks by the methods specified in subparagraph 1200-03-16-.43(6)(b) except as provided in subparagraph (3)(c) and part (4)(b)4. of this rule and 1200-03-16-.43(3)(d)1. through 1200-03-16-.43(3)(d)3.
    2. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.
    3.
      - (i) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after it is detected, except as provided in 1200-03-16-.43(3)(i).
      - (ii) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

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4.
    - (i) Any pressure relief device that is located in a nonfractionating plant that is monitored only by nonplant personnel may be monitored after a pressure release the next time the monitoring personnel are on site, instead of within 5 days as specified in part (b)1. of this paragraph and rule 1200-03-16-.43(3)(d)2.(ii).
    - (ii) No pressure relief device described in subpart (b)4.(i) of this paragraph shall be allowed to operate for more than 30 days after a pressure release without monitoring.
  - (c) Sampling connection systems are exempt from the requirements of 1200-03-16-.43(3)(e).
  - (d) Pumps in light liquid service, valves in gas/vapor and light liquid service, and pressure relief devices in gas/vapor service that are located at a nonfractionating plant that does not have the design capacity to process 283,000 standard cubic meters per day (scmd) (10 million standard cubic feet per day (scfd)) or more of field gas are exempt from the routine monitoring requirements of 1200-03-16-.43(3)(b)1.(i), 1200-03-16-.43(3)(g)1. and part (b)1. of this paragraph.
  - (e) Reserved
  - (f) Reciprocating compressors in wet gas service are exempt from the compressor control requirements of 1200-03-16-.43(3)(c).
  - (g) Flares used to comply with this rule shall comply with the requirements of 1200-03-16-.01(11).
  - (h) An owner or operator may use the following provisions instead of 1200-03-16-.43(6)(e):
    1. Equipment is in heavy liquid service if the weight percent evaporated is 10 percent or less at 15° C as determined by ASTM Method D86. (Note: All references to ASTM in this rule refers to the American Society for Testing Materials. Copies of methods are available for purchase by writing to ASTM, 1916 Race Street, Philadelphia, PA 19103 or by writing to the Tennessee Division of Air Pollution Control, 701 Broadway, 4th Floor Customs House, Nashville, TN 37219. Be sure and specify which method is desired.)
    2. Equipment is in light liquid service if the weight percent evaporated is greater than 10 percent at 1500C as determined by ASTM Method D86.
- (5) Alternative means of emission limitation
- (a) If, in the Technical Secretary's judgment, an alternative means of emission limitation will achieve a reduction in VOC emissions at least equivalent to the reduction in VOC emissions achieved under any design, equipment, work practice or operational standard, this alternative means may be allowed in lieu of means listed in this rule. The Technical Secretary may condition permission to use alternate means on requirements related to the operation and maintenance of the alternative means.
  - (b) The method of approving any alternate means by the provisions of this paragraph shall be by revision of the state implementation plan.
  - (c) The Technical Secretary will consider applications under this paragraph from either owners or operators of affected facilities, or manufactures of control equipment.

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- (d) The Technical Secretary will treat applications under this paragraph according to the following criteria, except in cases where he concludes that other criteria are appropriate:
  - 1. The applicant must collect, verify and submit test data, covering a period of at least 12 months, necessary to support the finding in subparagraph (a) of this paragraph, and
  - 2. If the applicant is an owner or operator of an affected facility, he must commit in writing to operate and maintain the alternative means so as to achieve a reduction in VOC emissions at least equivalent to the reduction in VOC emissions achieved under the design, equipment, work practice or operational standard.
- (6) Recordkeeping requirements
  - (a) Each owner or operator subject to the provisions of this rule shall comply with the requirements of subparagraphs (b) and (c) of this paragraph in addition to the requirements of 1200-03-16-.43(7).
  - (b) The following recordkeeping requirements shall apply to pressure relief devices subject to the requirements of part (4)(b)1. of this rule.
    - 1. When each leak is detected as specified in part (4)(b)2. of this rule, a weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment. The identification on the pressure relief device may be removed after it has been repaired.
    - 2. When each leak is detected as specified in part (4)(b)2. of this rule, the following information shall be kept for 2 years in a readily accessible location:
      - (i) The instrument and operator identification numbers and the equipment identification number.
      - (ii) The date the leak was detected and the dates of each attempt to repair the leak.
      - (iii) Repair methods applied in each attempt to repair the leak.
      - (iv) "Above 10,000 ppm" if the maximum instrument reading measured by the methods specified in subparagraph (a) of this paragraph after each repair attempt is 10,000 ppm or greater.
      - (v) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.
      - (vi) The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a process shutdown.
      - (vii) The expected date of successful repair of the leak if a leak is not repaired within 15 days.
      - (viii) Dates of process unit shutdowns that occur while the equipment is unrepaired.

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- (ix) The date of successful repair of the leak.
  - (x) A list of identification numbers for equipment that are designated for no detectable emissions under the provisions of 1200-03-16-.43(3)(d)1. The designation of equipment subject to the provisions of 1200-03-16-.43(3)(d)1. shall be signed by the owner or operator.
- (c) An owner or operator shall comply with the following requirement in addition to the requirement of 1200-03-16-.43(7)(j): Information and data used to demonstrate that a reciprocating compressor is in wet gas service to apply for the exemption in subparagraph (4)(f) of this rule shall be recorded in a log that is kept in a readily accessible location.
- (7) Reporting requirements
- (a) Each owner or operator subject to the provisions of this rule shall comply with the requirements of subparagraphs (b) and (c) of this paragraph in addition to the requirements of 1200-03-16-.43(8).
  - (b) An owner or operator shall include the following information in the initial semiannual report in addition to the information required in 1200-03-16-.43(8)(b)1. through 1200-03-16-.43(8)(b)4.: number of pressure relief devices subject to the requirements of subparagraph (4)(b) of this rule except for those pressure relief devices designated for no detectable emissions under the provisions of 1200-03-16-.43(3)(d)1. and those pressure relief devices complying with 1200-03-16-.43(3)(d)3.
  - (c) An owner or operator shall include the following information in all semiannual reports in addition to the information required in 1200-03-16-.43(8)(c)2.(i) through 1200-03-16-.43(8)(c)2.(vi):
    - 1. Number of pressure relief devices for which leaks were detected as required in part (4)(b)2. of this rule, and
    - 2. Number of pressure relief devices for which leaks were not repaired as required in part (4)(b)3. of this rule.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed September 22, 1988; effective November 6, 1988.

#### **1200-03-16-.52 ELECTRIC ARC FURNACES AND ARGON-OXYGEN DECARBURIZATION VESSELS.**

- (1) Applicability and designation of affected facility.
  - (a) The provisions of this rule are applicable to the following affected facilities in steel plants that produce carbon, alloy, or specialty steels: electric arc furnaces, argon-oxygen decarburization vessels, and dust handling systems.
  - (b) The provisions of this rule apply to each affected facility identified in subparagraph (a) of this paragraph that commences construction, modification, or reconstruction after November 6, 1988.
- (2) Definitions



(Rule 1200-03-16-.52, continued)

- (a) As used in this rule, all terms not defined herein shall have the meaning given them in paragraph (4) of rule 1200-03-16-.01.
1. "Argon-oxygen decarburization vessel" (AOD vessel) means any closed-bottom, refractory-lined converter vessel with submerged tuyeres through which gaseous mixtures containing argon and oxygen or nitrogen may be blown into molten steel for further refining.
  2. "Capture system" means the equipment (including ducts, hoods, fans, dampers, etc.) used to capture or transport particulate matter generated by an electric arc furnace or AOD vessel to the air pollution control device.
  3. "Charge" means the addition of iron and steel scrap or other materials into the top of an electric arc furnace or the addition of molten steel or other materials into the top of an AOD vessel.
  4. "Control device" means the air pollution control equipment used to remove particulate matter from the effluent gas stream generated by an electric arc furnace or AOD vessel.
  5. "Direct-shell evacuation control system" (DEC System) means a system that maintains a negative pressure within the electric arc furnace above the slag or metal and ducts emissions to the control device.
  6. "Dust-handling system" means equipment used to handle particulate matter collected by the control device for an electric arc furnace or AOD vessel subject to this rule. For the purposes of this rule, the dust handling system shall consist of the control device dust hoppers, the dust- conveying equipment, any central dust storage equipment, the dust-treating equipment (e.g., pug mill, pelletizer), dust transfer equipment (from storage to truck), and any secondary control devices used with the dust transfer equipment (from storage to truck), and any secondary control devices used with the dust transfer equipment.
  7. "Electric arc furnace" (EAF) means a furnace that produces molten steel and heats the charge materials with electric arcs from carbon electrodes. For the purposes of this rule, an EAF shall consist of the furnace shell and roof and the transformer. Furnaces that continuously feed direct-reduced iron ore pellets as the primary source of iron are not affected facilities within the scope of this definition.
  8. "Heat cycle" means the period beginning when scrap is charged to an empty EAF and ending when the EAF tap is completed or beginning when molten steel is charged to an empty AOD vessel and ending when the AOD vessel tap is completed.
  9. "Melting" means that phase of steel production cycle during which the iron and steel scrap is heated to the molten state.
  10. "Negative-pressure fabric filter" means a fabric filter with the fans on the downstream side of the filter bags.
  11. "Positive-pressure fabric filter" means a fabric filter with the fans on the upstream side of the filter bags.

(Rule 1200-03-16-.52, continued)

12. "Refining" means that phase of the steel production cycle during which undesirable elements are removed from the molten steel and alloys are added to reach the final metal chemistry.
13. "Shop" means the building which houses one or more EAF's or AOD vessels.
14. "Shop opacity" means the arithmetic average of 24 observations of the opacity of emissions from the shop taken in accordance with Method 9.
15. "Tap" means the pouring of molten steel from an EAF or AOD vessel.

(3) Standard for particulate matter

- (a) On and after the date of which the performance test required to be conducted by paragraph 1200-03-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from an EAF or an AOD vessel and gases which:
  1. Exit from a control device and contain particulate matter in excess of 12 mg/dscm (0.0052 gr/dscf);
  2. Exit from a control device and exhibit 3 percent opacity or greater; and
  3. Exit from a shop and, due solely to the operations of any affected EAF(s) or AOD vessel(s), exhibit 6 percent opacity or greater.
- (b) On and after the date on which the performance test required to be conducted by paragraph 1200-03-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from the dust-handling system any gases that exhibit 10 percent opacity or greater.

(4) Emission monitoring

- (a) Except as provided under subparagraphs (b) and (c) of this paragraph, a continuous monitoring system for the measurement of the opacity of emissions discharged into the atmosphere from the control device(s) shall be installed, calibrated, maintained, and operated by the owner or operator subject to the provisions of this rule.
- (b) No continuous monitoring system shall be required on any control device serving the dust-handling system.
- (c) No continuous monitoring system shall be required on modular, multiple-stack, negative-pressure or positive-pressure fabric filters if observations of the opacity of the visible emissions from the control device are performed by a certified visible emission observer.

(5) Monitoring of operations

- (a) The owner or operator subject to the provisions of this rule shall maintain records of the following information:
  1. All data obtained under subparagraph (b) of this paragraph.
  2. All monthly operational status inspections performed under subparagraph (c) of this paragraph.

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- (b) Except as provided under subparagraph (d) of this paragraph, the owner or operator subject to the provisions of this rule shall check and record on a once-per-shift basis the furnace static pressure (if DEC system is in use) and either (1) check and record the control system fan motor amperes and damper position on a once-per-shift basis; or (2) install, calibrate, and maintain a monitoring device that continuously records the volumetric flow rate through each separately ducted hood. The monitoring device(s) may be installed in any appropriate location in the exhaust duct such that reproducible flow rate monitoring will result. The flow rate monitoring device(s) shall have an accuracy of  $\pm 10$  percent over its normal operating range and shall be calibrated according to the manufacturer's instructions. The Technical Secretary may require the owner or operator to demonstrate the accuracy of the monitoring device(s) relative to Methods 1 and 2 (as specified in 1200-03-16-.01(5)(g)).
- (c) When the owner or operator of an affected facility is required to demonstrate compliance with the standards of paragraph (3)(a)3. of this rule, and at any other time the Technical Secretary may require that either the control system fan motor amperes and all damper positions or the volumetric flow rate through each separately ducted hood shall be determined during all periods in which a hood is operated for the purpose of capturing emissions from the affected facility subject to the provisions of subparagraph (b) of this paragraph. The owner or operator may petition the Technical Secretary for reestablishment of these parameters whenever the owner or operator can demonstrate to the Technical Secretary's satisfaction that the affected facility operating conditions upon which the parameters were previously established are no longer applicable. The values of these parameters determined during the most recent demonstration of compliance shall be maintained at the appropriate level for each applicable period. Operation at other than baseline values may be subject to the requirements of subparagraph 1200-03-16-.52(7)(c).
- (d) The owner or operator shall perform monthly operational status inspections of the equipment that is important to the performance of the total capture system (i.e., pressure sensors, dampers, and damper switches). This inspection shall include observations of the physical appearance of the equipment (e.g., presence of holes in ductwork or hoods, flow constrictions caused by dents or accumulated dust in ductwork and fan erosion). Any deficiencies shall be noted and proper maintenance performed.
- (e) The owner or operator may petition the Technical Secretary to approve any alternative to monthly operational status inspections that will provide a continuous record of the operation of each emission capture system.
- (f) If emissions during any phase of the heat time are controlled by the use of a DEC system, the owner or operator shall install, calibrate, and maintain a monitoring device that allows the pressure in the free space inside the EAF to be monitored. The monitoring device may be installed in any appropriate location in the EAF or DEC duct prior to the introduction of ambient air such that reproducible results will be obtained. The pressure monitoring device shall have an accuracy of  $\pm 5$ mm of water gauge over its normal operating range and shall be calibrated according to the manufacturer's instructions.
- (g) When the owner or operator of an EAF controlled by a DEC is required to demonstrate compliance with the standard under part rule 1200-03-16-.52(3)(a)3. and at any other time the Technical Secretary may require the pressure in the free space inside the furnace shall be determined during the melting and refining period(s) using the monitoring device required under subparagraph (f) of this paragraph. The owner or operator may petition the Technical Secretary for reestablishment of the 15-minute integrated average of the pressure whenever the owner or operator can demonstrate to the Technical Secretary's satisfaction that the EAF operating conditions upon which the

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pressures were previously established are no longer applicable. The pressure determined during the most recent demonstration of compliance shall be maintained at all times when the EAF is operating in a meltdown and refining period. Operation at higher pressures may be considered by the Technical Secretary to be unacceptable operation and maintenance of the affected facility.

- (h) During any performance test required under paragraph 1200-03-16-.01(5), and for any report thereof required by subparagraph (6)(d) of this rule, or to determine compliance with part (3)(a)3. of this rule, the owner or operator shall monitor the following information for all heats covered by the test:
  - 1. Charge weights and materials, and tap weights and materials;
  - 2. Heat times, including start and stop times, and a log of process operation, including periods of no operation during testing and the pressure inside an EAF when direct-shell evacuation control systems are used;
  - 3. Control device operation log; and
  - 4. Continuous monitor or Reference Method 9 (as specified in 1200-03-16-.01(5)(g)) data.
- (6) Test methods and procedures.
  - (a) Reference methods in 1200-03-16-.01(5)(g), except as provided under 1200-03-16-.01(5)(b), shall be used to determine compliance with the standards prescribed under paragraph 1200-03-16-.52(3) as follows:
    - 1. Method 1 for sample and velocity traverses;
    - 2. Method 2 for velocity and volumetric flow rate;
    - 3. Method 3 (as specified in 1200-03-16-.01(5)(g)) for gas analysis;
    - 4. Either Method 5 (as specified in 1200-03-16-.01(5)(g)) for negative-pressure fabric filters and other types of control devices or Method 5D for positive-pressure fabric filters for concentration of particulate matter and associated moisture content; and
    - 5. Method 9 (as specified in 1200-03-16-.01(5)(g)) for the opacity of visible emissions.
  - (b) For Method 5 or 5D, the sampling time for each run shall be at least 4 hours. When a single EAF or AOD vessel is sampled, the sampling time for each run shall also include an integral number of heats. Shorter sampling times, when necessitated by process variables or other factors, may be approved by the Technical Secretary. For Method 5 or 5D, the minimum sample volume shall be 4.5 dscm (160 dscf).
  - (c) Visible emissions observations of modular, multiple-stack, negative-pressure or positive-pressure fabric filters shall occur at least once per day of operation. The observations shall occur when the furnace or vessel is operating in the melting or refining phase of a heat cycle. These observations shall be taken in accordance with Method 9, and, for at least three 6-minute periods, the opacity shall be recorded for any point(s) where visible emissions are observed. Where it is possible to determine that a number of visible emission sites relate to only one incident of the visible emissions, only one set of three 6-minute observations will be required. In this case, Reference

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Method 9 observations must be made for the site of highest opacity that directly relates to the cause (or location) of visible emissions observed during a single incident. Records shall be maintained of any 6-minute average that is in excess of the emission limit specified in subparagraph 1200-03-16-.52(3)(a).

- (d) For the purpose of this rule, the owner or operator shall conduct the demonstration of compliance with subparagraph 1200-03-16-.52(3)(a) and furnish the Technical Secretary a written report of the results of the test. This report shall include the following information:
1. Facility name and address;
  2. Plant representative;
  3. Make and model of process, control device, and continuous monitoring equipment;
  4. Flow diagram of process and emission capture equipment including other equipment or process(es) ducted to the same control device;
  5. Rated (design) capacity of process equipment;
  6. Those data required under subparagraph (h) of this rule:
    - (i) List of charge and tap weights and materials;
    - (ii) Heat times and process log;
    - (iii) Control device operation log; and
    - (iv) Continuous monitor or Reference Method 9 data.
  7. Test dates and test times;
  8. Test company;
  9. Test company representative;
  10. Test observers from outside agency;
  11. Description of test methodology used, including any deviation from standard reference methods;
  12. Schematic of sampling location;
  13. Number of sampling points;
  14. Description of sampling equipment;
  15. Listing of sampling equipment calibrations and procedures;
  16. Field and laboratory data sheets;
  17. Description of sample recovery procedures;
  18. Sampling equipment leak check results;

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19. Description of quality assurance procedures;
  20. Description of analytical procedures;
  21. Notation of sample blank corrections; and
  22. Sample emission calculations.
- (e) During any performance test required under 1200-03-16-.01(5), no gaseous diluents may be added to the effluent gas stream after the fabric in any pressurized fabric filter collector, unless the amount of dilution is separately determined and considered in the determination of emissions.
- (f) When more than one control device serves the EAF(s) or AOD vessel(s) being tested, the concentration of particulate matter shall be determined using the following equation:

$$C = \frac{\sum_{n=1}^N (CQ)_n}{\sum_{n=1}^N (Q)_n}$$

where

C = concentration of particulate matter in mg/dscm (gr/dscf) as determined by Method 5 or 5D.

N = total number of control devices tested.

Q = volumetric flow rate of the effluent gas stream in dscm/h (dscf/h) as determined by Method 2.

(CQ)<sub>n</sub>, (Q)<sub>n</sub> = value of the applicable parameter for each control device tested.

- (g) Any control device subject to the provisions of this rule shall be designed and constructed to allow measurement of emissions using applicable test methods and procedures.
- (h) Where emissions from any EAF(s) or AOD vessel(s) are combined with emissions from facilities not subject to the provisions of this rule but controlled by a common capture system and control device, the owner or operator may use any of the following procedures during a performance test:
1. Base compliance on control of the combined emissions;
  2. Utilize a method acceptable to the Technical Secretary that compensates for the emissions from the facilities not subject to the provisions of this rule or;
  3. Any combination of the criteria of subparagraphs (h)1. and (h)2. of this paragraph.
- (i) Where emissions from any EAF(s) or AOD vessel(s) are combined with emissions from facilities not subject to the provisions of this rule, determinations of compliance with

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1200-03-16-.52(3)(a)3. will only be based upon emissions originating from the affected facility(ies).

- (j) Unless the presence of inclement weather makes concurrent testing infeasible, the owner or operator shall conduct concurrently the performance tests required under 1200-03-16-.01(5) to demonstrate compliance with 1200-03-16-.52(3)(a)1., 2. and 3.
- (7) Recordkeeping and reporting requirements.
- (a) Records of the measurements required in paragraph (5) of this rule must be retained for at least 2 years following the date of the measurement.
  - (b) Each owner or operator shall submit a written report of exceedances of the control device opacity to the Technical Secretary semi-annually. For the purposes of these reports exceedances are defined as all 6-minute periods during which the average opacity is 3 percent or greater.
  - (c) Operation at a furnace static pressure that exceeds the value established under subparagraph (5)(g) of this rule and either operation of control system fan motor amperes at values exceeding  $\pm 15$  percent of the value established under paragraph (5)(c) of this rule or operation at flow rates lower than those established under paragraph (5)(c) of this rule may be considered by the Technical Secretary to be unacceptable operation and maintenance of the affected facility. Operation at such values shall be reported to the Technical Secretary semi-annually.
  - (d) When the owner or operator of an EAF or AOD is required to demonstrate compliance under parts 1200-03-16-.52(6)(h)2. or 3., the owner or operator shall obtain approval from the Technical Secretary of the procedure(s) that will be used to determine compliance. Notification of the procedure(s) to be used must be postmarked 30 days prior to the performance test.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed September 22, 1988; effective November 6, 1988.

#### **1200-03-16-.53 RESERVED.**

**Authority:** T.C.A. §§ 4-5-201, et seq.; 68-201-101, et seq.; and 68-201-105. **Administrative History:** Original rule filed September 22, 1988; effective November 6, 1988. Amendment filed May 18, 2000; effective August 1, 2000. Repeal and new rule filed August 29, 2011; effective November 27, 2011.

#### **1200-03-16-.54 ONSHORE NATURAL GAS PROCESSING: SO<sub>2</sub> EMISSIONS.**

- (1) Applicability and designation of affected facilities.
  - (a) The provisions of this rule are applicable to the following affected facilities that process natural gas: each sweetening unit, and each sweetening unit followed by a sulfur recovery unit.
  - (b) Facilities that have a design capacity less than 2 long tons per day (LT/D) of hydrogen sulfide (H<sub>2</sub>S) in the acid gas (expressed as sulfur) are required to comply with subparagraph (8)(c) of this rule but are not required to comply with paragraphs (3) through (7) of this rule.
  - (c) The provisions of this rule are applicable to facilities located on land and include facilities located onshore which process natural gas produced from either onshore or offshore wells.

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- (d) The provisions of this rule apply to each affected facility identified in subparagraph (a) of this paragraph which commences construction or modification after November 6, 1988.
  - (e) The provisions of this rule do not apply to sweetening facilities producing acid gas that is completely reinjected into oil-or-gas bearing geologic strata or that is otherwise not released into the atmosphere.
- (2) Definitions.
- (a) "Acid gas" means a gas stream of hydrogen sulfide (H<sub>2</sub>S) and carbon dioxide (CO<sub>2</sub>) that has been separated from sour natural gas by a sweetening unit.
  - (b) "Natural gas" means a naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface. The principal hydrocarbon constituent is methane.
  - (c) "Onshore" means all facilities except those that are located in the territorial seas or on the outercontinental shelf.
  - (d) "Reduced sulfur compounds" means H<sub>2</sub>S, carbonyl sulfide (COS), and carbondisulfide (CS<sub>2</sub>).
  - (e) "Sulfur production rate" means the rate of liquid sulfur accumulation from the sulfur recovery unit.
  - (f) "Sulfur recovery unit" means a process device that recovers element sulfur from acid gas.
  - (g) "Sweetening unit" means a process device that separates the H<sub>2</sub>S and CO<sub>2</sub> contents from the sour natural gas stream.
  - (h) "Total SO<sub>2</sub> equivalents" means the sum of volumetric or mass concentrations of the sulfur compounds obtained by adding the quantity existing as SO<sub>2</sub> to the quantity of SO<sub>2</sub> that would be obtained if all reduced sulfur compounds were converted to SO<sub>2</sub> (ppmv or kg/DSCM).
  - (i) "E" = the sulfur emission rate expressed as elemental sulfur, kilograms per hour (kg/hr) rounded to one decimal place.
  - (j) "R" = the sulfur emission reduction efficiency achieved in percent, carried to one decimal place.
  - (k) "S" = the sulfur production rate in kilograms per hour (kg/hr) rounded to one decimal place.
  - (l) "X" = the sulfur feed rate, i.e., the H<sub>2</sub>S in the acid gas (expressed as sulfur) from the sweetening unit, expressed in long tons per day (LT/D) of sulfur rounded to one decimal place.
  - (m) "Y" = the sulfur content of the acid gas from the sweetening unit, expressed as mole percent H<sub>2</sub>S (dry basis) rounded to one decimal place.
  - (n) "Z" = the minimum required sulfur dioxide (SO<sub>2</sub>) emission reduction efficiency, expressed as percent carried to one decimal place. Zi refers to the reduction efficiency



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required at the initial performance test. Zc refers to the reduction efficiency required on a continuous basis after compliance with Zi has been demonstrated.

(3) Standards for sulfur dioxide.

- (a) During the initial performance test required by paragraph 1200-03-16-.01(5)(g), each owner or operator shall achieve at a minimum, an SO<sub>2</sub> emission reduction efficiency (Zi) to be determined from Table 1 based on the sulfur feed rate (X) and the sulfur content of the acid gas (Y) of the affected facility.
- (b) After demonstrating compliance with the provisions of subparagraph (a) of this paragraph, the owner or operator shall achieve at a minimum, an SO<sub>2</sub> emission reduction efficiency (Zc) to be determined from Table 2 based on the sulfur feed rate (X) and the sulfur content of the acid gas (Y) of the affected facility.

Table 1. Required Minimum Initial SO<sub>2</sub> Emission Reduction Efficiency (Zi)

| H <sub>2</sub> S, content of acid gas (Y) , % | Sulfur feed rate (X) , LT/D |   |              |         |
|---|-----------------------------|---|--------------|---------|
|   | 2.0≤X≤5.0                   | 5.0<X≤15.0  | 15.0<X≤300.0 | X>300.0 |
| Y≥50  | 79.0                        | .....88.51X <sup>0.0101</sup> Y <sup>0.0125</sup> .....<br>or 99.8, whichever is smaller      |              |         |
| 20≤Y<50                                       | 79.0                        | .....88.51X <sup>0.0101</sup> Y <sup>0.0125</sup> ..... 97.9<br>or 97.9, whichever is smaller |              |         |
| 10≤Y<20                                       | 79.0                        | 88.51X <sup>0.0101</sup> Y <sup>0.0125</sup>  | 93.5         | 93.5    |
|   |                             | or 93.5, whichever is smaller   |              |         |
| Y <10   | 79.0                        | 79.0  | 79.0         | 79.0    |

Table 2. Required Minimum SO<sub>2</sub> Emission Reduction Efficiency (Zc)

| H <sub>2</sub> S, content of acid gas (Y) , % | Sulfur feed rate (X) , LT/D |  |              |         |
|---|-----------------------------|--|--------------|---------|
|   | 2.0≤X≤5.0                   | 5.0<X≤15.0   | 15.0<X≤300.0 | X>300.0 |
| Y≥50  | 74.0                        | .....85.35X <sup>0.0144</sup> Y <sup>0.0128</sup> .....<br>or 99.8, whichever is smaller     |              |         |
| 20≤Y<50                                       | 74.0                        | .....85.35X <sup>0.0144</sup> Y <sup>0.0128</sup> .....97.5<br>or 97.5, whichever is smaller |              |         |
| 10<Y<20                                       | 74.0                        | 85.35X <sup>0.0144</sup> Y <sup>0.0128</sup>   | 90.8         | 90.8    |

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|        |      |                                  |      |      |
|--------|------|----------------------------------|------|------|
|        |      | or 90.8, whichever<br>is smaller |      |      |
| Y < 10 | 74.0 | 74.0                             | 74.0 | 74.0 |

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(4) Compliance Provision.

- (a) 1. To determine compliance with the standards for sulfur dioxide specified in subparagraph (3)(a) of this rule during the initial performance test as required by paragraph 1200-03-16-.01(5), the minimum required sulfur dioxide emission reduction efficiency (Z) is compared to the emission reduction efficiency (R) achieved by the sulfur recovery technology.
  - (i) If R is greater than or equal to Zi, the affected facility is in compliance.
  - (ii) If R is less than Zi, the affected facility is not in compliance.
- 2. Following the initial determination of compliance as required by paragraph 1200-03-16-.01(5), any subsequent compliance determinations that may be required by the Technical Secretary would compare to R to Zc.
- (b) The emission reduction efficiency (R) achieved by the sulfur recovery technology is calculated by using the equation:

$$R = \frac{S}{S + E} \times 100$$

“S” and “E” are determined using the procedures and the test methods specified in paragraphs (5) and (6) of this rule.

(5) Performance test procedures.

- (a) During a performance test required by paragraph 1200-03-16-.01(5) the minimum required sulfur dioxide emission reduction efficiency (Zi) required by subparagraph (3) (a) of this rule, and the minimum required SO<sub>2</sub> emission reduction efficiency (Zc) required by subparagraph (3)(b) of this rule are determined as follows:
  - 1. Collect and analyze at least one sample per hour (at equally spaced intervals during the performance test of the acid gas from the sweetening unit using the method specified in part 1200-03-16-.54(6)(a)8.

The units of the result from the Tutwiler procedure can be converted to volume percent using the following equation:

$$Y = (1.62 \times 10^{-3}) \times (\text{grains}/100 \text{ scf})$$

Where:

$$Y = \text{H}_2\text{S concentration, volume percent}$$

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$1.62 \times 10^{-3}$  = volume percent per grains/100 scf; and grains/100 scf = Tutwiler result basis.

2. Calculate the arithmetic mean of all samples to determine the average H<sub>2</sub>S concentration (Y) in mole percent (dry basis) in the acid gas.
3. Determine the average volumetric flow rate of the acid gas from the sweetening unit by continuous measurements made with the process flow meter. Express the results as dry standard cubic feet per day (dscf/day).
4. Calculate the average sulfur feed rate (X) in long tons per day of elemental sulfur from the average volumetric flow rate and the average H<sub>2</sub>S content by the equation:

$$X = \frac{\text{(average volumetric acid gas flow, dscf/day)} (Y/100) (32 \text{ lb/lb mole})}{(385.36 \text{ standard cubic feet/lb mole}) (2,240 \text{ lbs/long ton})}$$

5. Determine the minimum required SO<sub>2</sub> removal efficiency (Z<sub>i</sub> or Z<sub>c</sub>) in accordance with the provisions of the standards in subparagraph (3)(a) or (b) of this rule as appropriate.
- (b) The actual sulfur emission reduction efficiency (R) achieved by the control technology during the performance test is determined as follows:

1. Measure the liquid sulfur accumulation rate in the product storage tanks using level indicators or manual soundings. Record the level reading at the beginning and end of each test run. Convert the level readings to mass (kilograms) of sulfur in the storage tanks, using the tank geometry and the sulfur density at the temperature of storage. Divide the change in mass by the test duration (hours and fractions of hours) to determine the sulfur production rate in kilograms per hour for each run.
2. Calculate the arithmetic mean of the rate for each run to determine the average sulfur production rate (S) to use in subparagraph (4)(b) of this rule.
3. Measure the concentrations of sulfur dioxide and total reduced sulfur compounds in the incinerator (or other final processing unit) exhaust gas using the methods specified in parts (6)(a)5. through 7. of this rule. The minimum sampling time for each run shall be 4 hours. For each run the SO<sub>2</sub> and TRS concentrations shall be combined to calculate the total SO<sub>2</sub> equivalent concentration as follows:

Total SO<sub>2</sub> equivalent, (kg/dscm)

$$= 0.001 (\text{SO}_2 \text{ concentration mg/dscm from Method 6})$$

$$- 2.704 \times 10^{-6} (\text{SO}_2 \text{ equivalents in ppmv, dry from Method 15 or from Method 16A})$$

4. Measure the incinerator (or other final processing unit) exhaust gas velocity, molecular weight, and moisture content using the methods specified in parts (6)(a)1. through 4. of this rule. Calculate the volumetric flow rate of the exhaust gas at dry standard conditions using equation 2-10 in Method 2.

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5. Calculate the equivalent sulfur emission rate as elemental sulfur for each run as follows:

Sulfur emission rate

$$= (\text{total SO}_2 \text{ equivalent kg/dscm}) (\text{gas flow rate, dscm/hr}) (0.50)$$

Calculate the arithmetic mean of the sulfur emission rate for each run to determine the average sulfur emission rate (E) to use in subparagraph (4)(b) of this rule.

(6) Performance Test Methods.

- (a) For the purpose of determining compliance with subparagraphs (3)(a) or (b) of this rule, the following reference methods shall be used:

1. Method 1 for velocity traverse points selection.
2. Method 2 for determination of stack gas velocity and calculation of the volumetric flow rate.
3. Method 3 for determination of stack gas molecular weight.
4. Method 4 for determination of the stack gas moisture content.
5. Method 6 for determination of SO<sub>2</sub> concentration.
6. Method 15 for determination of the TRS concentration from reduction-type devices or where the oxygen content of the stack gas is less than 1.0 percent by volume.
7. Method 16A for determination of the TRS concentration from oxidation-type devices or where the oxygen content of the stack gas is greater than 1.0 percent by volume.
8. The Tutwiler procedure, as specified in *Federal Register*, Vol. 50, No.190, October 1, 1985, pp. 40165 and 40166, or a chromatographic procedure following ASTM E-260, for determination of the H<sub>2</sub>S concentration in the acid gas feed from the sweetening unit.

- (b) The sampling location for Methods 3, 4, 6, 15 and 16A shall be the same as that used for velocity measurement by Method 2. The sampling point in the duct shall be at the centroid of the cross-section if the area is less than 5 m<sup>2</sup> (54 ft<sup>2</sup>) or at a point no closer to the walls than 1 m (39 inches) if the cross-sectional area is 5 m<sup>2</sup> or more, and the centroid is more than one meter from the wall. For Methods 3, 4, 6 and 16A, the sample shall be extracted at a rate proportional to the gas velocity at the sampling point. For Method 15, the minimum sampling rate shall be 3 liters/minute (0.1 ft<sup>3</sup>/minute) to insure minimum residence time in the sample line.

- (c) For Methods 6 and 16A the minimum sampling time for each run shall be 4 hours. Either one sample or a number of separate samples may be collected for each run so long as the total sample time is 4 hours. Where more than one sample is collected per run, the average result for the run is calculated by:

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$$C_s = \sum_{i=1}^n (C_{si}) \left( \frac{T_{si}}{T} \right)$$

Where:

$C_s$  = time-weighted average SO<sub>2</sub> or TRS concentration for the run, (mg/dscm or ppmv, dry).

$n$  = number of samples collected during the run.

$C_{si}$  = SO<sub>2</sub> or TRS concentration for sample  $i$ , (mg/dscm or ppmv, dry).

$t_{si}$  = sampling time for sample  $i$ , (minutes).

$T$  = total sampling time for all samples in the run (minutes).

- (d) For Method 15, each run shall consist of 16 samples taken over a minimum of 4 hours. The equivalent SO<sub>2</sub> concentration for each run shall be calculated as the arithmetic average of the SO<sub>2</sub> equivalent concentration for each sample.
  - (e) For Method 2, a velocity traverse shall be conducted at the beginning and end of each run. The arithmetic average of the two measurements shall be used to calculate the volumetric flow rate for each run.
  - (f) For Method 3, a single sample may be integrated over the 4-hour run interval and analysis, or grab samples at 1-hour intervals may be collected, analyzed, and averaged to determine the stack gas composition.
  - (g) For Method 4, each run shall consist of 2 samples; one collected at the beginning of the 4-hour test period, and one near the end of the period. For each sample the minimum sample volume shall be 0.1 dscm (0.35 dscf) and the minimum sample time shall be 10 minutes.
- (7) Monitoring of emissions and operations.
- (a) The owner or operator subject to the provisions of subparagraphs (3)(a) or (b) of this rule shall install, calibrate, maintain, and operate monitoring devices or perform measurements to determine the following operations information on a daily basis:
    1. The accumulation of sulfur product over each 24-hour period: The monitoring method may incorporate the use of an instrument to measure and record the liquid sulfur production rate, or may be a procedure for measuring and recording the sulfur liquid levels in the storage tanks with a level indicator or by manual soundings, with subsequent calculation of the sulfur production rate based on the tank geometry, stored sulfur density, and elapsed time between readings. The method shall be designed to be accurate within  $\pm 2$  percent of the 24 hour sulfur accumulation.
    2. The H<sub>2</sub>S concentration in the acid gas from the sweetening unit for each 24-hour period: at least one sample per 24-hour period shall be collected and analyzed using the method specified in part (6)(a)8. of this rule. The Technical Secretary may require the owner or operator to demonstrate that the H<sub>2</sub>S concentration obtained from one or more samples over a 24-hour period is within  $\pm 20$  percent of the average of 12 samples collected at equally spaced intervals during the 24-hour period. In instances where H<sub>2</sub>S concentration of a single sample is not

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- within  $\pm 20$  percent of the average of the 12 equally spaced samples, the Technical Secretary may require a more frequent sampling schedule.
3. The average acid gas flow rate from the sweetening unit: the owner or operator shall install and operate a monitoring device to continuously measure the flow rate of acid gas. The monitoring device reading shall be recorded at least once per hour during each 24-hour period. The average acid gas flow rate shall be computed from the individual readings.
  4. The sulfur feed rate (X): for each 24-hour period, X shall be computed using the equation in part (5)(a)4. of this rule.
  5. The required sulfur dioxide emission reduction efficiency for the 24-hour period: the sulfur feed rate and the H<sub>2</sub>S concentration in the acid gas for the 24-hour period as applicable, shall be used to determine the required reduction efficiency in accordance with the provisions of subparagraph (3)(b) of this rule.
- (b) Where compliance is achieved through the use of an oxidation control system or a reduction control system followed by a continually operated incineration device, the owner or operator shall install, calibrate, maintain, and operate monitoring devices and continuous emission monitors as follows:
1. A continuous monitoring system to measure the total sulfur emission rate (E) of SO<sub>2</sub> in the gases discharged to the atmosphere. The SO<sub>2</sub> emission rate shall be expressed in terms of equivalent sulfur mass flow rates (kg/hr). The span of this monitoring system shall be set so that the equivalent emission limit of subparagraph (3)(b) of this rule will be between 30 percent and 70 percent of the measurement range of the instrument system.
  2. Except as provided in part 3. of this subparagraph: a monitoring device to measure the temperature of the gas leaving the combustion zone of the incinerator, if compliance with subparagraph (3)(a) of this rule is achieved through the use of an oxidation control system or a reduction control system followed by a continually operated incineration device. The monitoring device shall be certified by the manufacturer to be accurate to within  $\pm 1$  percent of the temperature being measured. When performance tests are conducted under the provision of paragraph 1200-03-16-.01(5) to demonstrate compliance with the standards under paragraph (3) of this rule, the temperature of the gas leaving the incinerator combustion zone shall be determined using the monitoring device. If the volumetric ratio of sulfur dioxide to sulfur dioxide plus total reduced sulfur (expressed as SO<sub>2</sub>) in the gas leaving the incinerator is greater than or equal to 0.98, then temperature monitoring may be used to demonstrate that sulfur dioxide emission monitoring is sufficient to determine total sulfur emissions. At all times during the operation of the facility, the owner or operator shall maintain the average temperature of the gas leaving the combustion zone of the incinerator at or above the appropriate level determined during the most recent performance test to ensure the sulfur compound oxidation criteria are met. Operation at lower average temperatures may be considered by the Technical Secretary to be unacceptable operation and maintenance of the affected facility. The owner or operator may request that the minimum incinerator temperature be reestablished by conducting new performance tests under paragraph 1200-03-16-.01(5).
  3. Upon promulgation of a performance specification of continuous monitoring systems for total reduced sulfur compounds at sulfur recovery plants, the owner or operator may as an alternative to part 2. of this subparagraph, install, calibrate, maintain, and operate a continuous emission monitoring system for

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total reduced sulfur compounds as required in subparagraph (d) of this paragraph in addition to a sulfur dioxide emission monitoring system. The sum of the equivalent sulfur mass emission rates from the two monitoring systems shall be used to compute the total sulfur emission rate (E).

- (c) Where compliance is achieved through the use of a reduction control system not followed by a continually operated incineration device, the owner or operator shall install, calibrate, maintain, and operate a continuous monitoring system to measure the emission rate of reduced sulfur compounds as SO<sub>2</sub> equivalent in the gases discharged to the atmosphere. The SO<sub>2</sub> equivalent compound emission rate shall be expressed in terms of equivalent sulfur mass flow rates (kg/hr). The span of this monitoring system shall be set so that the equivalent emission limit of subparagraph (3)(b) of this rule will be between 30 and 70 percent of the measurement range of the system. This requirement becomes effective upon promulgation of a performance specification for continuous monitoring systems for total reduced sulfur compounds at sulfur recovery plants.
- (d) For those sources required to comply with subparagraphs (b) or (c) of this paragraph, the average sulfur emission reduction efficiency achieved (R) shall be calculated for each 24-hour clock interval. The 24-hour interval may begin and end at any selected clock time, but must be consistent. The 24-average reduction efficiency (R) shall be computed based on the 24-hour average sulfur production rate (S) and sulfur emission rate (E), using the equation in subparagraph (4)(b) of this rule.
1. Data obtained from the sulfur production rate monitoring device specified in subparagraph (a) of this paragraph shall be used to determine S.
  2. Data obtained from the sulfur emission rate monitoring systems specified in subparagraphs (b) or (c) of this paragraph shall be used to calculate a 24-hour average for the sulfur emission rate (E): the monitoring system must provide at least one data point in each successive 15-minute interval. At least two data points must be used to calculate each 1-hour average. A minimum of 18 1-hour averages must be used to compute each 24-hour average.
- (e) In lieu of complying with subparagraphs (b) or (c) of this paragraph, those sources with a design capacity less than 150 LT/D of H<sub>2</sub>S expressed as sulfur may calculate the sulfur emission reduction efficiency achieved for each 24-hour period by:

$$R = \frac{0.0236 * S}{X}$$

Where:

R = the sulfur dioxide removal efficiency achieved during the 24-hour period, percent;

S = the sulfur production rate during the 24-hour period, kg/hr;

X = the sulfur feed rate in the acid gas, LT/D; and 0.0236 = conversion factor, LT/D per kg/hr.

- (f) The monitoring devices required in (7)(b)1., (7)(b)3., and (7)(c) of this rule shall be calibrated at least annually according to the manufacturer's specifications, as required by 1200-03-16-.01(8)(b). For conducting the continuous emission monitoring system performance evaluation required by subparagraph 1200-03-16-.01(8)(c), Performance

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Specification 2 shall apply, and Method 6 (as referenced in 1200-03-16-.01(5)(g)) shall be used for systems required by subparagraph (b) of this paragraph.

- (8) Recordkeeping and reporting requirements.
- (a) Records of the calculations and measurements required in subparagraphs (3)(a) and (b) and subparagraphs (7)(a) through (f) of this rule must be retained for at least 2 years following the date of the measurements by owners and operators subject to this rule.
  - (b) Each owner or operator shall submit a written report of excess emissions to the Technical Secretary semiannually. For the purpose of these reports, excess emissions are defined as:
    - 1. Any 24-hour period (at consistent intervals) during which the average sulfur emission reduction efficiency (R) is less than minimum required efficiency (Z).
    - 2. For any affected facility electing to comply with the provisions of part (7)(b)2. of this rule, any 24-hour period during which the average temperature of the gases leaving the combustion zone of an incinerator is less than the appropriate operating temperature as determined during the most recent performance test in accordance with the provisions of part (7)(b)2. of this rule. Each 24-hour period must consist of at least 96 temperature measurements equally spaced over the 24 hours.
  - (c) To certify that a facility is exempt from the control requirements of these standards, each owner or operator of a facility with a design capacity less than 2 LT/D of H<sub>2</sub>S in the acid gas (expressed as sulfur) shall keep, for the life of the facility, an analysis demonstrating that the facility's design capacity is less than 2 LT/D of H<sub>2</sub>S expressed as sulfur.
  - (d) Each owner or operator who elects to comply with subparagraph (7)(e) of this rule shall keep, for the life of the facility, a record demonstrating that the facility's design capacity is less than 150 LT/D of H<sub>2</sub>S expressed sulfur.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed September 22, 1988; effective November 6, 1988.

**1200-03-16-.55 SECONDARY EMISSIONS FROM BASIC OXYGEN PROCESS STEELMAKING FACILITIES FOR WHICH CONSTRUCTION IS COMMENCED AFTER NOVEMBER 6, 1988.**

- (1) Applicability and Designation of Affected Facilities
- (a) The provisions of this rule apply to the following affected facilities in an iron and steel plant: top-blown BOPF's and hot metal transfer stations and skimming stations used with bottom-blown or top-blown BOPF's.
  - (b) This rule applies to any facility identified in subparagraph (a) of this paragraph that commences construction, modification, or reconstruction after November 6, 1988.
  - (c) Any BOPF subject to the provisions of this rule is subject to those provisions of rule 1200-03-16-.14 applicable to affected facilities commencing construction, modification or reconstruction after November 6, 1988.
- (2) Definitions



(Rule 1200-03-16-.55, continued)

- (a) "Basic Oxygen Process Furnace" (BOPF) means any furnace with a refractory lining in which molten steel is produced by charging scrap metal, molten iron, and flux materials or alloy additions into a vessel and by introducing a high volume of oxygen-rich gas. Open hearth, blast, and reverberatory furnaces are not included in this definition.
- (b) "Bottom-blown furnace" means any BOPF in which oxygen and other combustion gases are introduced to the bath of molten iron through tuyeres in the bottom of the vessel or through tuyeres in the bottom and sides of the vessel.
- (c) "Fume suppression system" means the equipment comprising any system used to inhibit the generation of emissions from steelmaking facilities with an inert gas, flame, or steam blanket applied to the surface of molten iron or steel.
- (d) "Hot metal transfer station" means the facility where molten iron is emptied from the railroad torpedo car or hot metal car to the shop ladle. This includes the transfer of molten iron from the torpedo car or hot metal car to a mixer (or other intermediate vessel) and from a mixer (or other intermediate vessel) to the ladle. This facility is also known as the reladling station or ladle transfer station.
- (e) "Primary oxygen blow" means the period in the steel production cycle of a BOPF during which a high volume of oxygen-rich gas is introduced to the bath of molten iron by means of a lance inserted from the top of the vessel. This definition does not include any additional, or secondary, oxygen blows made after the primary blow.
- (f) "Primary emission control system" means the combination of equipment used for the capture and collection of primary emissions (e.g., an open hood capture system used in conjunction with a particulate matter cleaning device such as an electrostatic precipitator or a closed hood capture system used in conjunction with a particulate matter cleaning device such as a scrubber).
- (g) "Primary emissions" means particulate matter emissions from the BOPF generated during the steel production cycle which are captured by, and do not thereafter escape from, the BOPF primary control system.
- (h) "Secondary emission control system" means the combination of equipment used for the capture and collection of secondary emissions (e.g., (1) an open hood system for the capture and collection of primary and secondary emissions from the BOPF, with local hooding ducted to a secondary emission collection device such as a baghouse for the capture and collection of emissions from the hot metal transfer and skimming station; or (2) an open hood system for the capture and collection of primary and secondary emissions from the furnace, plus a furnace enclosure with local hooding ducted to a secondary emission collection device, such as a baghouse, for additional capture and collection of secondary emissions from the furnace, with local hooding ducted to a secondary emission collection device, such as a baghouse, for the capture and collection of emissions from hot metal transfer and skimming stations; or (3) a furnace enclosure with local hooding ducted to a secondary emission collection device such as a baghouse for the capture and collection of secondary emissions from a BOPF controlled by a closed hood primary emission control system, with local hooding ducted to a secondary emission collection device, such as a baghouse, for the capture and collection of emissions from hot metal transfer and skimming stations).
- (i) "Secondary emissions" means particulate matter emissions that are not captured by the BOPF primary control system, including emissions from hot metal transfer and skimming stations. This definition also includes particulate matter emissions that escape from openings in the primary emission control system, such as from lance hole

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openings, gaps or tears in the ductwork of the primary emission control system, or leaks in hoods.

- (j) “Skimming station” means the facility where slag is mechanically raked from the top of the bath of molten iron.
  - (k) “Steel production cycle” means the operations conducted within the BOPF steelmaking facility that are required to produce each batch of steel, including the following operations: scrap charging, preheating (when used), hot metal charging, primary oxygen blowing, sampling (vessel turndown and turnup), additional oxygen blowing (when used), tapping, and deslagging. Hot metal transfer and skimming operations for the next steel production cycle are also included when the hot metal transfer station or skimming station is an affected facility.
  - (l) “Top-blown furnace” means any BOPF in which oxygen is introduced to the bath of molten iron by means of an oxygen lance inserted from the top of the vessel.
- (3) Standards for Particulate Matter
- (a) Except as provided under subparagraphs (b) and (c) of this paragraph, on and after the date on which the performance test under paragraph 1200-03-16-.01(5) is required to be completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility any secondary emissions that:
    - 1. Exit from the BOPF shop roof monitor (or other building openings) and exhibit greater than 10 percent opacity during the steel production cycle of any top-blown BOPF or during hot metal transfer or skimming operations for any bottom-blown BOPF; except that an opacity greater than 10 percent but less than 20 percent may occur once per steel production cycle.
    - 2. Exit from a control device used solely for the collection of secondary emissions from a top-blown BOPF or from hot metal transfer or skimming for a top-blown or a bottom-blown BOPF and contain particulate matter in excess of 23 mg/dscm (0.010 gr/dscf).
    - 3. Exit from a control device used solely for the collection of secondary emissions from a top-blown BOPF or from hot metal transfer or skimming for a top-blown or a bottom-blown BOPF and exhibit more than 5 percent opacity.
  - (b) A fume suppression system used to control secondary emissions from an affected facility is not subject to parts (a)2. and (a)3. of this paragraph.
  - (c) A control device used to collect both primary and secondary emissions from a BOPF is not subjected to parts (a)2. and (a)3. of this paragraph.
- (4) Monitoring of Operations
- (a) Each owner or operator of an affected facility shall install, calibrate, operate, and maintain a monitoring device that continually measures and records for each steel production cycle the various rates or levels of exhaust ventilation at each phase of the cycle through each duct of the secondary emission capture system. The monitoring device or devices are to be placed at locations near each capture point of the secondary emission capture system to monitor the exhaust ventilation rates or levels adequately, or in alternative locations approved in advance by the Technical Secretary.

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- (b) If a chart recorder is used, the owner or operator shall use chart recorders that are operated at a minimum chart speed of 3.8 cm/hr (1.5 in./hr.).
  - (c) All monitoring devices are to be certified by the manufacturer to be accurate to within  $\pm 10$  percent compared to Method 2 as specified in 1200-03-16.01(5)(g)2. The owner or operator shall recalibrate and check the device(s) annually and at other times as the Technical Secretary may require, in accordance with the written instructions of the manufacturer and by comparing the device against Method 2 specified in 1200-03-16-.01(5)(g)2.
  - (d) Each owner or operator subject to the requirements of subparagraph (a) of this paragraph shall report on a semiannual basis all measurements of exhaust ventilation rates or levels over any 3-hour period that average more than 10 percent below the average rates or levels of exhaust ventilation maintained during the most recent performance test conducted under paragraph 1200-03-16-.01(5) in which the affected facility demonstrated compliance with the standard under part (3)(a)2. of this rule. The accuracy of the respective measurements, not to exceed the values specified in subparagraph (c) of this paragraph, may be considered when determining the measurement results that must be reported.
  - (e) If a scrubber primary emission control device is used to collect secondary emissions, the owner or operator shall report on a semiannual basis all measurements of exhaust ventilation rate over any 3-hour period that average more than 10 percent below the average levels maintained during the most recent performance test specified in paragraph 1200-03-16-.01(5) in which the affected facility demonstrated compliance with the standard under part (3)(a)1. of this rule.
- (5) Test Methods and Procedures
- (a) The reference methods contained in subparagraph 1200-03-16-.01(5)(g), except as provided in subparagraph 1200-03-16-.01(5)(b) and as noted below, shall be used to determine compliance with paragraph (3) of this rule. Applicable methods are as follows:
    - 1. Method 1 for sample and velocity traverses;
    - 2. Method 2 for volumetric flow rate;
    - 3. Method 3 for gas analysis;
    - 4. Method 5 for concentration of particulate matter and associated moisture content; and
    - 5. Method 9 for visible emissions except as provided in subparagraph (b) of this paragraph.
  - (b) For Method 9, the following instructions for recording observations and reducing data shall apply instead of sections 2.4 and 2.5 of Method 9.
    - 1. Section 2.4. Opacity observations shall be recorded to the nearest 5 percent at 15-second intervals. During the initial performance test conducted pursuant to paragraph 1200-03-16-.01(5), observations shall be made and recorded in this manner for a minimum of three steel production cycles. During any subsequent compliance test, observations may be made for any number of steel production cycles, although, where conditions permit, observations will generally be made for a minimum of three steel production cycles.

(Rule 1200-03-16-.55, continued)

2. Section 2.5. Opacity shall be determined as an average of 12 consecutive observations recorded at 15-second intervals. For each steel production cycle, divide the observations recorded into sets of 12 consecutive observations. Sets need not be consecutive in time, and in no case shall two sets overlap. For each set of 12 observations, calculate the average by summing the opacity of 12 consecutive observations and dividing this sum by 12.
- (c) For the sampling of secondary emissions by Method 5, the sampling for each run is to continue for a sufficient number of steel production cycles to ensure a total sample volume of at least 5.67 dscm (200 dscf) for each run. Shorter sampling times and smaller sample volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary. Sampling is to be conducted only during the steel production cycle.
  - (d) For the monitoring and recording of exhaust ventilation rates or levels required by subparagraph (4)(a) of this rule, the following instructions for Reference Method 2 shall apply:
    1. For devices that monitor and record the exhaust ventilaton rate, compare velocity readings recorded by the monitoring device against the velocity readings obtained by Method 2. Take Method 2 readings at a point or points that would properly characterize the monitoring device's performance and that would adequately reflect the various rates of exhaust ventilation. Obtain readings at sufficient intervals to obtain 12 pairs of readings for each duct of the secondary emission capture system. Compare the averages of the two sets to determine whether the monitoring device velocity is within  $\pm 10$  percent of the Method 2 average.
    2. For devices that monitor the level of exhaust ventilation and record only step changes when a set point rate is reached, compare step changes recorded by the monitoring device against the velocity readings obtained by Method 2. Take Method 2 readings at a point or points that would properly characterize the performance of the monitoring device and that would adequately reflect the various rates of exhaust ventilation. Obtain readings of sufficient intervals to obtain 12 pairs of readings for each duct of the secondary emission capture system. Compare the averages of the two sets to determine whether the monitoring device step change is within  $\pm 10$  percent of setpoint rate.
- (6) Compliance Provisions
- (a) When determining compliance with mass and visible emission limits specified in parts (3)(a)2. and 3. of this rule, the owner or operator of a BOPF shop that normally operates two furnaces with overlapping cycles may elect to operate only one furnace. If an owner or operator chooses to shut down one furnace, he shall be allowed a reasonable time period to adjust his production schedule before the compliance tests are conducted. The owner or operator of an affected facility may also elect to suspend shop operations not subject to this rule during compliance testing.
  - (b) During compliance testing for mass and visible emission standards, if an owner or operator elects to shut down one furnace in a shop that normally operates two furnaces with overlapping cycles, the owner or operator shall operate the secondary emission control system for the furnace being tested at exhaust ventilation rates or levels for each duct of the secondary emission control system that are appropriate for single-furnace operation. Following the compliance test, the owner or operator shall operate the secondary emission control system at exhaust ventilation rates or levels for each

(Rule 1200-03-16-.55, continued)

duct of the system that are no lower than 90 percent of the exhaust ventilation values established during the most recent compliance test.

- (c) For the purpose of determining compliance with visible and mass emission standards, a steel production cycle begins when the scrap or hot metal is charged to the vessel (whichever operation occurs first) and terminates 3 minutes after slag is emptied from the vessel into the slag pot. Consecutive steel production cycles are not required for the purpose of determining compliance. Where a hot metal transfer or skimming station is an affected facility, the steel production cycle also includes the hot metal transfer or skimming operation for the next steel production cycle for the affected vessel. Visible emission observations for both hot metal transfer and skimming operations begin with the start of the operation and terminate 3 minutes after completion of the operation.
- (d) For the purpose of determining compliance with visible emission standards specified in parts (3)(a)1. and 3. of this rule, the starting and stopping times of regulated process operations shall be determined and the starting and stopping times of visible emissions data sets shall be determined accordingly.
- (e) To determine compliance with part (3)(a)1. of this rule, select the data sets yielding the highest and second highest 3-minute average opacities for each steel production cycle. Compliance is achieved if the highest 3-minute average for each cycle observed is less than 20 percent and the second highest 3-minute average is 10 percent or less.
- (f) To determine compliance with part (3)(a)2. of this rule, determine the concentration of particulate matter in exhaust gases exiting the secondary emission collection device with Method 5. Compliance is achieved if the concentration of particulate matter does not exceed 23 mg/dscm (0.010 gr/dscf).
- (g) To determine compliance with part (3)(a)3. of this rule, construct consecutive 3-minute averages for each steel production cycle. Compliance is achieved if no 3-minute average is more than 5 percent.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed September 22, 1988; effective November 6, 1988.

#### **1200-03-16-.56 WOOL FIBERGLASS INSULATION MANUFACTURING PLANTS.**

- (1) Applicability and Designation of Affected Facility
  - (a) The affected facility to which the provisions of this rule apply is each rotary spin wool fiberglass insulation manufacturing line.
  - (b) The owner or operator of any facility under subparagraph (a) of this paragraph that commences construction, modification, or reconstruction after November 6, 1988, is subject to the requirements of this rule.
- (2) Definitions
  - (a) "Glass pull rate" means the mass of molten glass utilized in the manufacture of wool fiberglass insulation at a single manufacturing line in a specified time period.
  - (b) "Manufacturing line" means the manufacturing equipment comprising the forming section, where molten glass is fiberized and a fiberglass mat is formed; the curing section, where the binder resin in the mat is thermally "set"; and the cooling section, where the mat is cooled.

(Rule 1200-03-16-.56, continued)

- (c) "Rotary spin" means a process used to produce wool fiberglass insulation by forcing molten glass through numerous small orifices in the side wall of a spinner to form continuous glass fibers that are then broken into discrete lengths by high velocity air flow.
  - (d) "Wool fiberglass insulation" means a thermal insulation material composed of glass fibers and made from glass produced or melted at the same facility where the manufacturing line is located.
- (3) Standard for Particulate Matter
- (a) On and after the date on which the performance test required to be conducted by 1200-03-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility any gases which contain particulate matter in excess of 5.5 kg/Mg (11.0 lb/ton) of glass pulled.
- (4) Monitoring of Operations
- (a) An owner or operator subject to the provisions of this rule who uses a wet scrubbing control device to comply with the mass emission standard shall install, calibrate, maintain, and operate monitoring devices that measure the gas pressure drop across each scrubber and the scrubbing liquid flow rate to each scrubber. The pressure drop monitor is to be certified by its manufacturer to be accurate within  $\pm 250$  pascals ( $\pm 1$  inch water gauge) over its operating range, and the flow rate monitor is to be certified by its manufacturer to be accurate within  $\pm 5$  percent over its operating range.
  - (b) An owner or operator subject to the provisions of this rule who uses a wet electrostatic precipitator control device to comply with the mass emission standard shall install, calibrate, maintain, and operate monitoring devices that measure the primary and secondary current (amperes) and voltage in each electrical field and the inlet water flow rate. In addition, the owner or operator shall determine the total residue (total solids) content of the water entering the control device once per day using Method 209A, "Total Residue Dried at 103°-105°C," in Standard Methods for the Examination of Water and Wastewater, 15th Edition, 1980. Total residue shall be reported as percent by weight. All monitoring devices required under this subparagraph are to be certified by their manufacturers to be accurate within  $\pm 5$  percent over their operating range.
  - (c) All monitoring devices required under this paragraph are to be recalibrated quarterly in accordance with procedures under 1200-03-16-.01(8)(b).
- (5) Record Keeping and Reporting Requirements
- (a) At 30-minute intervals during each 2-hour test run of each performance test of a wet scrubber control device and at least once every 4 hours thereafter, the owner or operator shall record the measurements required by subparagraph (4)(a) of this rule.
  - (b) At 30-minute intervals during each 2-hour test run of each performance test of a wet electrostatic precipitator control device and at least once every 4 hours thereafter, the owner or operator shall record the measurements required by subparagraph (4)(b) of this rule, except that the concentration of total residue in the water shall be recorded once during each performance test and once per day thereafter.
  - (c) Records of the measurements required in subparagraphs (a) and (b) of this paragraph must be retained for at least 2 years.

(Rule 1200-03-16-.56, continued)

- (d) Each owner or operator shall submit written semiannual reports of exceedances of control device operating parameters required to be monitored by subparagraphs (a) and (b) of this paragraph and written documentation of, and a report of corrective maintenance required as a result of, quarterly calibrations of the monitoring devices required in subparagraph (4)(c) of this rule. For the purpose of these reports, exceedances are defined as any monitoring data that are less than 70 percent of the lowest value of each operating parameter recorded during the most recent performance test.
- (e) Reserved.
- (6) Test Methods and Procedures
- (a) The reference methods contained in subparagraph (5)(g) of rule 1200-03-16-.01 except as provided in subparagraph (5)(b) of rule 1200-03-16-.01, shall be used to determine compliance with paragraph (3) of this rule. Applicable methods are as follows:
1. Method 1 for sample and velocity traverses;
  2. Method 2 for stack gas velocity and volumetric flow rate;
  3. Method 3 for stack gas dry molecular weight;
  4. Method 4 for stack gas moisture content; and
  5. Method 5E for the measurement of particulate emissions.
- (b) The sampling time for each test run shall be at least 2 hours and the minimum volume of gas sampled shall be 2.55 dscm.
- (c) The performance test shall be conducted while the product with the highest loss on ignition (LOI) expected to be produced by the affected facility is being manufactured.
- (d) For each test run, the particulate mass emission rate, R, shall be computed as follows:

$$R = Ct \times Qstd \times \frac{6 \times 10^{-5} \text{ min} - \text{Kg}}{h - \text{mg}}$$

Where:

R = mass emission rate (kg/h)

Ct = particulate concentration as determined by Reference Method 5E (mg/dscm)

Qstd = stack gas volumetric flow rate as determined by Reference Method 2 (dscm/min)

- (e) The glass pull rate, P, for the manufacturing line shall be computed as follows:

$$P = L_s \times W_m \times M \times \frac{100 - \text{LOI}}{100} \times \frac{6 \times 10^{-5} \text{ min} - \text{Mg}}{h - \text{g}}$$

Where:

(Rule 1200-03-16-.56, continued)

P = glass pull rate (Mg/h)

L<sub>s</sub> = line speed (m/min)W<sub>m</sub> = trimmed mat width (m)

min = minutes

Mg = megagrams

h = hour

g = grams

M = mat gram weight (g/m<sup>2</sup>)

LOI = loss on ignition (weight percent), as determined by ASTM Standard Test Method D2584-68 (Reapproved 1979), "Ignition Loss of Cured Reinforced Resins"

(Note: All references to ASTM in this rule refers to the American Society for Testing Materials. Copies of methods are available for purchase by writing to ASTM, 1916 Race Street, Philadelphia, PA 19103 or by writing to the Tennessee Division of Air Pollution Control, 701 Broadway, 4th Floor Customs House, Nashville, TN 37219. Be sure and specify which method is desired.)

For each 2-hour test run, the average glass pull rate shall be computed from at least three glass pull rates determined at intervals of at least 30 minutes during the test run.

- (f) For each test run, the particulate mass emission level, E, shall be computed as follows:

$$E = \frac{R}{P_{avg}}$$

Where:

E = mass emission level (kg/Mg)

R = mass emission rate (kg/h)

P<sub>avg</sub> = average glass pull rate (Mg/h)

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed September 22, 1988; effective November 6, 1988.

### 1200-03-16-.57 INDUSTRIAL SURFACE COATING: SURFACE COATING OF PLASTIC PARTS OF BUSINESS MACHINES.

- (1) Applicability and Designation of Affected Facility

- (a) The provisions of this rule apply to each spray booth in which plastic parts for use in the manufacture of business machines receive prime coats, color coats, texture coats, or touch-up coats.



(Rule 1200-03-16-.57, continued)

- (b) This rule applies to any affected facility for which construction, modification, or reconstruction begins after November 6, 1988.
- (2) Definitions and Symbols
- (a) Definitions
    - 1. “Business machine” means a device that uses electronic or mechanical methods to process information, perform calculations, print or copy information, or convert sound into electrical impulses for transmission, such as:
      - (i) Products classified as typewriters under SIC Code 3572;
      - (ii) Products classified as electronic computing devices under SIC Code 3573;
      - (iii) Products classified as calculating and accounting machines under SIC Code 3574;
      - (iv) Products classified as telephone and telegraph equipment under SIC Code 3661;
      - (v) Products classified as office machines, not elsewhere classified, under SIC Code 3579; and
      - (vi) Photocopy machines, a subcategory of products classified as photographic equipment under SIC Code 3861.
    - 2. “Coating operation” means the use of a spray booth for the application of a single type of coating (e.g., prime coat); the use of the same spray booth for the application of another type of coating (e.g., texture coat) constitutes a separate coating operation for which compliance determinations are performed separately.
    - 3. “Coating solids applied” means the coating solids that adhere to the surface of the plastic business machine part being coated.
    - 4. “Color coat” means the coat applied to a part that affects the color and gloss of the part, not including the prime coat or texture coat. This definition includes fog coating.
    - 5. “Conductive sensitizer” means a coating applied to a plastic substrate to render it conductive for purposes of electrostatic application of subsequent prime, color, texture, or touch-up coats.
    - 6. “Fog coating” (also known as mist coating and uniforming) means a thin coating applied to plastic parts that have molded-in color or texture or both to improve color uniformity.
    - 7. “Nominal 1-month period” means either a calendar month, 30-day month, accounting month, or similar monthly time period that is established prior to the performance test (i.e., in a statement submitted with notification of anticipated actual startup pursuant to part 1200-03-16-.01-(7)(a)2).
    - 8. “Plastic parts” means panels, housing, bases, covers, and other business machine components formed of synthetic polymers.

(Rule 1200-03-16-.57, continued)

9. "Prime coat" means the initial coat applied to a part when more than one coating is applied, not including conductive sensitizers or electromagnetic interference/radio frequency interference shielding coatings.
10. "Spray booth" means the structure housing automatic or manual spray application equipment where a coating is applied to plastic parts for business machines.
11. "Texture coat" means the rough coat that is characterized by discrete, raised spots on the exterior surface of the part.
12. "Touch-up coat" means the coat applied to correct any imperfections in the finish after color or texture coats have been applied.
13. "Transfer efficiency" means the ratio of the amount of coating solids deposited onto the surface of a plastic business machine part to the total amount of coating solids used.
14. "VOC emissions" means the mass of VOC's emitted from the surface coating of plastic parts for business machines expressed as kilograms of VOC's per liter of coating applied, (i.e., deposited on the surface).

(b) Symbols:

1.  $D_c$  = density of each coating as received (kilograms per liter)
2.  $D_d$  = density of each diluent VOC (kilograms per liter)
3.  $L_c$  = the volume of each coating consumed, as received (liters)
4.  $L_d$  = the volume of each diluent VOC added to coatings (liters)
5.  $L_s$  = the volume of coating solids consumed (liters)
6.  $M_d$  = the mass of diluent VOC's consumed (kilograms)
7.  $M_o$  = the mass of VOC's in coatings consumed, as received (kilograms)
8.  $N$  = the volume-weighted average mass of VOC emissions to the atmosphere per unit volume of coating solids applied (kilograms per liter)
9.  $T$  = the transfer efficiency for each type of application equipment used at a coating operation (fraction)
10.  $T_{avg}$  = the volume-weighted average transfer efficiency for a coating operation (fraction)
11.  $V_s$  = the proportion of solids in each coating, as received (fraction by volume)
12.  $W_o$  = the proportion of VOC's in each coating, as received (fraction by weight)

(3) Standards for Volatile Organic Compounds (VOC's)

(Rule 1200-03-16-.57, continued)

- (a) Each owner or operator of any affected facility which is subject to the requirements of this rule shall comply with the emission limitations set forth in this paragraph on and after the date on which the initial performance test, required by paragraph 1200-03-16-.01(5)(g) and paragraph (4) of this rule is completed, but not later than 60 days after achieving the maximum production rate at which the affected facility will be operated, or 180 days after the initial startup, whichever date comes first. No affected facility shall cause the discharge into the atmosphere in excess of:
    - 1. 1.5 kilograms of VOC's per liter of coating solids applied from prime coating of plastic parts for business machines.
    - 2. 1.5 kilograms of VOC's per liter of coating solids applied from color coating of plastic parts for business machines.
    - 3. 2.3 kilograms of VOC's per liter of coating solids applied from texture coating of plastic parts for business machines.
    - 4. 2.3 kilograms of VOC's per liter of coatings solids applied from touch-up coating of plastic parts for business machines.
  - (b) All VOC emissions that are caused by coatings applied in each affected facility, regardless of the actual point of discharge of emissions into the atmosphere, shall be included in determining compliance with the emission limits in subparagraph (a) of this paragraph.
- (4) Performance Tests and Compliance Provisions
- (a) Subparagraphs 1200-03-16-.01(5)(d) and (f) do not apply to the performance test procedures required by this paragraph.
  - (b) The owner or operator of an affected facility shall conduct an initial performance test as required under 1200-03-16-.01(5) and thereafter a performance test each nominal one (1) month period for each affected facility according to the procedures in this paragraph.
    - 1. The owner or operator shall determine the composition of coatings by analysis of each coating, as received, using Reference Method 24 (as specified in rule 1200-03-16-.01(5)(g)24.), from data that have been determined by the coating manufacturer using Reference Method 24, or by other methods approved by the Technical Secretary.
    - 2. The owner or operator shall determine the volume of coating and the mass of VOC used for dilution of coatings from company records during each nominal 1-month period. If a common coating distribution system serves more than one affected facility or serves both affected and nonaffected spray booths, the owner or operator shall estimate the volume of coatings used at each facility by using procedures approved by the Technical Secretary.
      - (i) The owner or operator shall calculate the volume-weighted average mass of VOC's in coatings emitted per unit volume of coating solids applied (N) at each coating operation during each nominal 1-month period for each affected facility. Each 1-month calculation is considered a performance test. Except as provided in subpart (iii) of this part, N will be determined by the following procedures:

(Rule 1200-03-16-.57, continued)

- (I) Calculate the mass of VOC's used ( $M_o + M_d$ ) for each coating operation during each nominal 1-month period for each affected facility by the following equation:

$$M_o + M_d = \sum_{i=1}^n L_{ci} D_{ci} W_{oi} + \sum_{j=1}^m L_{dj} D_{dj}$$

where  $n$  is the number of different coatings used during each nominal 1-month period and  $m$  is the number of different diluent VOC's used during each nominal 1-month period. (sum  $L_{dj} D_{dj}$  will be "0" if no VOC's are added to the coatings, as received.)

- (II) Calculate the total volume of coating solids consumed ( $L_s$ ) in each nominal 1-month period for each coating operation for each affected facility by the following equation:

$$L = \sum_{i=1}^n L_{ci} V_{si}$$

where  $n$  is the number of different coatings used during each nominal 1-month period.

- (III) Select the appropriate transfer efficiency ( $T$ ) from Table 1 for each type of coating applications equipment used at each coating operation. If the owner or operator can demonstrate to the satisfaction of the Technical Secretary that transfer efficiencies other than those shown are appropriate, the Technical Secretary will approve their use on a case-by-case basis. Transfer efficiency values for application methods not listed below shall be approved by the Technical Secretary on a case-by-case basis. An owner or operator must submit sufficient data for the Technical Secretary to judge the accuracy of the transfer efficiency claims.

(Rule 1200-03-16-.57, continued)

**TABLE 1–Transfer Efficiencies**

| Application methods        | Transfer Efficiency | Type of Coating                                 |
|----------------------------|---------------------|---|
| Air atomized spray         | 0.25                | Prime, Color, Texture, touch up, and fog coats. |
| Air-assisted airless spray | 0.40                | Prime and color coats.                          |
| Electrostatic air spray    | 0.40                | Prime and color coats.                          |

- (IV) Where more than one application method is used within a single surface coating operation, the owner or operator shall determine the composition and volume of each coating applied by each method through a means acceptable to the Technical Secretary and compute the volume-weighted average transfer efficiency by the following equation:

$$T_{ave} = \frac{\sum_{i=1}^n L_{cik} V_{sik} T_k}{\sum_{k=1}^p L_s}$$

where n is the number of coatings of each type used and p is the number of application methods used. Where L<sub>cik</sub> is the volume of each coating consumed, as received (liters); V<sub>sik</sub> is the proportion of solids in each coating, as received (fraction by weight); and T<sub>k</sub> is the transfer efficiency for each type of application equipment used at a coating operation (fraction, see Table 1).

- (V) Calculate the volume-weighted average mass of VOC’s emitted per unit volume of coating solids applied (N) during each nominal 1-month period for each coating operation for each affected facility by the following equation:

$$N = \frac{M_o + M_d}{L_s T_{avg}} \quad (\text{T}_{avg} = T \text{ when only one type of coating operation occurs})$$

- (ii) Where the volume-weighted average mass of VOC’s emitted to the atmosphere per unit volume of coating solids applied (N) is less than or equal to 1.5 kilograms per liter for prime coats, is less than or equal to 1.5 kilograms per liter for color coats, is less than or equal to 2.3 kilograms per liter for texture coats, and is less than or equal to 2.3 kilograms per liter for touch-up coats, the affected facility is in compliance.
- (iii) If each individual coating used by an affected facility has a VOC content (kg VOC/1 of solids), as received, which when divided by the lowest transfer efficiency at which the coating is applied results in a value equal to or less than 1.5 kilograms per liter for prime and color coats and equal to or less than 2.3 kilograms per liter for texture and touch-up coats, the affected facility is in compliance provided that no VOC’s are added to the coatings during distribution or application.

(Rule 1200-03-16-.57, continued)

- (iv) If an affected facility uses add-on controls to control VOC emissions and if the owner or operator can demonstrate to the Technical Secretary that the volume-weighted average mass of VOC's emitted to the atmosphere per unit volume of coating solids applied (N) is within limits expressed in subpart (b)2.(ii) of this paragraph because of this equipment, the affected facility is in compliance. In such cases, compliance will be determined by the Technical Secretary on a case-by- case basis.

(5) Reporting and Record Keeping Requirements

- (a) The reporting requirements of subparagraph 1200-03-16-.01(5)(a) apply only to the initial performance test. Each owner or operator subject to the provisions of this rule shall include the following data in the report of the initial performance test required under subparagraph 1200-03-16-.01(5)(a):
  - 1. Except as provided for in part 2 of this subparagraph, the volume-weighted average mass of VOC's emitted to the atmosphere per volume of applied coating solids (N) for the initial nominal 1-month period from each affected facility.
  - 2. For each affected facility where compliance is determined under the provisions of subpart (4)(b)2.(iii) of this rule, a list of the coatings used during the initial nominal 1-month period, the VOC content of each coating calculated from data determined using Reference Method 24, and the lowest transfer efficiency of any coating application equipment used during the initial nominal 1-month period.
- (b) Following the initial report, each owner or operator shall:
  - 1. Report the volume-weighted average mass of VOC's per unit volume of coating solids applied for each affected facility during each nominal 1-month period in which the facility is not in compliance with the applicable emission limit specified in paragraph (3) of this rule. Reports of noncompliance shall be submitted on a quarterly basis, occurring every 3 months following the initial report; and
  - 2. Submit statements that each affected facility has been in compliance with the applicable emission limit specified in paragraph (3) of this rule during each nominal 1-month period. Statements of compliance shall be submitted on a semiannual basis.
- (c) These reports shall be postmarked not later than 10 days after the end of the periods specified in parts (b)1. and 2. of this paragraph.
- (d) Each owner or operator subject to the provisions of this rule shall maintain at the source, for a period of at least 2 years, records of all data and calculations used to determine monthly VOC emissions from each affected facility as specified in subparagraph 1200-03-16-.01(7)(d).
- (e) Reporting and record keeping requirements for facilities using add-on controls will be determined by the Technical Secretary on a case-by-case basis.

(6) Test Methods and Procedures

- (a) The reference methods contained in subparagraph 1200-03-16-.01(5)(g) except as provided in subparagraph 1200-03-16-.01(5)(b) shall be used to determine compliance with paragraph (3) of this rule. Applicable methods are as follows:
  - 1. Method 24 for determination of VOC content of each coating as received.

(Rule 1200-03-16-.57, continued)

2. For Method 24, the sample must be at least a 1-liter sample in at least a 1-liter container.
- (b) Other methods may be used to determine the VOC content of each coating if approved by the Technical Secretary before testing.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed September 22, 1988; effective November 6, 1988.

**1200-03-16-.58 RESERVED.**

**1200-03-16-.59 INDUSTRIAL-COMMERCIAL-INSTITUTIONAL STEAM GENERATING UNITS.**

- (1) Applicability and Definition of Affected Facility
  - (a) The affected facility to which this rule applies is each industrial-commercial-institutional steam generating unit for which construction, modification, or reconstruction is commenced after November 6, 1988 and which has a heat input capacity from fuels combusted in the steam generating unit of more than 29 MW (100 million Btu/hour).
  - (b) Reserved
  - (c) Reserved
  - (d) Reserved
  - (e) Reserved
  - (f) Reserved
  - (g) Any affected facility meeting the applicability requirements of subparagraph (a) of this paragraph commencing construction, modification, or reconstruction after November 6, 1988 is not subject to Rule 1200-03-16-.02.
- (2) Reserved

**Authority:** T.C.A. §§ 4-5-201, et seq.; 4-5-202; 68-25-105; and 68-201-101, et seq. **Administrative History:** Original rule filed September 22, 1988; effective November 6, 1988. Amendments filed January 21, 2009; effective April 6, 2009. Amendments filed March 7, 2016; effective June 5, 2016.

**1200-03-16-.60 RESERVED.**

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-201-101, et seq. **Administrative History:** Original rule filed April 18, 1990; effective June 2, 1990. Amendment filed March 21, 2013; effective June 19, 2013.

**1200-03-16-.61 RESERVED.**

**Authority:** T.C.A. §§ 4-5-201, et seq.; 4-5-202; 68-25-105; and 68-201-101, et seq. **Administrative History:** Original rule filed April 18, 1990; effective June 2, 1990. Amendments filed March 7, 2016; effective June 5, 2016.

**1200-03-16-.62 THROUGH 1200-03-16-.73 RESERVED.**

**1200-03-16-.74 STANDARDS OF PERFORMANCE FOR CALCINERS AND DRYERS IN MINERAL INDUSTRIES.**

- (1) For what follows, "Administrator" means the Technical Secretary of the Tennessee Air Pollution Control Board in those cases for which authority to implement and enforce provisions of the rule have been delegated to Tennessee. Otherwise, "Administrator" means the Administrator of the United States Environmental Protection Agency. "State" means the State of Tennessee."
- (2) Adopted herein by reference are the federal regulations in Paragraph (4) of this rule as appearing in 40 CFR Part § 60 Subpart UUU, revised as of July 1, 1994. Source: (published in the *Federal Register* / Vol. 57, No. 188 / Monday, September 28, 1992 / Rules and Regulations 44503), unless otherwise noted.
- (3) The standards provided herein are the requirements of the State.
- (4) Subpart UUU of 40 CFR Part § 60

## § 60.730 Applicability and designation of affected facility.

- (a) The affected facility to which the provisions of this subpart apply is each calciner and dryer at a mineral processing plant. Feed and product conveyors are not considered part of the affected facility. For the brick and related clay products industry, only the calcining and drying of raw materials prior to firing of the brick are covered.
- (b) An affected facility that is subject to the provisions of subpart LL, Metallic Mineral Processing Plants, is not subject to the provisions of this subpart. Also, the following processes and process units used at mineral processing plants are not subject to the provisions of this subpart: vertical shaft kilns in the magnesium compounds industry; the chlorination-oxidation process in the titanium dioxide industry; coating kilns, mixers, and aerators in the roofing granules industry; and tunnel kilns, tunnel dryers, apron dryers, and grinding equipment that also dries the process material used in any of the 17 mineral industries (as defined in § 60.731, "Mineral processing plant").
- (c) The owner or operator of any facility under paragraph (a) of this section that commences construction, modification, or reconstruction after April 23, 1986, is subject to the requirements of this subpart.

## § 60.731 Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Clean Air Act and in subpart A of this part.

*Calciner* means the equipment used to remove combined (chemically bound) water and/or gases from mineral material through direct or indirect heating. This definition includes expansion furnaces and multiple hearth furnaces.

*Control device* means the air pollution control equipment used to reduce particulate matter emissions released to the atmosphere from one or more affected facilities.

*Dryer* means the equipment used to remove uncombined (free) water from mineral material through direct or indirect heating.

*Installed in series* means a calciner and dryer installed such that the exhaust gases from one flow through the other and then the combined exhaust gases are discharged to the atmosphere.



(Rule 1200-03-16-.74, continued)

*Mineral processing plant* means any facility that processes or produces any of the following minerals, their concentrates or any mixture of which the majority (>50 percent) is any of the following minerals or a combination of these minerals: alumina, ball clay, bentonite, diatomite, feldspar, fire clay, fuller's earth, gypsum, industrial sand, kaolin, lightweight aggregate, magnesium compounds, perlite, roofing granules, talc, titanium dioxide, and vermiculite.

§ 60.732 Standards for particulate matter.

Each owner or operator of any affected facility that is subject to the requirements of this subpart shall comply with the emission limitations set forth in this section on and after the date on which the initial performance test required by § 60.8 is completed, but not later than 180 days after the initial startup, whichever date comes first. No emissions shall be discharged into the atmosphere from any affected facility that:

- (a) Contains particulate matter in excess of 0.092 gram per dry standard cubic meter (g/dscm) [0.040 grain per dry standard cubic foot (gr/dscf)] for calciners and for calciners and dryers installed in series and in excess of 0.057 g/dscm for dryers; and
- (b) Exhibits greater than 10 percent opacity, unless the emissions are discharged from an affected facility using a wet scrubbing control device.

§ 60.733 Reconstruction.

The cost of replacement of equipment subject to high temperatures and abrasion on processing equipment shall not be considered in calculating either the "fixed capital cost of the new components" or the "fixed capital cost that would be required to construct a comparable new facility" under § 60.15. Calciner and dryer equipment subject to high temperatures and abrasion are: end seals, flights, and refractory lining.

§ 60.734 Monitoring of emissions and operations.

- (a) With the exception of the process units described in paragraphs (b), (c), and (d) of this section, the owner or operator of an affected facility subject to the provisions of this subpart who uses a dry control device to comply with the mass emission standard shall install, calibrate, maintain, and operate a continuous monitoring system to measure and record the opacity of emissions discharged into the atmosphere from the control device.
- (b) In lieu of a continuous opacity monitoring system, the owner or operator of a ball clay vibrating grate dryer, a bentonite rotary dryer, a diatomite flash dryer, a diatomite rotary calciner, a feldspar rotary dryer, a fire clay rotary dryer, an industrial sand fluid bed dryer, a kaolin rotary calciner, a perlite rotary dryer, a roofing granules fluid bed dryer, a roofing granules fluid bed dryer a roofing granules rotary dryer, a talc rotary calciner, a titanium dioxide spray dryer, a titanium dioxide fluid bed dryer, a vermiculite fluid bed dryer, or a vermiculite rotary dryer who uses a dry control device may have a certified visible emissions observer measure and record three 6-minute averages of the opacity of visible emissions to the atmosphere each day of operation in accordance with Method 9 of appendix A of part 60.
- (c) The owner or operator of a ball clay rotary dryer, a diatomite rotary dryer, a feldspar fluid bed dryer, a fuller's earth rotary dryer, a gypsum rotary dryer, a gypsum flash calciner, gypsum kettle calciner, an industrial sand rotary dryer, a kaolin rotary dryer, a kaolin multiple hearth furnace, a perlite expansion furnace, a talc flash dryer, a talc rotary dryer, a titanium dioxide direct or indirect rotary dryer or a vermiculite expansion furnace who uses a dry control device is exempt from the monitoring requirements of this section.

(Rule 1200-03-16-.74, continued)

- (d) The owner or operator of an affected facility subject to the provisions of this subpart who uses a wet scrubber to comply with the mass emission standard for any affected facility shall install, calibrate, maintain, and operate monitoring devices that continuously measure and record the pressure loss of the gas stream through the scrubber and the scrubbing liquid flow rate to the scrubber. The pressure loss monitoring device must be certified by the manufacturer to be accurate within 5 percent of water column gauge pressure at the level of operation. The liquid flow rate monitoring device must be certified by the manufacturer to be accurate within 5 percent of design scrubbing liquid flow rate.

§ 60.735 Recordkeeping and reporting requirements.

- (a) Records of the measurements required in § 60.734 of this subpart shall be retained for at least 2 years.
- (b) Each owner or operator who uses a wet scrubber to comply with § 60.732 shall determine and record once each day, from the recordings of the monitoring devices in § 60.734(d), and arithmetic average over a 2-hour period of both the change in pressure of the gas stream across the scrubber and the flowrate of the scrubbing liquid.
- (c) Each owner or operator shall submit written reports semiannually of exceedances of control device operation parameters required to be monitored by § 60.734 of this subpart. For the purpose of these reports, exceedances are defined as follows:
  - (1) All 6-minute periods during which the average opacity from dry control devices is greater than 10 percent; or
  - (2) Any daily 2-hour average of the wet scrubber pressure drop determined as described in § 60.735(b) that is less than 90 percent of the average value recorded according to § 60.736(c) during the most recent performance test that demonstrated compliance with the particulate matter standard; or
  - (3) Each daily wet scrubber liquid flow rate recorded as described in § 60.735(b) that is less than 80 percent or greater than 120 percent of the average value recorded according to § 60.736(c) during the most recent performance test that demonstrate compliance with the particulate matter standard.
- (d) The requirements of this section remain in force until and unless the Agency, in delegating enforcement authority to a State under section 111(c) of the Clean Air Act, approves reporting requirements or an alternative means of compliance surveillance adopted by such State. In that event, affected facilities within the State will be relieved of the obligation to comply with this section provided that they comply with the requirements established by the State.

[57FR 44503, Sept. 28, 1992, as amended at 58 FR 40591, July 29, 1993]

§ 60.736 Test methods and procedures.

- (a) In conducting the performance tests required in § 60.8, the owner or operator shall use the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in § 60.8(b).
- (b) The owner or operator shall determine compliance with the particulate matter standards in § 60.732 as follows:
  - (1) Method 5 shall be used to determine the particulate matter concentration. The sampling time and volume for each test run shall be at least 2 hours and 1.70 dscm.

(Rule 1200-03-16-.74, continued)

- (2) Method 9 and the procedures in § 60.11 shall be used to determine opacity from stack emissions.
- (c) During the initial performance test of a wet scrubber, the owner or operator shall use the monitoring devices of § 60.734(d) to determine the average change in pressure of the gas stream across the scrubber and the average flowrate of the scrubber liquid during each of the particulate matter runs. The arithmetic averages of the three runs shall be used as the baseline average values for the purposes of § 60.735(c).

§ 60.737 Delegation of authority.

- (a) In delegating implementation and enforcement authority to a State under section 111(c) of the Act, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.
- (b) Authorities which will not be delegated to States: No restrictions.

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-201-105. **Administrative History:** Original ruled filed May 21, 1997; effective August 4, 1997.

**1200-03-16-.75 RESERVED.**

**1200-03-16-.76 RESERVED.**

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-201-105. **Administrative History:** Original ruled filed December 30, 1997; effective March 16, 1998. Repeal filed January 21, 2009; effective April 6, 2009.

**1200-03-16-.77 THROUGH 1200-03-16-.99 RESERVED.**

RULES  
OF  
TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
BUREAU OF ENVIRONMENT  
DIVISION OF AIR POLLUTION CONTROL

CHAPTER 1200-3-17  
REPEALED  
(RENUMBERED 0400-30-17)

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**1200-3-17-.01 REPEALED.**

**Authority:** T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq. **Administrative History:** Original rule filed July 5, 1996; effective September 18, 1996. Repeal filed June 25, 2013; effective September 23, 2013. Rule renumbered 0400-30-17.

**1200-3-17-.02 REPEALED.**

**Authority:** T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq. **Administrative History:** Original rule filed July 5, 1996; effective September 18, 1996. Repeal filed June 25, 2013; effective September 23, 2013. Rule renumbered 0400-30-17.

**1200-3-17-.03 REPEALED.**

**Authority:** T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq. **Administrative History:** Original rule filed July 5, 1996; effective September 18, 1996. Repeal filed June 25, 2013; effective September 23, 2013. Rule renumbered 0400-30-17.

**RULES  
OF  
TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
BUREAU OF ENVIRONMENT  
DIVISION OF AIR POLLUTION CONTROL**

**CHAPTER 1200-03-18  
VOLATILE ORGANIC COMPOUNDS**

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**1200-03-18-.01 DEFINITIONS.** For the purpose of this chapter, the following definitions apply:

- (1) "Actual emissions" means the quantity of volatile organic compounds (VOC's) emitted from a source during a particular time period.

(Rule 1200-03-18-.01, continued)

- (2) "Ambient air" means that portion of the atmosphere, external to buildings, to which the general public has access.
- (3) "As applied" means including dilution solvents added before application of the coating.
- (4) "Automobile" means a motor vehicle capable of carrying no more than 12 passengers.
- (5) "Bulk gasoline plant" means a gasoline storage and distribution facility, other than a bulk gasoline terminal or a gasoline dispensing facility.
- (6) "Bulk gasoline terminal" means a gasoline storage facility that receives gasoline from refineries, delivers gasoline to bulk gasoline plants or to commercial or retail accounts, and has a daily throughput of more than 76,000 L (20,000 gal) of gasoline on a 30-day rolling average.
- (7) "Capture efficiency" means the weight per unit time of VOC entering a capture system and delivered to a control device divided by the weight per unit time of total VOC generated by a source of VOC, expressed as a percentage.
- (8) "Capture system" means all equipment (including, but not limited to, hoods, ducts, fans, booths, ovens, dryers, etc.) that contains, collects, and transports an air pollutant to a control device.
- (9) "Carbon adsorber" means a control device which uses activated carbon to adsorb volatile organic compounds from a gas stream.
- (10) "Carbon adsorption system" means a carbon adsorber with an inlet and outlet for exhaust gases and a system to regenerate the saturated adsorbent.
- (11) "Coating" means a material applied onto or impregnated into a substrate for protective, decorative, or functional purposes. Such materials include, but are not limited to, paints, varnishes, sealants, adhesives, maskants, and temporary protective coatings.
- (12) "Coating line" means a series of one or more coating applicators and any associated drying area and/or oven wherein a coating is applied, dried, and/or cured. A coating line ends at the point where the coating is dried or cured, or prior to any subsequent application of a different coating. It is not necessary to have an oven or a flashoff area in order to be included in this definition. This definition does not apply to web coating.
- (13) "Complying coating" means a coating which satisfies the VOC content or emission standard or formulation standard, as applied, specified in this chapter for its use.
- (14) "Complying ink" means an ink which satisfies the VOC content or emission standard or formulation standard, as applied, specified in this chapter for its use.
- (15) "Condensate" means volatile organic compound (VOC) liquid, separated from natural gas, that condenses due to changes in temperature and/or pressure and remains liquid at standard conditions.
- (16) "Condenser" means any heat transfer device used to liquify vapors by removing their latent heats of vaporization. Such devices include, but are not limited to, shell and tube, coil, surface, or contact condensers.
- (17) "Construction" means on-site fabrication, erection, or installation of a source, air pollution control or monitoring equipment, or a facility.

(Rule 1200-03-18-.01, continued)

- (18) "Continuous vapor control system" means a vapor control system that treats vapors displaced from tanks during filling on a demand basis without intermediate accumulation.
- (19) "Control device" means equipment (such as an incinerator or carbon adsorber) used to reduce, by destruction or removal, the amount of air pollutant(s) in an air stream prior to discharge to the ambient air.
- (20) "Control system" means a combination of one or more capture system(s) and control device(s) working in concert to reduce discharges of pollutants to the ambient air.
- (21) "Crude oil" means a naturally occurring mixture that consists of hydrocarbons and/or sulfur, nitrogen, and/or oxygen derivatives of hydrocarbons and that is liquid at standard conditions.
- (22) "Day" means a period of 24 consecutive hours beginning at midnight local time, or beginning at a time consistent with a facility's operating schedule.
- (23) "Destruction or removal efficiency" means the amount of VOC destroyed or removed by a control device expressed as a percent of the total amount of VOC entering the device.
- (24) "Double block-and-bleed system" means two block valves connected in series with a bleed valve or line that can vent the line between the two block valves.
- (25) "Emission" means the release or discharge, at the facility, whether directly or indirectly, of VOC into the ambient air.
- (26) Reserved.
- (27) "External floating roof" means a cover over an open-top storage tank consisting of a double deck or pontoon single deck that rests upon and is supported by the volatile organic liquid being contained and is equipped with a closure seal or seals to close the space between the roof edge and tank shell.
- (28) "Facility" means any source or group of sources located within a contiguous area, and under common control.
- (29) "First attempt at repair" means to take rapid action for the purpose of stopping or reducing leakage of organic material to the atmosphere using best practices.
- (30) "Flashoff area" means the space between the coating application area and the oven.
- (31) "Gasoline" means any petroleum distillate or petroleum distillate/alcohol blend having a Reid vapor pressure of 27.6 kilopascals (kPa) (8.15 inches of mercury [in. Hg]) or greater that is used as a fuel for internal combustion engines.
- (32) "Gasoline dispensing facility" means any site where gasoline is transferred from a stationary storage tank to a motor vehicle gasoline fuel tank.
- (33) "Gasoline tank truck" means a delivery tank truck used at bulk gasoline plants, bulk gasoline terminals, or gasoline dispensing facilities that is loading or unloading gasoline or that has loaded or unloaded gasoline on the immediately previous load.
- (34) "Graphic arts" means an industry encompassing printing operations based on letterpress, offset lithography, screen, rotogravure, and flexography.
- (35) "Heavy-duty truck" means any motor vehicle rated at more than 3,864 kg (8,500 lb) gross weight designed primarily to transport property.

(Rule 1200-03-18-.01, continued)

- (36) "Incinerator" means a combustion apparatus in which solid, semisolid, liquid, or gaseous combustible wastes are ignited and burned and from which the solid and gaseous residues contain little or no combustible material.
- (37) "Ink" means a fluid composition consisting of colorant to provide optical contrast with a substrate, film formers to provide adhesion to the substrate, oils and/or solvents to provide fluidity and drying, and other functional additives.
- (38) "Intermittent vapor control system" means a vapor control system that employs an intermediate vapor holder to accumulate vapors displaced from tanks during filling. The control device treats the accumulated vapors only during automatically controlled cycles.
- (39) "Knife coating" means the application of a coating material to a substrate by means of drawing the substrate beneath a knife that spreads the coating evenly over the full width of the substrate.
- (40) "Leak" means a VOC emission indicated by an instrument calibrated according to Method 21 using zero air (less than 10 parts per million [ppm] of hydrocarbon in air) and a mixture of methane or n-hexane and air at a concentration of about, but less than, 10,000 ppm methane or n-hexane; by dripping liquid; or by calibrated sensor.
- (41) "Lease custody transfer" means the transfer of produced crude oil condensate, after processing and/or treating in the producing operations, from storage tanks or automatic transfer facilities to pipelines or any other forms of transportation.
- (42) "Light-duty truck" means any motor vehicle rated at 3,864 kg (8,500 lb) gross weight or less designed primarily to transport property.
- (43) "Loading rack" means an aggregation or combination of gasoline loading equipment arranged so that all loading outlets in the combination can be connected to a tank truck or trailer parked in a specified loading space.
- (44) "Lower explosive limit" (also denoted as LEL) means the concentration of a compound in air below which a flame will not propagate if the mixture is ignited.
- (45) "Maximum theoretical emissions" means the quantity of VOC that theoretically could be emitted by a source without control devices based on the design capacity or maximum production capacity of the source and 8,760 hours of operation per year. The design capacity or maximum production capacity includes use of materials with the highest VOC content used in practice by the source for the 2 years preceding April 22, 1993, and anytime after.
- (46) "Maximum true vapor pressure" means the equilibrium partial pressure exerted by a stored volatile organic liquid at the temperature equal to: (1) for liquids stored above or below the ambient temperature, the highest calendar-month average of the liquid storage temperature, or (2) for liquids stored at the ambient temperature, the local maximum monthly average temperature as reported by the National Weather Service. This pressure shall be determined:
- (a) In accordance with methods described in American Petroleum Institute Bulletin 2517, "Evaporation Loss From External Floating Roof Tanks;" (1962);
  - (b) By using standard reference texts;
  - (c) By ASTM D2879-83; or



(Rule 1200-03-18-.01, continued)

- (d) By any other method approved as a revision to the State Implementation Plan.
- (47) “Multicomponent coating” means a coating packaged in two or more parts, which parts are combined before application, and where a coreactant from one part of the coating chemically reacts, at ambient conditions, with a coreactant from another part of the coating.
- (48) “Open-ended valve or line” means any valve, except safety relief valves, having one side of the valve seat in contact with process fluid and one side open to the atmosphere, either directly or through open piping.
- (49) “Operation” means an activity. For example, a prime coat operation is the activity of applying a prime coat.
- (50) “Organic compound” means a chemical compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate.
- (51) “Oven” means a chamber which is used to bake, cure, polymerize, and/or dry a coating.
- (52) “Overall emission reduction efficiency” means the weight per unit time of VOC removed or destroyed by a control device divided by the weight per unit time of VOC generated by a source, expressed as a percentage. The overall emission reduction efficiency can also be calculated as the product of the capture efficiency and the control device destruction or removal efficiency.
- (53) “Owner or operator” means any person who owns, leases, controls, operates, or supervises a facility, existing source, new source, or control device.
- (54) “Person” means any individual, partnership, copartnership, firm, company, corporation, association, joint stock company, trust, estate, state government, the federal government, political subdivision, or any other legal entity, or their legal representative, agent, or assigns.
- (55) “Petroleum” means crude oil and the oils derived from tar sands, shale, and coal.
- (56) “Petroleum liquid” means crude oil, condensate, and any finished or intermediate product manufactured or extracted at a petroleum refinery, but not including Nos. 2 through 6 fuel oils as specified in ASTM D396-78; gas turbine fuel oils Nos. 2-GT through 4-GT as specified in ASTM D2880-78; or diesel fuel oils Nos. 2-d and 4-D, as specified in ASTM D975-78.
- (57) “Petroleum refinery” means any facility engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants, or other products through distillation of petroleum or through the redistillation, cracking, or reforming of unfinished petroleum derivatives.
- (58) “Plastisol” means a coating made of a mixture of finely divided resin and a plasticizer. Plastisol is applied as a thick gel that solidifies when heated.
- (59) “Potential VOC emissions” means the maximum capacity to emit, without add-on emission controls, according to physical and operational design. Any physical or operational limitation, except concerning add-on emission controls, on the capacity to emit shall be treated as part of operational design for the purpose of determining potential emissions if the limitation is enforceable by the Administrator of the EPA and the Technical Secretary, including those under this Division 1200-03, the State Implementation Plan, and permit conditions established pursuant to Chapter 1200-03-09.
- (60) “Pressure release” means the emission of materials resulting from system pressure being greater than set pressure of the pressure relief device.

(Rule 1200-03-18-.01, continued)

- (61) "Prime coat" means the first of two or more coatings applied to a surface.
- (62) "Printing" means the mechanical process used to reproduce images, patterns, and text through the transfer of ink to a substrate.
- (63) "Printing press" means equipment used to apply words, pictures, or graphic designs to either a continuous substrate or a sheet. A continuous substrate consists of paper, plastic, or other material that is unwound from a roll, passed through coating or ink applicators and any associated drying areas. The press includes all coating and ink applicators, including applicators which apply coatings uniformly across the substrate, and drying areas between unwind and final drying of the continuous substrate. A sheet consists of paper, plastic, or other material that is conveyed through the process. The press includes all coating and ink applicators and drying operations between the time that the sheet is put into the press until it is taken off.
- (64) "Process unit" means equipment assembled for the extraction of natural gas liquids from field gas, the fractionation of the liquids into natural gas products, or other operations associated with the processing of natural gas products. A process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the products.
- (65) "Process unit shutdown" means a work practice or operational procedure that stops production from a process unit or part of a process unit. An unscheduled work practice or operational procedure that stops production from a process unit or part of a process unit for less than 24 hours is not a process unit shutdown. The use of spare equipment and technically feasible bypassing of equipment without stopping production are not process unit shutdowns.
- (66) "Reference Method" means the method of sampling or analyzing described in Appendix A of 40 C.F.R. 60 as of July 1, 1991.
- (67) "Reid vapor pressure" means the absolute vapor pressure of volatile crude oil and volatile non-viscous petroleum liquids, except liquified petroleum gases, as determined by ASTM D323-89.
- (68) "Repaired" means that equipment is adjusted, or otherwise altered, in order to eliminate a leak as indicated by one of the following: a calibrated instrument reading of 10,000 parts per million (ppm) or greater, indication of liquids dripping, or indication by a calibrated sensor that a seal or barrier fluid system has failed.
- (69) "Roll coating" means the application of a coating material to a moving substrate by means of hard rubber, elastomeric, or metal rolls.
- (70) "Rotogravure coating" means the application of a coating material to a substrate by means of a roll coating technique in which the pattern to be applied is recessed relative to the non-image area, and the coating material is picked up in these recessed areas and is transferred to the substrate.
- (71) "Shutdown" means the cessation of operation of a facility or of its emission control or emission monitoring equipment.
- (72) "Solvent" means a substance that is liquid at standard conditions and is used to dissolve or dilute another substance; this term includes, but is not limited to, organic materials used as solvents, viscosity reducers, degreasing agents, or cleaning agents.

(Rule 1200-03-18-.01, continued)

- (73) "Source" means any building, structure, equipment, or installation that releases or discharges, or has the potential to release or discharge, VOC's into the ambient air.
- (74) "Standard conditions" means a temperature of 20° C (68° F) and pressure of 760 mm Hg (29.92 in. Hg).
- (75) "Startup" means the setting in operation of a source or of its emission control or emission monitoring equipment.
- (76) "Submerged fill" means the method of filling a delivery vessel or storage vessel where product enters within 150 millimeters (mm) (5.9 inches [in]) of the bottom of the delivery or storage vessel. Bottom filling of delivery and storage vessels is included in this definition.
- (77) "Substrate" means the surface onto which a coating is applied or into which a coating is impregnated.
- (78) "Technical Secretary" means the Technical Secretary or his authorized representative.
- (79) "Topcoat" means the final coating(s), as applied, in a multiple-coat operation.
- (80) "Truck" means any motor vehicle designed primarily to transport property.
- (81) "True vapor pressure" means the equilibrium partial pressure exerted by a volatile organic liquid as determined in accordance with methods described in American Petroleum Institute Bulletin 2517, "Evaporation Loss From Floating Roof Tanks," second edition, February 1980.
- (82) "Vapor balance system" means a closed system that causes, by displacement during transfer of gasoline, the transfer of gasoline vapors from a tank being loaded to the tank being unloaded.
- (83) "Vapor collection system" means all piping, seals, hoses, connections, pressure-vacuum vents, and other equipment between a gasoline tank truck and a vapor processing unit and/or a storage tank and vapor holder.
- (84) "Vapor control system" means a system that limits or prevents release to the ambient air of vapors displaced from a tank during the transfer of gasoline.
- (85) "Vapor recovery system" means a vapor gathering system capable of collecting VOC vapors generated during the operation of any transfer, storage, or process equipment.
- (86) "Vapor-tight" means equipment that allows no excessive loss of vapors. Compliance with vapor-tight requirements can be determined by checking to ensure that the concentration at a potential leak source is not equal to or greater than 100 percent of the lower explosive limit (LEL) when measured with a combustible gas detector, calibrated with propane, at a distance of 2.54 centimeters (cm) (1 inch [in]) from the source.
- (87) "Vapor-tight gasoline tank truck" means a gasoline tank truck that has demonstrated within the 12 preceding months that its product delivery tank will sustain a pressure change of not more than 75 mm (3.0 in) of water within 5 minutes (min) after it is pressurized to 450 mm (18 in) of water; or when evacuated to 150 mm (5.9 in) of water, the same tank will sustain a pressure change of not more than 75 mm (3.0 in) of water within 5 min. This capability is to be demonstrated using the test procedures specified in Reference Method 27.
- (88) Reserved.

(Rule 1200-03-18-.01, continued)

- (89) "Web coating line" means all of the coating applicator(s), drying area(s), or oven(s), located between an unwind station and a rewind station, that are used to apply coating onto a continuous strip of substrate (the web). A web coating line need not have a drying oven.
- (90) "Weighted average VOC content" means the VOC content as calculated according to the specifications of Paragraph .82(1) of this chapter or according to the specifications of other rules of this chapter, as applicable.

NOTE: The definitions in Chapter 1200-03-02 apply for those terms not defined in Chapter 1200-03-18.

**Authority:** T.C.A. §§ 4-5-201, et. seq., 4-5-202, and 68-201-105. **Administrative History:** Original rule filed May 15, 1979; effective July 10, 1979. Amendment filed April 23, 1981; effective December 14, 1981. Amendment filed September 22, 1988; effective November 6, 1988. Amendment filed April 23, 1992; effective June 7, 1992. Repeal and new rule filed March 8, 1993; effective April 22, 1993. Amendment filed July 27, 1995; effective October 9, 1995. Amendment filed May 30, 1996; effective August 10, 1996. Amendment filed October 31, 1997; effective January 12, 1998. Amendment filed June 18, 1999; effective September 1, 1999. Amendments filed March 7, 2006; effective May 21, 2006. Amendments filed May 12, 2010; effective August 10, 2010. Amendments filed April 1, 2015; effective June 30, 2015.

#### 1200-03-18-.02 GENERAL PROVISIONS AND APPLICABILITY.

- (1) It is the purpose of this chapter to establish emission standards and requirements for certain sources of volatile organic compounds for which applicability is specified in this chapter and other chapters of this division. In determining whether the sources of a source category at a facility satisfy the applicability standard of a specific rule, the potential VOC emissions from all sources of the source category shall be totaled.
- (2) Upon mutual agreement of any air contaminant source and the Technical Secretary, an emission limit more restrictive than that otherwise specified in this chapter may be established. Also, upon mutual agreement of any air contaminant source and the Technical Secretary, operating hours, process flow rates, or any other operating parameter may be established as a limit which the source must adhere to. Any items mutually agreed to shall be stated as special conditions for any permit or order concerning the source. Violation of this mutual agreement shall result in enforcement action.
- (3) Nothing in this chapter shall be construed to exempt sources from satisfying other applicable rules in this division and standards and requirements derived from or according to rules of this division, including, but not limited to, new source review requirements, permit conditions, and standards and requirements mutually agreed to or included in the State Implementation Plan.
- (4) These regulations do not apply to any equipment used exclusively for chemical or physical analysis or determination of product quality and commercial acceptance provided the operation of the equipment is not an integral part of a production process and the total actual emissions from all such equipment at the facility do not exceed 204 kilograms (kg) (450 pounds [lb]) in any calendar month. Any facility availing of this exemption shall maintain the following records for at least 3 years and shall make those records available to the Technical Secretary upon request:
- (a) Records to document the purpose of the equipment for which the exemption is claimed, and

(Rule 1200-03-18-.02, continued)

- (b) Records to document the amount of each volatile organic compound (VOC)-containing material used in the equipment each calendar month and the VOC content of each material such that emissions can be determined for each calendar month.
- (5) At any facility which contains sources subject to volatile organic compound content standards of this chapter, there shall be allowed a nonrenewable exemption from these standards for the use in these sources of a facility-wide aggregate of 55 gallons, as applied, of coatings and inks which exceed these standards during any rolling 12-month period if the following conditions are satisfied:
- (a) No more than 55 gallons of these coatings and inks is used during any rolling 12-month period;
  - (b) The owner or operator of the facility makes application to the Technical Secretary for such exemption identifying the composition or percentage of solid and liquid components for each coating and ink to be included in the exemption;
  - (c) The exemption has been made a condition on a permit;
  - (d) Monthly recordkeeping, consistent with the procedures published in Recordkeeping Guidance Document for Surface Coating Operations and the Graphic Arts Industry, EPA 340/1-88-003, July 1989, is maintained; and
  - (e) After the exemption becomes effective, there is no instance of exceedance of the 55-gallon per rolling 12-month period limit.
- (6) No owner or operator subject to these regulations may build, erect, install, or use any article, machine, equipment, process, or other method the use of which conceals emissions that would otherwise constitute non-compliance with an applicable regulation. This includes, but is not limited to, the use of gaseous diluents to achieve compliance, and the piecemeal carrying out of an operation to avoid coverage by a regulation that applies only to operations larger than a specified size.
- (7) Source-specific standards and requirements, such as reasonably available control technology standards and requirements, may be established which differ from the standards and requirements specified in this chapter. Source-specific standards and requirements must be incorporated as revisions to the State Implementation Plan, unless otherwise provided for in this chapter or in Chapter 21 of this division. The owner or operator of a source for which legal notice must be published to effect source - specific standards and requirements, shall be responsible for all costs associated with publishing the required legal notice.
- (8) The owner or operator of any facility in Davidson, Rutherford, Shelby, Sumner, Knox, Blount, Anderson, Williamson, or Wilson County which has actual emissions from stationary sources of 25 tons or more of volatile organic compounds (VOC's) and/or nitrogen oxides during a calendar year shall report to their permitting authority information and data concerning these emissions. This information and data shall be in the form prescribed by the Technical Secretary, and shall be submitted before March 31 of the year following the calendar year for which the information and data is reported. The first report shall be for the 1993 calendar year, and shall be submitted before March 31, 1994. Each report shall be signed by an official of the company, certifying that the information and data contained in the report is accurate to the best knowledge of the individual certifying the report.
- (9) For any source subject to this chapter in a county other than Davidson, Knox, Rutherford, Shelby, Sumner, Williamson, or Wilson County, requirements in permit conditions specifying data to be collected, records to be maintained, the period of time over which compliance is to be demonstrated, and reports to be submitted to the Technical Secretary shall take

(Rule 1200-03-18-.02, continued)

precedence over corresponding requirements in rules of this chapter. However the period of time over which compliance is to be demonstrated shall not be in excess of 30 days unless otherwise specified in this chapter.

- (10) Multiple lines or operations of a source category which are served by a common control system may be treated as a single line or operation for the purposes of determining compliance with the standards of this chapter. In this case, the most stringent standard applicable to any of the lines or operations shall be the applicable standard for the purpose of compliance determination.
- (11) Records required to be maintained shall be maintained within the state. If such records are maintained at a site other than the facility for which the records are generated, the Technical Secretary shall be informed of this. The notice informing the Technical Secretary shall contain, at a minimum, the following:
  - (a) Facility name;
  - (b) Facility physical address;
  - (c) Physical address where the records are maintained; and
  - (d) Name, phone number, and mailing address of the official responsible for maintenance of the records and from whom records may be obtained.

The Technical Secretary shall be informed of any change in the details listed above within 30 days following such change.

- (12) Any facility that becomes or is currently subject to the provisions of a rule of this chapter by exceeding an applicability threshold will remain subject to these provisions even if its emissions, throughput, or capacity later fall below the applicability threshold.
- (13) The owner or operator of any line or operation which achieves exemption from standards or requirements of this chapter shall maintain records that document the line or operation satisfies the applicable criteria for the exemption.

**Authority:** T.C.A. §§ 4-5-201, et seq., 4-5-202, 68-201-101, et seq., and 68-201-105. **Administrative History:** Original rule filed May 15, 1979; effective July 10, 1979. Amendment filed December 8, 1981; effective January 22, 1982. Amendment filed January 31, 1983; effective March 2, 1983. Amendment filed May 17, 1990; effective July 1, 1990. Amendment filed April 23, 1992; effective June 7, 1992. Repeal and new rule filed March 8, 1993; effective April 22, 1993. Amendment filed April 18, 1994; effective July 2, 1994. Amendment filed July 27, 1995; effective October 9, 1995. Amendment filed September 19, 2014; effective December 18, 2014.

### **1200-03-18-.03 COMPLIANCE CERTIFICATION, RECORDKEEPING, AND REPORTING REQUIREMENTS FOR COATING AND PRINTING SOURCES.**

- (1) Certification, recordkeeping, and/or reporting requirements specified in source - category specific rules of this chapter shall take precedence over the requirements of this rule. To establish the records required under this rule, the volatile organic compound (VOC) content of each coating or ink, as applied, and the efficiency of each capture system and control device shall be determined by the applicable test methods and procedures specified and referenced in this chapter.
- (2) Any owner or operator of a coating or printing line or operation that is exempt from emission limitations of this chapter because combined VOC emissions from otherwise - subject lines and operations at the facility are below the 6.8-kilograms (kg) (15-pounds (lb))-per-day

(Rule 1200-03-18-.03, continued)

applicability threshold specified in the applicable rule of this chapter, before the application of capture systems and control devices, shall comply with the following for each rule from which the owner or operator claims an exemption:

(a) By April 22, 1994, the owner or operator shall certify to the Technical Secretary that the facility is exempt by providing the following:

1. Name and location of the facility;
2. Address and telephone number of the person responsible for the facility;
3. A declaration that the facility is exempt from emission limitations of this chapter because combined VOC emissions from otherwise - subject lines and operations are below the appropriate applicability threshold before the application of capture systems and control devices; and
4. Calculations that demonstrate that the combined VOC emissions from otherwise - subject lines and operations for a day representative of current maximum production levels are 6.8 kilograms (kg) (15 pounds [lb]) or less before the application of capture systems and control devices. The following equation shall be used to calculate total VOC emissions for that day:

$$T = \sum_{i=1}^n A_i B_i$$

where:

T = Total VOC emissions from otherwise - subject lines and operations at the facility, before the application of capture systems and control devices, in units of kg/day (lb/day);

n = Number of different coatings or inks applied on each otherwise - subject line or operation at the facility;

i = Subscript denoting an individual coating or ink;

$A_i$  = Mass of VOC per volume of coating or ink (i) (excluding water and/or exempt compounds), as applied, in units of kilograms VOC per liter (kg VOC/L) (pounds VOC per gallon [lb VOC/gal]); and

$B_i$  = Volume of coating or ink (i) (excluding water and/or exempt compounds), as applied, in units of liters per day (L/day) (gallons per day [gal/day]). The instrument or method by which the owner or operator accurately measured or calculated the volume of each coating or ink, as applied, used shall be described in the certification to the Technical Secretary.

(b) On and after April 22, 1994, the owner or operator shall collect and record the following information each day or, for an alternate longer period which has been approved by the Technical Secretary and the EPA during which the applicable threshold is not exceeded and maintain the information at the facility for a period of 3 years:

1. The name and identification number of each coating or ink, as applied;

(Rule 1200-03-18-.03, continued)

2. The mass of VOC per volume (excluding water and/or exempt compounds) and the volume of coating or ink (i) (excluding water and/or exempt compounds), as applied; and
  3. The total VOC emissions as calculated using the equation in Part (a)4 of this paragraph.
- (c) On and after April 22, 1994, the owner or operator shall notify the Technical Secretary of any record showing that combined VOC emissions exceed 6.8 kg (15 lb) on any day, before the application of capture systems and control devices. A copy of such record shall be sent to the Technical Secretary within 30 calendar days after the exceedance occurs.
- (3) Any owner or operator of a coating line or operation subject to the limitations of this chapter and complying by means of the use of complying coatings or inks shall comply with the following:
- (a) By April 22, 1994, or upon startup of a new line or operation, or upon changing the method of compliance for a subject line or operation from daily-weighted averaging or control devices to the use of complying coatings, the owner or operator shall certify to the Technical Secretary that the line or operation is in compliance with the requirements of the applicable rule. Such certification shall include:
    1. The name and location of the facility;
    2. The address and telephone number of the person responsible for the facility;
    3. Identification of subject sources;
    4. The name and identification number of each coating or ink in use, as applied; and
    5. The mass of VOC per volume of each coating or ink in use (excluding water and/or exempt compounds), as applied.
  - (b) On and after April 22, 1994, or on and after the initial startup date, the owner or operator shall maintain for each subject line or operation for a period of 3 years information as follows:
    1. The name and identification number of each coating or ink used, as applied, and
    2. The mass of VOC per volume of each coating or ink (excluding water and/or exempt compounds), used, as applied.
  - (c) On and after April 22, 1994, the owner or operator shall notify the Technical Secretary in the following instances:
    1. Any record showing use of any non-complying coatings and/or inks shall be reported by sending a copy of such record to the Technical Secretary within 30 calendar days following that use, and
    2. At least 30 calendar days before changing the method of compliance from the use of complying coatings and/or inks to daily-weighted averaging or control devices, the owner or operator shall comply with all requirements of Subparagraph (4)(a) or (5)(a) of this rule, respectively.



(Rule 1200-03-18-.03, continued)

- (4) Any owner or operator of a coating or printing line or operation subject to the limitations of this chapter and complying by means of weighted averaging on that line or operation shall comply with the following:
- (a) By April 22, 1994, or upon startup of a new line or operation, or upon changing the method of compliance for a subject line or operation from the use of complying coatings and/or inks or control devices to daily-weighted averaging, the owner or operator shall certify to the Technical Secretary that the line or operation is in compliance with the requirements of this paragraph. Such certification shall include:
1. The name and location of the facility;
  2. The address and telephone number of the person responsible for the facility;
  3. Identification of subject sources;
  4. The name and identification number of each line or operation which will comply by means of weighted averaging;
  5. The instrument or method by which the owner or operator will accurately measure or calculate the volume of each coating and/or ink (excluding water and/or exempt compounds), as applied, used each day on each line or operation;
  6. The method by which the owner or operator will create and maintain records as required in Subparagraph (b) of this paragraph, with an example of the format in which these records will be kept;
  7. Calculation of the weighted average for a day representative of current or projected maximum production levels; and
  8. The time at which the facility's "day" begins if a time other than midnight local time is used to define a "day".
- (b) On and after April 22, 1994, or on and after the initial startup date, the owner or operator shall collect and record all of the following information each day for each subject line or operation and maintain the information for a period of 3 years;
1. The name and identification number of each coating and/or ink, as applied;
  2. The mass of VOC per volume (excluding water and/or exempt compounds) and the volume of each coating and/or ink (excluding water and/or exempt compounds), as applied, used; and
  3. The weighted average VOC content of all coatings and/or inks, as applied, calculated according to the procedure in Paragraph .82(1) of this chapter.
- (c) On and after April 22, 1994, the owner or operator shall notify the Technical Secretary in the following instances:
1. Any record showing noncompliance with the applicable daily-weighted average requirements shall be reported by sending a copy of the record to the Technical Secretary within 30 calendar days following the occurrence, and
  2. At least 30 calendar days before changing the method of compliance from daily-weighted averaging to the use of complying coatings and/or inks or control

(Rule 1200-03-18-.03, continued)

devices, the owner or operator shall comply with all requirements of Subparagraph (3)(a) or (5)(a) of this rule, respectively.

- (5) Any owner or operator of a coating or printing line or operation subject to the limitations of this chapter and complying by means of control devices shall comply with the following:
- (a) By April 22, 1994, less otherwise specified in this chapter, or upon startup of a new line or operation, or upon changing the method of compliance for any existing line or operation from the use of complying coatings or inks or weighted averaging to control devices, the owner or operator of the subject line or operation shall have performed or shall perform, as applicable, a compliance test. Testing shall have been performed or shall be performed pursuant to the procedures specified and referenced in this chapter. No later than 60 days after completion of the performance test, the owner or operator of the subject line or operation shall submit to the Technical Secretary results of all tests and calculations necessary to demonstrate that the subject line or operation is in compliance with the applicable rule of this chapter.
- (b) On and after April 22, 1994, or on and after the initial startup date, the owner or operator shall collect and record the following information each day for each line or operation and maintain the information for a period of 3 years:
1. The name and identification number of each coating or ink used if necessary to calculate the required overall emission reduction efficiency;
  2. The mass of VOC per unit volume of coating or ink solids, as applied, the volume solids content, as applied, and the volume, as applied, of each coating or ink used if necessary to calculate the required overall emission reduction efficiency;
  3. The maximum VOC content (mass of VOC per unit volume of solids, as applied) or the weighted average VOC content (mass of VOC per unit volume of solids, as applied) of the coatings or inks used if necessary to calculate the required overall emission reduction efficiency;
  4. The required overall emission reduction efficiency as determined in the applicable rule of this chapter;
  5. The actual overall emission reduction efficiency achieved;
  6. Control device monitoring data, e.g. incinerator temperature;
  7. A log of operating time for the capture system, control device, monitoring equipment, and the associated line or operation;
  8. A maintenance log for the capture system, control device, and monitoring equipment detailing all routine and non-routine maintenance performed including dates and duration of any outages;
  9. For thermal incinerators, all 3-hour periods of operation in which the average combustion temperature was more than 28°C (50°F) below the average combustion temperature during the most recent performance test that demonstrated that the facility was in compliance;
  10. For catalytic incinerators:
    - (i) Continuous records of the temperature of the gas stream both upstream and downstream of the incinerator;

(Rule 1200-03-18-.03, continued)

- (ii) Records of all 3-hour periods of operation for which the average temperature measured before the catalyst bed is more than 28°C (50°F) below the gas stream temperature measured before the catalyst bed during the most recent determination of destruction efficiency of the catalytic incinerator that demonstrated that the facility was in compliance; and
  - (iii) Records of all 3-hour periods for which the average temperature difference across the catalyst bed is less than 80 percent of the temperature difference measured during the most recent determination of the destruction efficiency of the catalytic incinerator that demonstrated that the facility was in compliance.
11. For carbon adsorbers, all 3-hour periods of operation during which the average VOC concentration or reading of organics in the exhaust gases is more than 20 percent greater than the average exhaust gas concentration or reading measured by the organics monitoring device during the most recent determination of the removal efficiency of the carbon adsorber that demonstrated that the facility was in compliance. This specification applies only to carbon adsorbers for which stack emission testing is required to demonstrate compliance with a standard of this chapter.
- (c) On and after April 22, 1994, the owner or operator shall notify the Technical Secretary of an instance of noncompliance with the applicable requirements for control devices, such instance of noncompliance including any period of operation during which the parameter boundaries established during the most recent performance test are exceeded as specified in Parts (b) 9, 10, and 11 of this paragraph, by sending a copy of that notice to the Technical Secretary within 30 calendar days following the occurrence.

**Authority:** T.C.A. §§ 4-5-202 and 68-201-105. **Administrative History:** Original rule filed May 15, 1979; effective July 10, 1979. Amendment filed December 8, 1981; effective January 22, 1982. Amendment filed January 31, 1983; effective March 2, 1983. Amendment filed September 22, 1988; effective November 6, 1988. Amendment filed May 17, 1990; effective July 1, 1990. Repeal filed April 23, 1992; effective July 7, 1992. New rule filed March 8, 1993; effective April 22, 1993.

#### **1200-03-18-.04 COMPLIANCE CERTIFICATION, RECORDKEEPING, AND REPORTING REQUIREMENTS FOR NON-COATING AND NON-PRINTING SOURCES.**

- (1) The owner or operator of any facility containing sources subject to this rule shall submit to the Technical Secretary an initial compliance certification by April 22, 1994, or , for any facility in Shelby County, within 180 calendar days after the facility becomes subject to this rule, whichever is later. However, if another compliance date is specified for the source, initial compliance certification shall be submitted to the Technical Secretary within 30 days after that date, unless otherwise specified. The owner or operator of any facility containing new sources that become subject to this rule after April 22, 1994, shall submit an initial compliance certification within 180 days after the start-up of each source unless another time for such certification is specified on the construction permit for the source. Certification shall include the following:
- (a) For initial compliance certification, as a minimum:
    - 1. Name and location of the facility.
    - 2. Address and telephone number of the person responsible for the facility.

(Rule 1200-03-18-.04, continued)

3. Identification of subject sources.
- (b) For each subject source, as a minimum:
1. The applicable emission limitation, equipment specification, or work practice;
  2. The method of compliance;
  3. For each source subject to numerical emission limitations, the estimated emissions without control;
  4. The control system(s) in use;
  5. The design performance efficiency of the control system;
  6. For each source subject to numerical emission limitations, the estimated emissions after control;
  7. Certification that each subject source at the facility is in compliance with the applicable emission limitation, equipment specification, or work practice; and
  8. The time at which the facility's "day" begins if a time other than midnight local time is used to define a "day".
- (2) The owner or operator of any facility containing sources subject to this rule shall, for each occurrence of excess emissions, within 30 calendar days of becoming aware of such occurrence, supply the Technical Secretary with the following information:
- (a) The name and location of the facility;
  - (b) The subject sources that caused the excess emissions;
  - (c) The time and date of first observation of the excess emissions;
  - (d) The cause and expected duration of the excess emissions;
  - (e) For sources subject to numerical emission limitations, the estimated rate of emissions (expressed in the units of the applicable emission limitation) and the operating data and calculations used in determining the magnitude of the excess emissions; and
  - (f) The proposed corrective actions and schedule to correct the conditions causing the excess emissions.
- (3) The following requirements for sources using control devices apply:
- (a) By April 22, 1994, or upon startup of a new source, or upon changing the method of compliance for an existing source, or, for any source in Shelby County, within 180 calendar days after the source becomes subject to this rule, whichever is later, the owner or operator of the subject source shall have performed or shall perform, as applicable, all tests. No later than 60 days after the completion of testing, the owner or operator of the subject source shall have submitted to the Technical Secretary the results of all tests and calculations necessary to demonstrate that the subject source is in compliance with the applicable rule of this chapter.
  - (b) Recordkeeping shall be as follows:

(Rule 1200-03-18-.04, continued)

1. Each owner or operator of a source subject to this rule shall maintain up-to-date, continuous records of any equipment operating parameters specified to be monitored in the applicable rule of this chapter as well as up-to-date records of periods of operation during which the parameter boundaries established during the most recent performance test are exceeded. Exceedances as specified below shall constitute noncompliance. These records shall be maintained for at least 3 years, unless otherwise specified or provided for in this chapter. The Technical Secretary may at any time require a report of these data. Periods of operation during which the parameter boundaries established during the most recent performance test are exceeded are defined as follows:
    - (i) For thermal incinerators, all 3-hour periods of operation in which the average combustion temperature was more than 28°C (50°F) below the average combustion temperature during the most recent performance test that demonstrated that the facility was in compliance.
    - (ii) For catalytic incinerators:
      - (I) Continuous records of the temperature of the gas stream both upstream and downstream of the incinerator;
      - (II) Records of all 3-hour periods of operation for which the average temperature measured before the catalyst bed is more than 28°C (50°F) below the gas stream temperature measured before the catalyst bed during the most recent determination of destruction efficiency of the catalytic incinerator that demonstrated that the facility was in compliance; and
      - (III) Records of all 3-hour periods for which the average temperature difference across the catalyst bed is less than 80 percent of the temperature difference measured during the most recent determination of the destruction efficiency of the catalytic incinerator that demonstrated that the facility was in compliance.
    - (iii) For carbon adsorbers, all 3-hour periods of operation during which the average VOC concentration or reading of organics in the exhaust gases is more than 20 percent greater than the average exhaust gas concentration or reading measured by the organics monitoring device during the most recent determination of the removal efficiency of the carbon adsorber that demonstrated that the facility was in compliance. This specification applies only to carbon adsorbers for which stack emission testing is required to demonstrate compliance with a standard of this chapter.
  2. A log of operating time for the capture system, control device, monitoring equipment, and the associated source; and
  3. A maintenance log for the capture system, control device, and monitoring equipment detailing all routine and non-routine maintenance performed including dates and duration of any outages.
- (4) Provisions of this rule apply only to sources identified as subject to those specific provisions of this rule by other rules of this chapter.

**Authority:** T.C.A. §§ 68-201-105 and 4-5-202. **Administrative History:** Original rule filed May 15, 1979; effective July 10, 1979. Amendment filed December 8, 1981; effective January 22, 1982.

(Rule 1200-03-18-.04, continued)

*Amendment filed January 31, 1983; effective March 2, 1983. Amendment filed September 22, 1988; effective November 6, 1988. Amendment filed May 17, 1990; effective July 1, 1990. Repeal filed April 23, 1992; effective June 7, 1992. New rule filed March 8, 1993; effective April 22, 1993. Amendment filed July 27, 1995; effective October 9, 1995. Amendment filed May 16, 1997; effective July 30, 1997.*

#### **1200-03-18-.05 RESERVED.**

**Authority:** T.C.A. §§ 4-5-202 and 68-201-105. **Administrative History:** Original rule filed May 15, 1979; effective July 10, 1979. Amendment filed December 8, 1981; effective January 22, 1982. Amendment filed January 31, 1983; effective March 2, 1983. Amendment filed May 17, 1990; effective July 1, 1990. Amendment filed April 23, 1992; effective June 7, 1992. Repeal filed March 8, 1993; effective April 22, 1993.

#### **1200-03-18-.06 HANDLING, STORAGE, USE, AND DISPOSAL OF VOLATILE ORGANIC COMPOUNDS (VOC'S).**

- (1) Applicability of this rule is as follows:
  - (a) This rule applies to all facilities in Davidson, Rutherford, Shelby, Sumner, Williamson, or Wilson County which contains any source which is subject to standards and requirements in Rules 1200-03-18-.11 through .21 and .24 through .79 of this chapter other than only those requirements for demonstration of exemption or for maintenance of records to document exemption is achieved, for example, a threshold of material use or VOC emission per unit of time has not been exceeded.
  - (b) This rule does not apply to:
    1. Any VOC or material containing VOC emitted in compliance with any other VOC standard under this chapter;
    2. Waste paint (sludge) handling systems, water treatment systems, and other similar operations at coating and printing facilities using complying coatings and/or inks; and
    3. Sources for which the applicable requirements in Rules 1200-03-18-.11 through .21 and .24 through .79 are only for demonstration of exemption or for maintenance of records to document exemption is achieved, for example, a threshold of material use or VOC emission per unit of time has not been exceeded.
- (2) "Minimum reasonably attainable emissions" is the minimum quantity of VOC's which is emitted when utilizing all reasonable techniques for controlling evaporation during handling of materials for storage and disposal. Prevention of any evaporation of VOC's from storage and disposal techniques is considered minimum reasonably attainable.
- (3) Standards as follow apply:
  - (a) No owner or operator of a source subject to this rule may cause, allow, or permit the disposal of more than 5 kilograms (kg) (11 pounds [lb]) of any volatile organic compound (VOC), or of any materials containing more than 5 kg (11 lb) of any VOC's, in any 1 day in a manner that would permit the evaporation from the facility of that VOC into the ambient air in excess of the minimum reasonably attainable.
  - (b) No owner or operator of a source subject to this rule shall use open containers for the storage or disposal of materials impregnated with VOC's that are used for surface

(Rule 1200-03-18-.06, continued)

- preparation, cleanup, coating removal, or facility or equipment cleaning or maintenance.
- (c) No owner or operator of a source subject to this rule shall store in open containers spent or fresh VOC to be used for surface preparation, cleanup, coating removal, or facility or equipment cleaning or maintenance except as otherwise provided for in this rule, such as in Subparagraph (d) of this paragraph.
  - (d) No owner or operator of a source subject to this rule shall use VOC for the cleanup of tools and process equipment, such as spray equipment, unless equipment is used to collect the cleaning compounds and to reasonably minimize their evaporation to the atmosphere.
  - (e) The owner or operator of a source subject to this rule and utilizing all reasonable techniques for controlling evaporation during handling, storage, use, and disposal of materials shall be considered to have achieved the minimum reasonably attainable VOC emissions required in Subparagraph (a) of this paragraph and to have reasonably minimized VOC emissions as required in Subparagraph (d) of this paragraph. Of course, prevention of any evaporation of VOC's from handling, storage, use, and disposal shall be considered achievement of minimum reasonably attainable and to reasonably minimize emissions. Such prevention of any evaporation shall be accepted as a method of achieving compliance with the requirements of Subparagraph (a) and (d) of this paragraph.
- (4) {Reserved}
  - (5) {Reserved}
  - (6) By July 1, 1996, the owner or operator of an existing source as of August 11, 1996, and subject to this rule shall submit to the Technical Secretary a plan acceptable to the Technical Secretary specifying the methods that will be implemented to achieve compliance with the requirements of Subparagraph (3)(a) and (d) of this rule, along with details of records to be kept demonstrating compliance is maintained.
  - (7) With respect to compliance certification, initiation of recordkeeping and reporting, and completion of control system compliance testing of a source, the owner or operator of that source shall comply with the requirements of Rule 1200-03-18-.04 of this chapter, except that the applicable date for initial compliance and certification and performance testing shall be November 15, 1996 rather than April 22, 1994. Records demonstrating compliance with the requirements of Paragraph (3) of this rule shall be maintained for a minimum of 3 years and shall be made available to the Technical Secretary upon request.
  - (8) With respect to petitioning for a source-specific compliance schedule according to and as provided for in Rule 1200-03-18-.07 of this chapter, the owner or operator of an existing source as of August 11, 1996, shall insure the petition is received by the Technical Secretary no later than July 1 1996, rather than October 22, 1993.
  - (9) For any source which is subject to any Rule 1200-03-18-.11 through .21 or .24 through .79 of this chapter and which handles, stores, uses, or disposes of volatile organic compounds, the standards and requirements of that rule with respect to handling, storage, use, or disposal shall take precedence over standards and requirements in this Rule 1200-03-18-.06 with respect to handling, storage, use, and disposal.

**Authority:** T.C.A. §§ 4-5-202, et seq. and 68-201-105. **Administrative History:** Original rule certified July 10, 1979; effective July 10, 1979. Amendment filed April 23, 1992; effective June 7, 1992. Repeal

(Rule 1200-03-18-.06, continued)

*and new rule filed March 8, 1993; effective April 22, 1993. Amendment filed May 31, 1996; effective August 11, 1996. Amendment filed May 16, 1997; effective July 30, 1997.*

**1200-03-18-.07 SOURCE-SPECIFIC COMPLIANCE SCHEDULES.**

- (1) The owner or operator of an existing source or a source having a State or local agency's construction permit before April 22, 1993, and subject to a standard in this chapter may petition for a source-specific compliance schedule differing from the schedules specified in other rules in this chapter according to the criteria as follow:
  - (a) One or more of the following conditions are satisfied:
    1. The facility demonstrates that it is physically impossible for the source in question to comply with the dates in the categorical schedule;
    2. That, by allowing additional time, innovative technology will be applied and the reductions to be achieved will be significantly greater than that from the applicable emission standard. That the facility agrees that this revised value will be contained on the permit as a condition of source operation;
    3. (Reserved); or
    4. The facility in question is a part of a statewide or multistate program to prioritize the sequence of installing controls at a number of similar sources owned or controlled by the same company, and the overall compliance program is as expeditious as practicable.
  - (b) Source-specific compliance schedules approved under this rule must propose to achieve final compliance with the specified emission standard as expeditiously as possible, and contain the increments of progress listed below:
    1. Date control plan will be submitted,
    2. Date contract will be awarded,
    3. Date initial construction will commence,
    4. Date construction will be completed, and
    5. Date final compliance will be achieved.
  - (c) Source-specific compliance schedules approved under this rule will be subjected to a public hearing and incorporated as a revision to the State Implementation Plan. The facility requesting such source-specific compliance schedule shall be responsible for all costs associated with the required legal notices.
  - (d) No source-specific compliance schedule will be granted if such a revised schedule will interfere with reasonable further progress in nonattainment areas.
  - (e) The petition for the source-specific compliance schedule must be received by the Technical Secretary in the Nashville office prior to the first date contained in the compliance schedule specified for the source in other rules of this chapter or October 22, 1993, whichever is earlier.



(Rule 1200-03-18-.07, continued)

- (2) For any source, the provisions of this rule may be availed of only for achieving compliance with a standard or requirement specified in this chapter which the source was not subject to before April 22, 1993.

**Authority:** T.C.A. §§ 4-5-202 and 68-201-105. **Administrative History:** Original rule filed May 15, 1979; effective July 10, 1979. Amendment filed July 21, 1980; effective September 8, 1980. Amendment filed April 23, 1992; effective June 7, 1992. Repeal and new rule filed March 8, 1993; effective April 22, 1993.

#### **1200-03-18-.08 THROUGH 1200-03-18-.10 RESERVED.**

**Authority:** T.C.A. §§ 4-5-202 and 68-201-105. **Administrative History:** Original rule filed May 15, 1979; effective July 10, 1979. Repeal and new rule filed August 26, 1980; effective October 10, 1980. Amendment filed April 23, 1992; effective June 7, 1992. Repeal and new rule filed March 8, 1993; effective April 22, 1993.

#### **1200-03-18-.11 AUTOMOBILE AND LIGHT-DUTY TRUCK COATING OPERATIONS.**

- (1) Applicability of this rule is as follows:
  - (a) This rule applies to operations in Davidson, Hamilton, Knox, Rutherford, Shelby, Sumner, Williamson, and Wilson Counties.
  - (b) This rule applies to the following coating operations in an automobile or light-duty truck assembly plant: each prime coat operation, each electrodeposition (EDP) prime coat operation, each primer surfacer operation, each topcoat operation, and each final repair operation.
  - (c) Antichip coatings, as applied to automobile and light-duty truck components such as, but not limited to, rocker panels, the bottom edge of doors and fenders, and the leading edge of the hood or roof, are considered primer surfacers.
  - (d) Application to metal parts of underbody antichip coatings (e.g., underbody plastisol) and coatings other than prime, primer surfacer, topcoat, and final repair shall be subject to the requirements of Rule .20 of this chapter (Coating of Miscellaneous Metal Parts).
  - (e) The requirements in Paragraph (3) of this rule do not apply to automobile and light-duty truck assembly plants whose plant-wide, actual emissions without control devices are less than 6.8 kilograms (kg) (15 pounds [lb]) of volatile organic compounds (VOC's) per day.
- (2) For the purpose of this rule, the following definitions apply:
  - (a) "Application area" means the area where a coating is applied by dipping or spraying.
  - (b) "Automobile and light-duty truck body" means the exterior and interior surfaces of an automobile or light-duty truck including, but not limited to, hoods, fenders, cargo boxes, doors, grill opening panels, engine compartment, all or portions of the passenger compartment, and trunk interior.
  - (c) "Electrodeposition (EDP)" means a method of applying a prime coat by which the automobile or light-duty truck body is submerged in a tank filled with coating material and an electrical field is used to effect the deposition of the coating material on the body.

(Rule 1200-03-18-.11, continued)

- (d) “Final repair operation” means the application area(s), flashoff area(s), and oven(s) used to apply and dry or cure coatings that are used to repair topcoat on fully assembled automobile or light-duty truck bodies from a single assembly line.
- (e) “Prime coat operation” means the application area(s), flashoff area(s), and oven(s) that are used to apply and dry or cure the prime coat on components of automobile and light-duty truck bodies on a single assembly line.
- (f) “Primer surfacer operation” means the application area(s), flashoff area(s), and oven(s) that are used to apply and dry or cure primer surfacer between the prime coat and the topcoat operations on components of automobile and light-duty truck bodies on a single assembly line. The primer surfacer coat is also referred to as the “guidecoat”.
- (g) “Solids turnover ratio ( $R_T$ )” means the ratio of total volume of coating solids that is added to the EDP system in a calendar month divided by the total volume design capacity of the EDP system.
- (h) “Topcoat operation” means the application area(s), flashoff area(s), and oven(s) used to apply and dry or cure topcoat on components of automobile and light-duty truck bodies on a single assembly line.
- (i) “Topcoat protocol” means the EPA document “Protocol for Determining the Daily VOC Emission Rate of Automobile and Light-Duty Truck Topcoat Operations,” EPA 450/3-88-018, December 1988, and as revised to include procedures for testing VOC emissions from primer surfacer operations and a procedure for calculating credit for spray booth control.
- (j) “Volume design capacity” means for the EDP system the total liquid volume that is contained in the EDP system (tanks, pumps, recirculating lines, filters, etc.) at the system’s designed liquid operating level. The EDP system volume design capacity is designated  $L_E$ .
- (3) Standards as follow apply:
- (a) No owner or operator of an automobile or light-duty truck prime coat, EDP prime coat, or final repair operation subject to this rule shall cause or allow the application of any coating on that operation with VOC content, as applied, that exceeds the emission limits as follow:
1. 0.14 kilograms per liter (kg/L) (1.2 pounds per gallon [lb/gal]) of coating, excluding water and/or exempt compounds, as applied, from any prime coat operation.
  2. 0.58 kg/L (4.8 lb/gal) of coating, excluding water and/or exempt compounds, as applied, from any final repair operation.
  3. 0.17 kg/L (1.4 lb/gal) of coating solids from any EDP prime coat operation when the solids turnover ratio ( $R_T$ ) is 0.16 or greater.  $R_T$  shall be calculated as follows:
- $$R_T = \frac{T_V}{L_E}$$
- where:

(Rule 1200-03-18-.11, continued)

$T_V$  = total volume of coating solids that is added to the EDP system in a calendar month (liters); and

$L_E$  = volume design capacity of the EDP system (liters).

4.  $0.17 \times 350 (0.160 - R_T)$  kg/L ( $1.4 \times 350 (0.160 - R_T)$  lb/gal) of coating solids from any EDP prime coat operation when  $R_T$  is greater than or equal to 0.040 and less than 0.160.
  5. When  $R_T$  is less than 0.040 for any EDP prime coat operation, there is no emission limit. When  $R_T$  is less than 0.040, the owner or operator shall comply with the certification, recordkeeping, and reporting requirements in Subparagraph (8)(e) of this rule.
- (b) For topcoat and primer surfacer operations:
1. No owner or operator of an automobile or light-duty truck topcoat operation or primer surfacer operation subject to this rule may cause or allow on any day emissions which exceed 1.8 kg/L (15.1 lb/gal) of solids deposited, or
  2. In the alternative, no owner or operator of an automobile or light-duty truck topcoat or primer surfacer operation shall cause or allow the application of any topcoat or primer surfacer on that operation with VOC content in excess of 0.34 kilograms per liter (kg/L) (2.8 pounds per gallon [lb/gal]) of coating, excluding water and/or exempt compounds, as applied.
- (c) As an alternative to compliance with the emission limits in Parts (3)(a)1 and 2 of this rule for prime coat and final repair operations, respectively, and Subparagraph (3)(b) of this rule for primer surfacer operations, an owner or operator may meet the requirements of Paragraph (4) or (5) of this rule.
- (4) No owner or operator subject to this rule shall apply coatings in any nonelectrodeposition prime coat, final repair or primer surfacer operation, during any day, whose weighted average VOC content exceeds the applicable emission limits in Parts (3)(a)1 and 2 and Subparagraph (3)(b) of this rule.
- (5) Control device requirements as follow apply:
- (a) An owner or operator subject to this rule shall comply with the applicable emission limits for any prime coat, final repair, or primer surfacer operation by:
    1. Installing and operating a capture system and a control device on that operation;
    2. Determining for each day the overall emission reduction efficiency needed to demonstrate compliance. The overall emission reduction needed is the lesser of the value calculated according to the procedure in this chapter or 95 percent; and
    3. Demonstrating each day that the overall emission reduction efficiency achieved is greater than or equal to the overall emission reduction efficiency required.
  - (b) An owner or operator subject to this rule shall ensure that:

(Rule 1200-03-18-.11, continued)

1. A capture system and control device are operated at all times the coating operation is in use, and the owner or operator demonstrates compliance with this rule through the applicable coating analysis and capture system and control device efficiency test methods specified in this chapter; and
  2. The control device is equipped with the applicable monitoring equipment specified in this chapter, and the monitoring equipment is installed, calibrated, operated, and maintained according to the vendor's specifications at all times the control device is in use.
- (6) The following compliance procedures for EDP prime coat operations apply:
- (a) For any EDP prime coat operation that does not comply with the emission limit in Part (3)(a)3 or 4 of this rule by using a capture system and control device to reduce emissions, the owner or operator shall use the procedures in 40 C.F.R. 60.393(c)(1) as of July 1, 1991, to determine compliance.
  - (b) The owner or operator shall use the procedures in 40 C.F.R. 60.393(c)(2) as of July 1, 1991, to determine compliance if a capture system and a control device that destroys VOC are used to comply with the emission limit in Part (3)(a)3 or 4 of this rule.
  - (c) The owner or operator shall use the procedures in 40 C.F.R. 60.393(c)(3) as of July 1, 1991, to determine compliance if a capture system and a control device that recovers the VOC are used to comply with the emission limit in Part (3)(a)3 or 4 of this rule.
- (7) (Reserved)
- (8) The following recordkeeping and reporting requirements for prime coat and final repair operations apply:
- (a) through (d) (Reserved)
  - (e) An owner or operator of an automobile or light-duty truck EDP prime coat operation subject to this rule and complying with the requirements in Part (3)(a)3 or 4 of this rule shall:
    1. By April 22, 1994, or upon startup of a new EDP prime coat operation, certify to the Technical Secretary that the coating line or operation is in compliance with the requirements in Parts (3)(a)3 or 4 of this rule. Such certification shall include:
      - (i) The name and location of the facility;
      - (ii) The address and telephone number of the person responsible for the facility;
      - (iii) Identification of subject sources; and
      - (iv) A copy of the calculations performed to determine  $R_T$  and the calculations performed pursuant to Paragraph (6) of this rule to demonstrate compliance for the EDP prime coat operation for the month prior to submittal of the certification.
    2. On and after April 22, 1994, or on and after the initial startup date of a new EDP prime coat operation, collect and record the following information for each EDP prime coat operation. These records shall be maintained at the facility for at

(Rule 1200-03-18-.11, continued)

least 3 years and shall be made available to the Technical Secretary upon request:

- (i) For each month, the total volume of coating solids that is added to the EDP system;
  - (ii) For each month, calculation of  $R_T$  using the equation in Part (3)(a)3 of this rule; and
  - (iii) For each month, the calculations used in the compliance determinations specified in Paragraph (6) of this rule.
3. On and after April 22, 1994, notify the Technical Secretary in the following instances:
- (i) Any record showing noncompliance with the appropriate emission limit for the EDP prime coat operation; and
  - (ii) At least 30 calendar days before changing the method of compliance from one of the procedures in Paragraph (6) of this rule to another of the procedures in Paragraph (6), the owner or operator shall comply with the certification requirements in Part (8)(e)1 of this rule.
- (9) The following recordkeeping and reporting requirements for topcoat and primer surfacer operations apply:
- (a) An owner or operator of an automobile or light-duty truck coating operation subject to this rule and complying with Subparagraph (3)(b) of this rule shall comply with the following requirements:
    1. At least 180 days prior to the initial compliance date, the owner or operator of a coating operation subject to the topcoat and primer surfacer limit shall have submitted to the Technical Secretary a detailed proposal specifying the method of demonstrating how the compliance test will be conducted according to the topcoat protocol.
    2. The proposal shall include a comprehensive plan (including a rationale) for determining the transfer efficiency at each booth through the use of in-plant or pilot testing; the selection of coatings to be tested (for the purpose of determining transfer efficiency) including the rationale for coating groupings; and a method for tracking coating usage during the transfer efficiency test.
    3. Upon approval by the Technical Secretary, the owner or operator may proceed with the compliance demonstration.
  - (b) The owner or operator shall maintain at the source for a period of 3 years or until a new test is performed all test results, data, and calculations used to determine VOC emissions from each topcoat and each primer surfacer operation according to the topcoat protocol.
  - (c) If control devices are used to control emissions from an automobile or light-duty truck topcoat or primer surfacer operation, the owner or operator shall maintain records according to Parts .03(5)(b)6 through 11 of this chapter.

(Rule 1200-03-18-.11, continued)

- (d) Any instance of noncompliance with the emission limit in Subparagraph (3)(b) shall be reported to the Technical Secretary within 30 calendar days.

**Authority:** T.C.A. §§ 4-5-202 and 68-201-105. **Administrative History:** Original rule filed May 15, 1979; effective July 10, 1979. Amendment filed April 23, 1992; effective June 7, 1992. Repeal and new rule filed March 8, 1993; effective April 22, 1993.

#### 1200-03-18-.12 CAN COATING.

- (1) Applicability of this rule is as follows:
- (a) This rule applies to any can coating line used to apply the following coatings: sheet base coat, exterior base coat, interior body spray coat, overvarnish, side seam spray coat, exterior end coat, and end sealing compound coat.
  - (b) The emission limits of this rule do not apply to can coating lines within any facility:
    - 1. In Davidson, Rutherford, Sumner, Williamson, or Wilson County whose actual emissions without control devices from all can coating lines within the facility are less than 6.8 kilograms (kg) (15 pounds [lb]) of volatile organic compounds (VOC's) per day or whose maximum theoretical emissions from all can coating lines within the facility are less than 10 tons of volatile organic compounds (VOC's) per year;
    - 2. In Hamilton or Shelby County whose potential VOC emissions from all can coating lines within the facility are less than 25 tons of volatile organic compounds (VOC's) per year; or
    - 3. In any other county whose potential VOC emissions from all can coating lines within the facility are less than 100 tons of volatile organic compounds (VOC's) per year.
  - (c) An owner or operator of a facility which achieves exemption by having emissions below the 6.8 kg (15 lb)-per-day applicability threshold in Part (b)1 of this paragraph shall comply with the certification, recordkeeping, and reporting requirements of Paragraph .03(2) of this chapter.
- (2) For the purpose of this rule, the following definitions apply:
- (a) "Can" means any cylindrical single walled container, with or without a top, cover, spout, and/or handle, that is manufactured from metal sheets thinner than 29 gauge (0.0141 inches [in]) and into which solid or liquid materials are packaged.
  - (b) "Can coating line" means a coating line in which any coating is applied onto the surface of cans or can components.
  - (c) "End sealing compound coat" means a compound applied onto can ends that functions as a gasket when the end is assembled onto the can.
  - (d) "Exterior base coat" means a coating applied to the exterior of a two-piece can body to provide protection to the metal or to provide background for any lithographic or printing operation.
  - (e) "Interior body spray coat" means a coating applied to the interior of the can body to provide a protective film between the product and the can.

(Rule 1200-03-18-.12, continued)

- (f) "Overvarnish" means a coating applied directly over a design coating or directly over ink to reduce the coefficient of friction, to provide gloss, and to protect the finish against abrasion and corrosion.
  - (g) "Sheet basecoat" means a coating applied to metal in sheet form to serve as either the exterior or interior of two-piece or three-piece can bodies or can ends.
  - (h) "Side-seam spray coat" means a coating applies to the seam of a three-piece can.
  - (i) "Three-piece can" means a can that is made by rolling a rectangular sheet of metal into a cylinder that is soldered, welded, or cemented at the seam and attaching two ends.
  - (j) "Two-piece can" means a can whose body and one end are formed from a shallow cup and to which the other end is later attached.
  - (k) "Two-piece can exterior end coat" means a coating applied by roller coating or spraying to the exterior end of a two-piece can to provide protection to the metal.
- (3) Standards as follow apply:
- (a) No owner or operator of a can coating line subject to this rule shall cause or allow the application of any coating on that line with VOC content, as applied, that exceeds the following limits:

|  | <u>kg/L</u> | <u>lb/gal<sup>a</sup></u> |
|--|-------------|---------------------------|
| 1. Sheet basecoat and sheet overvarnish              | 0.34        | 2.8                       |
| 2. Exterior basecoat and overvarnish (two-piece can) | 0.34        | 2.8                       |
| 3. Interior body spray coat                          | 0.51        | 4.2                       |
| 4. Two-piece can exterior end coat                   | 0.51        | 4.2                       |
| 5. Side seam spray coat                              | 0.66        | 5.5                       |
| 6. End sealing compound coat                         | 0.44        | 3.7                       |

<sup>a</sup>VOC content values are expressed in units of mass of VOC (kg, lb) per volume of coating (liter [L], gallon [gal]), excluding water and/or exempt compounds, as applied.

- (b) As an alternative to compliance with the emission limits in Subparagraph (a) of this paragraph, an owner or operator of a can coating line may comply with the requirements of this rule by meeting the requirements of Paragraph (4) or (5) of this rule.
- (4) No owner or operator of a can coating line subject to this rule shall apply coatings on that line, during any day, whose weighted average VOC content exceeds the emission limits in Subparagraph (3)(a) of this rule.
- (5) Control device requirements as follow apply:

(Rule 1200-03-18-.12, continued)

- (a) An owner or operator of a can coating line subject to this rule may comply with Subparagraph (3)(b) of this rule by:
  - 1. Installing and operating a capture system and a control device on that line;
  - 2. Determining for each day the overall emission reduction efficiency needed to demonstrate compliance. The overall emission reduction needed is the lesser of the value calculated according to the procedure in this chapter or 95 percent; and
  - 3. Demonstrating each day that the overall emission reduction efficiency achieved is greater than or equal to the overall emission reduction efficiency required.
- (b) An owner or operator of a can coating line subject to this rule shall ensure that:
  - 1. A capture system and control device are operated at all times that the line is in operation, and the owner or operator demonstrates compliance with this rule through the applicable coating analysis and capture system and control device efficiency test methods specified in this chapter; and
  - 2. The control device is equipped with the applicable monitoring equipment specified in this chapter, and the monitoring equipment is installed, calibrated, operated, and maintained according to the vendor's specifications at all times the control device is in use.

**Authority:** T.C.A. §§ 4-5-202 and 68-201-105. **Administrative History:** Original rule filed May 15, 1979; effective July 10, 1979. Amendment filed June 15, 1981; effective July 31, 1981. Amendment filed April 23, 1992; effective June 7, 1992. Repeal and new rule filed March 8, 1993; effective April 22, 1993.

#### 1200-03-18-.13 COIL COATING.

- (1) Applicability of this rule is as follows:
  - (a) This rule applies to any coil coating operation.
  - (b) This rule does not apply to any coil coating operation within a facility:
    - 1. In Davidson, Rutherford, Sumner, Williamson, or Wilson County whose actual emissions without control devices from all coil coating operations within the facility are less than 6.8 kilograms (kg) (15 pounds [lb]) of volatile organic compounds (VOC's) per day or whose maximum theoretical emissions from all coil coating operations within the facility are less than 10 tons of volatile organic compounds (VOC's) per year;
    - 2. In Hamilton or Shelby County whose potential VOC emissions from all coil coating operations within the facility are less than 25 tons of volatile organic compounds (VOC's) per year; or
    - 3. In any other county whose potential VOC emissions from all coil coating operations within the facility are less than 100 tons of volatile organic compounds (VOC's) per year.
- (2) For the purpose of this rule, the following definitions apply:
  - (a) "Coil" means any continuous metal strip with thickness of 0.15 millimeter (mm) (0.006 inch [in]) or more that is packaged in a roll or coil.



(Rule 1200-03-18-.13, continued)

- (b) "Coil coating line" means a web coating line where coating is applied to coil.
  - (c) "Coil coating operation" means a coating application station and its associated flashoff area, drying area, and/or drying oven wherein coating is applied and dried or cured on a coil coating line. A coil coating line may include more than one coil coating operation.
- (3) Standards as follow apply:
- (a) No owner or operator of a coil operation subject to this rule shall cause or allow the application of any coating on that operation with VOC content in excess of 0.31 kilograms per liter (kg/L) (2.6 pounds per gallon [lb/gal]) of coating, excluding water and/or exempt compounds, as applied.
  - (b) As an alternative to compliance with the emission limit in Subparagraph (a) of this paragraph, an owner or operator of a coil coating operation may meet the requirements of Paragraph (4) or (5) of this rule.
- (4) No owner or operator of a coil coating operation subject to this rule shall apply coatings on that operation, during any day, whose weighted average VOC content exceeds the emission limit in Subparagraph (3)(a) of this rule.
- (5) Control device requirements as follow apply:
- (a) An owner or operator of a coil coating operation subject to this rule may comply with this rule by:
    - 1. Installing and operating a capture system and a control device on that operation;
    - 2. Determining for each day the overall emission reduction efficiency needed to demonstrate compliance. The overall emission reduction needed is the lesser of the value calculated according to the procedure in this chapter or 95 percent; and
    - 3. Demonstrating each day that the overall emission reduction efficiency achieved is greater than or equal to the overall emission reduction efficiency required.
  - (b) An owner or operator of a coil coating operation subject to this rule shall ensure that:
    - 1. A capture system and control device are operated at all times the coating operation is in use, and the owner or operator demonstrates compliance with this rule through the applicable coating analysis and capture system and control device efficiency test methods specified in this chapter; and
    - 2. The control device is equipped with the applicable monitoring equipment specified in this chapter, and the monitoring equipment is installed, calibrated, operated, and maintained according to the vendor's specifications at all times the control device is in use.

**Authority:** T.C.A. §§ 4-5-202 and 68-201-105. **Administrative History:** Original rule filed May 15, 1979; effective July 10, 1979. Amendment filed April 23, 1992; effective June 7, 1992. Repeal and new rule filed March 8, 1993; effective April 22, 1993.

#### 1200-03-18-.14 PAPER AND RELATED COATING.

- (1) Applicability of this rule is as follows:
  - (a) This rule applies to any paper coating operation which is not part of a printing press.

(Rule 1200-03-18-.14, continued)

- (b) This rule does not apply to any paper coating operation within a facility:
  - 1. In Davidson, Rutherford, Sumner, Williamson, or Wilson County whose actual emissions without control devices from all paper coating operations within the facility are less than 6.8 kilograms (kg) (15 pounds [lb]) of volatile organic compounds (VOC's) per day or whose maximum theoretical emissions from all paper coating operations within the facility are less than 10 tons of volatile organic compounds (VOC's) per year;
  - 2. In Hamilton or Shelby County whose potential VOC emissions from all paper coating operations within the facility are less than 25 tons of volatile organic compounds (VOC's) per year; or
  - 3. In any other county whose potential VOC emissions from all paper coating operations within the facility are less than 100 tons of volatile organic compounds (VOC's) per year.
- (2) For the purpose of this rule, the following definitions apply:
  - (a) "Paper coating line" means a web coating line where coating is applied to paper and pressure sensitive tapes regardless of the substrate. Printing presses are not considered paper coating lines. Products produced on a paper coating line include, but are not limited to, adhesive tapes and labels, book covers, post cards, office copier paper, drafting paper, and pressure sensitive tapes. Paper coating lines include, but are not limited to, application by impregnation or saturation or by the use of roll, knife, or rotogravure coating. A paper coating line may include more than one paper coating operation.
  - (b) "Paper coating operation" means a coating application station and its associated flashoff area, drying area, and/or oven wherein coating is applied uniformly across the web and dried or cured on a paper coating line.
- (3) Standards as follow apply:
  - (a) No owner or operator of a paper coating operation subject to this rule shall cause, allow, or permit the application of any coating on that operation with VOC content in excess of 0.35 kilograms per liter (kg/L) (2.9 pounds per gallon [lb/gal]) of coating, excluding water and/or exempt compounds, as applied.
  - (b) As an alternative to compliance with the emission limit in Subparagraph (a) of this paragraph, an owner or operator of a paper coating operation subject to this rule may meet the requirements of Paragraph (4) or (5) of this rule.
- (4) No owner or operator of a paper coating operation subject to this rule shall apply coatings on that operation, during any day, whose weighted average VOC content exceeds the emission limit in Subparagraph (3)(a) of this rule.
- (5) Control device requirements as follow apply:
  - (a) An owner or operator of a paper coating operation subject to this rule may comply with this rule by:
    - 1. Installing and operating a capture system and a control device on that operation;

(Rule 1200-03-18-.14, continued)

2. Determining for each day the overall emission reduction efficiency needed to demonstrate compliance. The overall emission reduction needed is the lesser of the value calculated according to the procedure in this chapter or 95 percent; and
  3. Demonstrating each day that the overall emission reduction efficiency achieved is greater than or equal to the overall emission reduction efficiency required.
- (b) An owner or operator of a paper coating operation subject to this rule shall ensure that:
1. A capture system and control device are operated at all times the coating operation is in use, and the owner or operator demonstrates compliance with this rule through the applicable coating analysis and capture system and control device efficiency test methods specified in this chapter; and
  2. The control device is equipped with the applicable monitoring equipment specified in this chapter, and the monitoring equipment is installed, calibrated, operated, and maintained according to the vendor's specifications at all times the control device is in use.

**Authority:** T.C.A. §§ 4-5-202 and 68-201-105. **Administrative History:** Original rule filed May 15, 1979; effective July 10, 1979. Amendment filed April 23, 1992; effective June 7, 1992. Repeal and new rule filed March 8, 1993; effective April 22, 1993.

#### 1200-03-18-.15 FABRIC COATING.

- (1) Applicability of this rule is as follows:
- (a) This rule applies to any fabric coating operation.
  - (b) This rule does not apply to any fabric coating operation within a facility:
    1. In Davidson, Rutherford, Sumner, Williamson, or Wilson County whose actual emissions without control devices from all fabric coating operations within the facility are less than 6.8 kilograms (kg) (15 pounds [lb]) of volatile organic compounds (VOC's) per day or whose maximum theoretical emissions from all fabric coating operations within the facility are less than 10 tons of volatile organic compounds (VOC's) per year;
    2. In Hamilton or Shelby County whose potential VOC emissions from all fabric coating operations within the facility are less than 25 tons of volatile organic compounds (VOC's) per year; or
    3. In any other county whose potential VOC emissions from all fabric coating operations within the facility are less than 100 tons of volatile organic compounds (VOC's) per year.
- (2) For the purpose of this rule, the following definitions apply:
- (a) "Fabric coating line" means a web coating line where coating is applied to fabric. A fabric printing line is not considered a fabric coating line.
  - (b) "Fabric coating operation" means a coating application station and its associated flashoff area, drying area, and/or oven wherein coating is applied and dried or cured in a fabric coating line. A fabric coating line may include more than one fabric coating operation.

(Rule 1200-03-18-.15, continued)

- (3) Standards as follow apply:
- (a) No owner or operator of a fabric coating operation subject to this rule shall cause or allow the application of any coating on that operation with VOC content in excess of 0.35 kilogram per liter (kg/L) (2.9 pounds per gallon [lb/gal]) of coating, excluding water and/or exempt compounds, as applied.
  - (b) As an alternative to compliance with the emission limit in Subparagraph (a) of this paragraph, an owner or operator of a fabric coating operation subject to this rule may meet the requirements of Paragraph (4) or (5) of this rule.
- (4) No owner or operator of a fabric coating operation subject to this rule shall apply coatings on that operation, during any day, whose weighted average VOC content exceeds the emission limit in Subparagraph (3)(a) of this rule.
- (5) Control device requirements as follow apply:
- (a) An owner or operator of a fabric coating operation subject to this rule may comply with this rule by:
    - 1. Installing and operating a capture system and a control device on that operation;
    - 2. Determining for each day the overall emission reduction efficiency needed to demonstrate compliance. The overall emission reduction needed is the lesser of the value calculated according to the procedure in this chapter or 95 percent; and
    - 3. Demonstrating each day that the overall emission reduction efficiency achieved is greater than or equal to the overall emission reduction efficiency required.
  - (b) An owner or operator of a fabric coating operation subject to this rule shall ensure that:
    - 1. A capture system and control device are operated at all times the coating operation is in use, and the owner or operator demonstrates compliance with this rule through the applicable coating analysis and capture system and control device efficiency test methods specified in this chapter; and
    - 2. The control device is equipped with the applicable monitoring equipment specified in this chapter, and the monitoring equipment is installed, calibrated, operated, and maintained according to the vendor's specifications at all times the control device is in use.

**Authority:** T.C.A. §§ 4-5-202 and 68-201-105. **Administrative History:** Original rule filed May 15, 1992; effective July 10, 1979. Amendment filed April 23, 1992; effective June 7, 1992. Repeal and new rule filed March 8, 1993; effective April 22, 1993.

#### **1200-03-18-.16 VINYL COATING.**

- (1) Applicability of this rule is as follows:
- (a) This rule applies to any vinyl coating operation.
  - (b) This rule does not apply to:
    - 1. Application of vinyl plastisol to fabric to form the substrate that is subsequently coated; and

(Rule 1200-03-18-.16, continued)

2. Any vinyl coating line within a facility:
  - (i) In Davidson, Rutherford, Sumner, Williamson, or Wilson County whose actual emissions without control devices from all vinyl coating operations within the facility are less than 6.8 kilograms (kg) (15 pounds [lb]) of volatile organic compounds (VOC's) per day or whose maximum theoretical emissions from all vinyl coating operations within the facility are less than 10 tons of volatile organic compounds (VOC's) per year;
  - (ii) In Hamilton or Shelby County whose potential VOC emissions from all vinyl coating operations within the facility are less than 25 tons of volatile organic compounds (VOC's) per year; or
  - (iii) In any other county whose potential VOC emissions from all vinyl coating operations within the facility are less than 100 tons of volatile organic compounds (VOC's) per year.
- (2) For the purpose of this rule, "Vinyl coating line" means a web coating line where a decorative, functional, or protective coating is applied to a continuous web of vinyl or vinyl-coated fabric. Lines used for coating and/or printing on vinyl and coating and/or printing on urethane are considered vinyl coating lines.
- (3) Standards as follow apply:
  - (a) No owner or operator of a vinyl coating line subject to this rule shall cause or allow the application of any coating or ink on that line with VOC content in excess of 0.45 kilograms per liter (kg/L) (3.8 pounds per gallon [lb/gal]) of coating or ink, excluding water and/or exempt compounds, as applied.
  - (b) As an alternative to compliance with the emission limit in Subparagraph (a) of this paragraph, an owner or operator of a vinyl coating line subject to this rule may meet the requirements of Paragraph (4) or (5) of this rule.
- (4) No owner or operator of a vinyl coating line subject to this rule shall apply coatings or inks on any such line, during any day, whose weighted average VOC content exceeds the emission limit in Subparagraph (3)(a) of this rule.
- (5) Control device requirements as follow apply:
  - (a) An owner or operator of a vinyl coating line subject to this rule may comply with this rule by:
    1. Installing and operating a capture system and a control device on that line;
    2. Determining for each day the overall emission reduction efficiency needed to demonstrate compliance. The overall emission reduction needed is the lesser of the value calculated according to the procedure in this chapter or 95 percent; and
    3. Demonstrating each day that the overall emission reduction efficiency achieved is greater than or equal to the overall emission reduction efficiency required.
  - (b) An owner or operator of a vinyl coating line subject to this rule shall ensure that:
    1. A capture system and control device are operated at all times that the line is in operation, and the owner or operator demonstrates compliance with this rule

(Rule 1200-03-18-.16, continued)

through the applicable coating analysis and capture system and control device efficiency test methods specified in this chapter; and

2. The control device is equipped with the applicable monitoring equipment specified in this chapter, and the monitoring equipment is installed, calibrated, operated, and maintained according to the vendor's specifications at all times the control device is in use.

**Authority:** T.C.A. §§ 4-5-202 and 68-201-105. **Administrative History:** Original rule filed May 15, 1979; effective July 10, 1979. Amendment filed April 23, 1992; effective June 7, 1992. Repeal and new rule filed March 8, 1993; effective April 22, 1993.

#### 1200-03-18-.17 COATING OF METAL FURNITURE.

(1) Applicability of this rule is as follows:

- (a) This rule applies to any metal furniture coating line.
- (b) This rule does not apply to any metal furniture coating line within a facility:
  1. In Davidson, Rutherford, Sumner, Williamson, or Wilson County whose actual emissions without control devices from all metal furniture coating lines within the facility are less than 6.8 kilograms (kg) (15 pounds [lb]) of volatile organic compounds (VOC's) per day or whose maximum theoretical emissions from all metal furniture coating lines within the facility are less than 10 tons of volatile organic compounds (VOC's) per year;
  2. In Hamilton or Shelby County whose potential VOC emissions from all metal furniture coating lines within the facility are less than 25 tons of volatile organic compounds (VOC's) per year; or
  3. In any other county whose potential VOC emissions from all metal furniture coating lines within the facility are less than 100 tons of volatile organic compounds (VOC's) per year.

(2) For the purpose of this rule, the following definitions apply:

- (a) "Metal furniture" means any furniture piece made of metal or any metal part that will be assembled with other metal, wood, fabric, plastic, or glass parts to form a furniture piece including, but not limited to, tables, chairs, waste baskets, beds, desks, lockers, benches, shelving, file cabinets, and room dividers. This definition shall not apply to the coating of miscellaneous metal parts or products.
- (b) "Metal furniture coating line" means a coating line in which a protective, decorative, or functional coating is applied onto the surface of metal furniture.

(3) Standards as follow apply:

- (a) No owner or operator of a metal furniture coating operation line subject to this rule shall cause or allow the application of any coating on that line with VOC content in excess of 0.36 kilograms per liter (kg/L) (3.0 pounds per gallon [lb/gal]) of coating, excluding water and/or exempt compounds, as applied.
- (b) As an alternative to compliance with the emission limit in Subparagraph (a) of this paragraph, an owner or operator of a metal furniture coating line may meet the requirements of Paragraph (4) or (5) of this rule.

(Rule 1200-03-18-.17, continued)

- (4) No owner or operator of a metal furniture coating line subject to this rule shall apply coatings on that operation, during any day, whose weighted average VOC content exceeds the emission limit in Subparagraph (3)(a) of this rule.
- (5) Control device requirements as follow apply:
  - (a) An owner or operator of a metal furniture coating line subject to this rule may comply with this rule by:
    1. Installing and operating a capture system and a control device on that line;
    2. Determining for each day the overall emission reduction efficiency needed to demonstrate compliance. The overall emission reduction needed is the lesser of the value calculated according to the procedure in this chapter or 95 percent; and
    3. Demonstrating each day that the overall emission reduction efficiency achieved is greater than or equal to the overall emission reduction efficiency required.
  - (b) An owner or operator of a metal furniture coating line subject to this rule shall ensure that:
    1. A capture system and control device are operated at all times that the line is in operation, and the owner or operator demonstrates compliance with this rule through the applicable coating analysis and capture system and control device efficiency test methods specified in this chapter; and
    2. The control device is equipped with the applicable monitoring equipment specified in this chapter, and the monitoring equipment is installed, calibrated, operated, and maintained according to the vendor's specifications at all times the control device is in use.

**Authority:** T.C.A. §§ 4-5-202 and 68-201-105. **Administrative History:** Original rule filed May 15, 1979; effective July 10, 1979. Amendment filed April 23, 1992; effective June 7, 1992. Repeal and new rule filed March 8, 1993; effective April 22, 1993.

#### **1200-03-18-.18 COATING OF LARGE APPLIANCES.**

- (1) Applicability of this rule is as follows:
  - (a) This rule applies to any large appliance coating line.
  - (b) This rule does not apply to:
    1. The use of quick-drying lacquers for repair of scratches and nicks that occur during assembly, provided the volume of coating does not exceed 0.95 liter (L) (0.25 gallon [gal]) in any 8-hour period, and
    2. Any large appliance coating line within a facility:
      - (i) In Davidson, Rutherford, Sumner, Williamson, or Wilson County whose actual emissions without control devices from all large appliance coating lines within the facility are less than 6.8 kilograms (kg) (15 pounds [lb]) of volatile organic compounds (VOC's) per day or whose maximum theoretical emissions from all large appliance coating lines within the

(Rule 1200-03-18-.18, continued)

facility are less than 10 tons of volatile organic compounds (VOC's) per year;

- (ii) In Hamilton or Shelby County whose potential VOC emissions from all large appliance coating lines within the facility are less than 25 tons of volatile organic compounds (VOC's) per year; or
- (iii) In any other county whose potential VOC emissions from all large appliance coating lines within the facility are less than 100 tons of volatile organic compounds (VOC's) per year.

(2) For the purpose of this rule, the following definitions apply:

"Large appliance" means any residential or commercial washer, dryer, range, refrigerator, freezer, water heater, dishwasher, trash compactor, air conditioner, or other similar products under Standard Industrial Classification Code 363.

"Large appliance coating line" means a coating line in which any protective, decorative, or functional coating is put onto the surface of component metal parts (including, but not limited to, doors, cases, lids, panels, and interior parts) of large appliances.

(3) Standards as follow apply:

- (a) No owner or operator of a large appliance coating line subject to this rule shall cause or allow the application of any coating on that line with VOC content in excess of 0.34 kilograms per liter (kg/L) (2.8 pounds per gallon [lb]) of coating, excluding water and/or exempt compounds, as applied.
- (b) As an alternative to compliance with the emission limit in Subparagraph (a) of this paragraph, an owner or operator of a large appliance coating line, during any day, subject to this rule may meet the requirements of Paragraph (4) or (5) of this rule.

(4) No owner or operator of a large appliance coating line subject to this rule shall apply coatings on that line, during any day, whose weighted average VOC content exceeds the emission limit in Subparagraph (3)(a) of this rule.

(5) Control device requirements as follow apply:

- (a) An owner or operator of a large appliance coating line subject to this rule may comply with this rule by:
  - 1. Installing and operating a capture system and a control device on that line;
  - 2. Determining for each day the overall emission reduction efficiency needed to demonstrate compliance. The overall emission reduction needed is the lesser of the value calculated according to the procedure in this chapter or 95 percent; and
  - 3. Demonstrating each day that the overall emission reduction efficiency achieved is greater than or equal to the overall emission reduction efficiency required.
- (b) An owner or operator of a large appliance coating line subject to this rule shall ensure that:
  - 1. A capture system and control device are operated at all times that the line is in operation, and the owner or operator demonstrate compliance with this rule



(Rule 1200-03-18-.18, continued)

through the applicable coating analysis and capture system and control device efficiency test methods specified in this chapter; and

2. The control device is equipped with the applicable monitoring equipment specified in Subparagraph .83(2)(b) of this chapter, and the monitoring equipment is installed, calibrated, operated, and maintained according to the vendor's specifications at all times the control device is in use.

**Authority:** T.C.A. §§ 4-5-202 and 68-201-105. **Administrative History:** Original rule filed May 15, 1979; effective July 10, 1979. Amendment filed October 29, 1981; effective December 29, 1981. Amendment filed April 23, 1992; effective June 7, 1992. Repeal and new rule filed March 8, 1993; effective April 22, 1993.

#### **1200-03-18-.19 COATING OF MAGNET WIRE.**

- (1) Applicability of this rule is as follows:
  - (a) This rule applies to any magnet wire coating line.
  - (b) This rule does not apply to any magnet wire coating line within a facility:
    1. In Davidson, Rutherford, Sumner, Williamson, or Wilson County whose emissions without control devices from all magnet wire coating lines within the facility are less than 6.8 kilograms (kg) (15 pounds [lb]) of volatile organic compounds (VOC's) per day or whose maximum theoretical emissions from all magnet wire coating lines within the facility are less than 10 tons of volatile organic compounds (VOC's) per year;
    2. In Hamilton or Shelby County whose potential VOC emissions from all magnet wire coating lines within the facility are less than 25 tons of volatile organic compounds (VOC's) per year; or
    3. In any other county whose potential VOC emissions from all magnet wire coating lines within the facility are less than 100 tons of volatile organic compounds (VOC's) per year.
- (2) For the purpose of this rule, "Magnet wire coating line" means a coating line in which an electrically insulating varnish or enamel is applied onto the surface of wire for use in electrical machinery.
- (3) Standards as follow apply:
  - (a) No owner or operator of a magnet wire coating line subject to this rule shall cause or allow the use of any coating with VOC content in excess of 0.20 kilograms per liter (kg/L) (1.7 pounds per gallon [lb/gal]) of coating, excluding water and/or exempt compounds, as applied.
  - (b) As an alternative to compliance with the emission limit in Subparagraph (a) of this paragraph, an owner or operator of a magnet wire coating line subject to this rule may meet the requirements of Paragraph (4) or (5) of this rule.
- (4) No owner or operator of a magnet wire coating line subject to this rule shall apply coatings on that line, during any day, whose weighted average VOC content exceeds the emission limit in Subparagraph (3)(a) of this rule.
- (5) Control device requirements as follow apply:

(Rule 1200-03-18-.19, continued)

- (a) An owner or operator of a magnet wire coating line subject to this rule may comply with this rule by:
  - 1. Installing and operating a capture system and a control device on that line;
  - 2. Determining for each day the overall emission reduction efficiency needed to demonstrate compliance. The overall emission reduction needed is the lesser of the value calculated according to the procedure in this chapter or 95 percent; and
  - 3. Demonstrating each day that the overall emission reduction efficiency achieved is greater than or equal to the overall emission reduction efficiency required.
- (b) An owner or operator of a magnet wire coating line subject to this rule shall ensure that:
  - 1. A capture system and control device are operated at all times that the line is in operation, and the owner or operator demonstrates compliance with this rule through the applicable coating analysis and capture system and control device efficiency determination methods specified in this chapter, and;
  - 2. The control device is equipped with the applicable monitoring equipment specified in this chapter, and the monitoring equipment is installed, calibrated, operated, and maintained according to the vendor's specifications at all times the control device is in use.

**Authority:** T.C.A. §§ 4-5-202 and 68-201-105. **Administrative History:** Original rule filed May 15, 1979; effective July 10, 1979. Amendment filed October 29, 1981; effective December 14, 1981. Amendment filed April 23, 1992; effective June 7, 1992. Repeal and new rule filed March 8, 1993; effective April 22, 1993.

#### 1200-03-18-.20 COATING OF MISCELLANEOUS METAL PARTS.

- (1) Applicability of this rule is as follows:
  - (a) This rule applies to any miscellaneous metal parts and products coating line.
  - (b) This rule does not apply:
    - 1. To the coating of the following metal parts and products that are covered by other rules of this chapter:
      - (i) Automobiles and light-duty trucks;
      - (ii) Metal cans;
      - (iii) Flat metal sheets and strips in the form of rolls or coils;
      - (iv) Magnet wire for use in electrical machinery;
      - (v) Metal furniture; and
      - (vi) Large appliances.
    - 2. To the coating operations in the following:
      - (i) Coating the exterior of completely assembled aircraft;

(Rule 1200-03-18-.20, continued)

- (ii) Coating the exterior of major aircraft subassemblies, if approved as revisions to the State Implementation Plan;
  - (iii) Automobile and truck refinishing;
  - (iv) Customized top coating of automobiles and trucks, if production is less than 35 vehicles per day;
  - (v) Coating the exterior of completely assembled marine vessels;
  - (vi) Coating the exterior of major marine vessel subassemblies if approved as revisions to the state implementation plan; and
  - (vii) (Repealed)
3. With respect to the emission limits in this rule to any coating line within a facility:
- (i) In Davidson, Rutherford, Sumner, Williamson, or Wilson County whose actual emissions without control devices from all miscellaneous metal parts and products coating lines within the facility are less than 6.8 kilograms (kg) (15 pounds [lb]) of volatile organic compounds (VOC's) per day or whose maximum theoretical emissions from all miscellaneous metal parts and products coating lines within the facility are less than 10 tons of volatile organic compounds (VOC's) per year;
  - (ii) In Hamilton or Shelby County whose potential VOC emissions from all miscellaneous metal parts and products coating lines within the facility are less than 25 tons of volatile organic compounds (VOC's) per year; or
  - (iii) In any other county whose potential VOC emissions from all miscellaneous metal parts and products coating lines within the facility are less than 100 tons of volatile organic compounds (VOC's) per year.
- (c) In lieu of satisfying the standards and requirements of this rule, the owner or operator of a heavy-duty truck electrodeposition prime coat operation shall satisfy the standards and requirements of Rule .11 of this chapter for that operation.
- (2) For the purpose of this rule, the following definitions apply:
- (a) "Air-dried coating" means a coating that is dried by the use of air or forced warm air at temperatures up to 90°C (194°F).
  - (b) "Clear coating" means a coating that:
    - 1. Either lacks color and opacity or is transparent; and
    - 2. Uses the surface to which it is applied as a reflective base or undertone color.
  - (c) "Drum" means any cylindrical metal shipping container of 13- to 110-gallon capacity.
  - (d) "Extreme environmental conditions" means any of the following: the weather all of the time, temperatures frequently above 95°C (203°F), detergents, abrasive and scouring agents, solvents, corrosive atmospheres, or similar environmental conditions.

(Rule 1200-03-18-.20, continued)

- (e) "Extreme performance coatings" means coatings intended for exposure to extreme environmental conditions.
  - (f) "Heavy-duty truck touch-up" means air-dried coatings used to repair scratches and/or blemishes in the coating of newly manufactured heavy-duty trucks.
  - (g) "High performance architectural coating" means a coating:
    - 1. Applied to extruded aluminum architectural subsections intended for use on exteriors of buildings of more than one story;
    - 2. Satisfying the Architectural Aluminum Manufacturer's Association publication number AAMA 605.2-1980; and
    - 3. (Repealed).
  - (h) "Miscellaneous metal parts and products coating line" means a coating line in which a coating is applied to any miscellaneous metal parts and products.
  - (i) "Miscellaneous metal parts and products" means any metal part or metal product, even if attached to or combined with a nonmetal part or product. Miscellaneous metal parts and products include, but are not limited to:
    - 1. Large farm machinery (harvesting, fertilizing and planting machines, tractors, combines, etc.);
    - 2. Small farm machinery (lawn and garden tractors, lawn mowers, rototillers, etc.);
    - 3. Small appliances (fans, mixers, blenders, crock pots, dehumidifiers, vacuum cleaners, etc.);
    - 4. Commercial machinery (office equipment, computers and auxiliary equipment, typewriters, calculators, vending machines, etc.);
    - 5. Industrial machinery (pumps, compressors, conveyor components, fans, blowers, transformers, etc.);
    - 6. Fabricated metal products (metal covered doors, frames, etc.);
    - 7. Any other industrial category that coats metal parts or products under the Standard Industrial Classification Codes of Major Group 33 (primary metal industries), Major Group 34 (fabricated metal products), Major Group 35 (nonelectric machinery), Major Group 36 (electrical machinery), Major Group 37 (transportation equipment), Major Group 38 (miscellaneous instruments), and Major Group 39 (miscellaneous manufacturing industries); and
    - 8. Application of underbody antichip materials (e.g., underbody plastisol) and coating application operations other than prime, primer surface, topcoat, and final repair operations at automobile and light-duty truck assembly plants.
  - (j) "Pail" means any cylindrical metal shipping container of 1- to 12-gallon capacity and constructed of 29-gauge and heavier material.
  - (k) "Refinishing" means the repainting of used equipment.
- (3) Standards as follow apply:

(Rule 1200-03-18-.20, continued)

- (a) No owner or operator of a miscellaneous metal parts and products coating line subject to this rule may cause or allow the application of any coating with VOC content in excess of the emission limits in Subparagraph (b) of this paragraph.
- (b) If more than one emission limit in this subparagraph applies to a specific coating, then the least stringent emission limit shall be applied.

|   | <u>kg/L<sup>a</sup></u> | <u>lb/gal<sup>a</sup></u> |
|---|-------------------------|---------------------------|
| 1. High performance architectural coating | 0.75                    | 6.2                       |
| 2. Heavy-duty truck touch-up              | 0.58                    | 4.8                       |
| 3. Clear coating                          | 0.52                    | 4.3                       |
| 4. Steel pail and drum interior           | 0.52                    | 4.3                       |
| 5. Air-dried coating                      | 0.42                    | 3.5                       |
| 6. Extreme performance coating            | 0.42                    | 3.5                       |
| 7. All other coatings                     | 0.36                    | 3.0                       |

<sup>a</sup>VOC content values are expressed in units of mass of VOC (kg, lb) per volume of coating (liter [L], gallon [gal]), excluding water and/or exempt compounds, as applied.

- (c) As an alternative to compliance with the emission limits in Subparagraph (b) of this paragraph, an owner or operator of a miscellaneous metal parts and products coating line may meet the requirements of Paragraphs (4) or (5) of this rule.
- (4) No owner or operator of a miscellaneous metal parts and products coating line that applies multiple coatings during the same day shall apply coatings on that line during any day whose weighted average VOC content exceeds the weighted average VOC content limit calculated using VOC content factors from Subparagraph (3)(b) of this rule.
- (5) Control device requirements as follow apply:
- (a) An owner or operator of a miscellaneous metal parts and products coating line subject to this rule may comply with this rule by:
1. Installing and operating a capture system and a control device on that line;
  2. Determining for each day the overall emission reduction efficiency needed to demonstrate compliance. The overall emission reduction needed is the lesser of the value calculated according to the procedure in this chapter or 95 percent; and
  3. Demonstrating each day that the overall emission reduction efficiency achieved is greater than or equal to the overall emission reduction efficiency required.
- (b) An owner or operator of a miscellaneous metal parts and products coating line subject to this rule shall ensure that:

(Rule 1200-03-18-.20, continued)

1. A capture system and control device are operated at all times that the line is in operation, and the owner or operator demonstrates compliance with this rule through the applicable coating analysis and capture system and control device efficiency test methods specified in this chapter, and;
2. The control device is equipped with the applicable monitoring equipment specified in this chapter, and the monitoring equipment is installed, calibrated, operated, and maintained according to the vendor's specifications at all times the control device is in use.

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-201-105. **Administrative History:** Original rule filed May 15, 1979; effective July 10, 1979. Amendment filed March 23, 1989; effective May 7, 1981. Amendment filed April 23, 1992; effective June 7, 1992. Repeal and new rule filed March 8, 1993; effective April 22, 1993. Amendment filed July 27, 1995; effective October 9, 1995. Amendment filed November 12, 1998; effective January 26, 1999.

#### 1200-03-18-.21 COATING OF FLAT WOOD PANELING.

(1) Applicability of this rule is as follows:

(a) This rule applies to all flat wood paneling coating lines.

(b) This rule does not apply to:

1. Class I hardwood panels, particle board used in furniture, insulation board, exterior siding, tileboard, and softwood plywood coating lines; or
2. Any flat wood paneling coating line within any facility:
  - (i) In Davidson, Rutherford, Sumner, Williamson, or Wilson County whose actual emissions without control devices from all flat wood paneling coating lines within the facility are less than 6.8 kilograms (kg) (15 pounds [lb]) of volatile organic compounds (VOC's) per day or whose maximum theoretical emissions from all flat wood paneling coating lines within the facility are less than 10 tons of volatile organic compounds (VOC's) per year;
  - (ii) In Hamilton or Shelby County whose potential VOC emissions from all flat wood paneling coating lines within the facility are less than 25 tons of volatile organic compounds (VOC's) per year; or
  - (iii) In any other county whose potential VOC emissions from all flat wood paneling coating lines within the facility are less than 100 tons of volatile organic compounds (VOC's) per year.

(2) For the purpose of this rule, the following definitions apply:

"Class II hardboard paneling finish" means finishes that meet the specifications of Voluntary Product Standard PS-59-73 as approved by the American National Standards Institute.

"Flat wood paneling coating line" means a coating line used in manufacturing to apply and dry or cure coatings applied to flat wood panels including: printed interior panels made of hardwood plywood and thin particle board (i.e., less than or equal to 0.64 centimeters (cm) (0.25 inches [in]) in thickness); natural finish hardwood plywood panels; and hardwood paneling with Class II finishes.

(Rule 1200-03-18-.21, continued)

“Hardboard” is a panel manufactured primarily from interfelted ligno-cellulosic fibers that are consolidated under heat and pressure in a hot press.

“Hardwood plywood” is plywood whose surface layer is a veneer of hardwood.

“Natural finish hardwood plywood panels” means panels whose original grain pattern is enhanced by essentially transparent finishes frequently supplemented by fillers and toners.

“Printed interior panels” means panels whose grain or natural surface is obscured by fillers and basecoats upon which a simulated grain or decorative pattern is printed.

“Thin particleboard” is a manufactured board that is 0.64 cm (0.25 in) or less in thickness made of individual wood particles that have been coated with a binder and formed into flat sheets by pressure.

“Tileboard” means paneling that has a colored, waterproof surface coating.

(3) Standards as follow apply:

(a) No owner or operator of a flat wood paneling coating line subject to this rule shall cause or allow VOC emissions from the coating of any flat wood paneling product in excess of the following emission limits:

|   | kg/100<br><u>m<sup>2a</sup></u> | lb/1,000<br><u>ft<sup>2a</sup></u> |
|---|---------------------------------|------------------------------------|
| 1. Printed interior panels                | 2.9                             | 6.0                                |
| 2. Natural finish hardwood plywood panels | 5.8                             | 12.0                               |
| 3. Class II finish on hardwood panels     | 4.8                             | 10.0                               |

<sup>a</sup>VOC content values are expressed in units of mass of VOC (kg, lb) per volume of surface to which the coating is applied (100 square meters [m<sup>2</sup>], 1,000 square feet [ft<sup>2</sup>]).

(b) As an alternative to compliance with the emission limits in Subparagraph (a) of this paragraph, an owner or operator of a flat wood paneling coating line may meet the requirements of Paragraph (4) or (5) of this rule.

(4) No owner or operator of a flat wood paneling coating line subject to this rule shall apply coatings on that line, during any day, whose weighted average VOC content, calculated in accordance with the procedure in this rule, exceeds the emission limits in this rule.

(5) Control device requirements as follow apply:

(a) An owner or operator of a flat wood paneling coating line subject to this rule may comply with this rule by:

1. Installing and operating a capture system and a control device on that line;

(Rule 1200-03-18-.21, continued)

2. Determining for each day the overall emission reduction efficiency needed to demonstrate compliance. The overall emission reduction needed is the lesser of the value calculated according to the procedure in this rule or 95 percent; and
  3. Demonstrating each day that the overall emission reduction efficiency achieved is greater than or equal to the overall emission reduction efficiency required.
- (b) An owner or operator of a flat wood paneling coating line subject to this rule shall ensure that:
1. A capture system and control device are operated at all times that the line is in operation, and the owner or operator demonstrates compliance with this rule through the applicable coating analysis and capture system and control device efficiency test methods specified in this chapter; and
  2. The control device is equipped with the applicable monitoring equipment specified in this chapter, and the monitoring equipment is installed, calibrated, operated, and maintained according to the vendor's specifications at all times the control device is in use.
- (6) The test methods found in this chapter and in this paragraph as follow shall be used to determine compliance:
- (a) The weighted average VOC content, in units of mass of VOC per area of surface coated, of the coatings used on a day on a flat wood paneling coating line shall be calculated using the following equation:

$$VOC_w = \frac{\sum_{i=1}^n V_i C_i}{a}$$

where

$VOC_w$  = The weighted average VOC content of the coatings, as applied, used in units of kg VOC/100 m<sup>2</sup> (lb VOC/1,000 ft<sup>2</sup>);

$n$  = The number of different coatings, as applied, each day;

$V_i$  = The volume of each coating applied in units of L (gal), each day; and

$C_i$  = The VOC content of each coating, as applied, in units of kg VOC/L of coating (lb VOC/gal);

$a$  = Constant = 100 m<sup>2</sup> if using metric units; and  
=1,000 ft<sup>2</sup> if using english units.

- (b) Calculate the required overall emission reduction efficiency of the control system for the day according to the following equation:

$$E = \frac{(VOCa - S)}{VOCa} \times 100$$

where:



(Rule 1200-03-18-.21, continued)

- E = The required overall emission reduction efficiency of the control system;
- $VOC_a$  = The maximum VOC content of the coatings, as applied, used each day in units of kg VOC/100 m<sup>2</sup> of surface area coated (lb VOC/1,000 ft<sup>2</sup>), as determined by the applicable test methods and procedures; or the weighted average VOC content, as applied, of the coatings used each day in units of kg VOC/100 m<sup>2</sup> of surface area coated (lb VOC/1,000 ft<sup>2</sup>); and
- S = VOC emission limitation in terms of kg VOC/100 m<sup>2</sup> of surface area coated (lb VOC/1,000 ft<sup>2</sup>).

- (7) Recordkeeping and reporting requirements of this chapter and as follow apply:
- (a) (Reserved)
- (b) An owner or operator of a flat wood paneling coating line subject to this rule and complying with Paragraph (3) of this rule by means of the use of complying coatings shall comply with the following:
1. By April 22, 1994, or upon startup of a new coating line, or upon changing the method of compliance for a subject line from daily-weighted averaging or control devices to the use of complying coatings, the owner or operator shall certify to the Technical Secretary that the coating line is in compliance. Such certification shall include:
    - (i) The name and location of the facility;
    - (ii) The address and telephone number of the person responsible for the facility;
    - (iii) Identification of subject sources;
    - (iv) The name and identification number of each coating, as applied; and
    - (v) The mass of VOC per area of surface to which the coating is applied in terms of kg VOC/100 m<sup>2</sup> (lb VOC/1,000 ft<sup>2</sup>) and the surface area coated.
  2. On and after April 22, 1994, or on and after the initial startup date, the owner or operator shall collect and record the following information each day and maintain the information for a period of 3 years:
    - (i) The name and identification number of each coating, as applied; and
    - (ii) The mass of VOC per area of surface to which the coating is applied for each coating used each day in terms of kg VOC/100 m<sup>2</sup> (lb VOC/1,000 ft<sup>2</sup>).
  3. On and after April 22, 1994, the owner or operator shall notify the Technical Secretary in the following instances:

(Rule 1200-03-18-.21, continued)

- (i) Any record showing use of any non-complying coatings shall be reported by sending a copy of such record to the Technical Secretary within 30 calendar days following that use, and
  - (ii) At least 30 calendar days before changing the method of compliance from the use of complying coatings to daily-weighted averaging or control devices, the owner or operator shall comply with all requirements of Part (c)1 or (d)1 of this paragraph, respectively.
- (c) An owner or operator of a flat wood paneling coating line subject to this rule and complying with Paragraph (3) of this rule by means of weighted averaging on that line shall comply with the following:
1. By April 22, 1994, or upon startup of a new flat wood paneling coating line, or upon changing the method of compliance for a flat wood paneling coating line from the use of complying coatings or control devices to daily-weighted averaging, the owner or operator shall certify to the Technical Secretary that the coating line is in compliance with this subparagraph. Such certification shall include:
    - (i) The name and location of the facility.
    - (ii) The address and telephone number of the person responsible for the facility.
    - (iii) Identification of subject sources.
    - (iv) The name and identification number of each coating line which will comply by means of weighted averaging;
    - (v) The instrument or method by which the owner or operator will accurately measure or calculate the volume of each coating (excluding water and/or exempt compounds), as applied, used each day on each coating line;
    - (vi) The method by which the owner or operator will create and maintain records as required in Part 2 of this subparagraph, with an example of the format in which the records will be kept; and
    - (vii) Calculation of the weighted average, using the procedure in Subparagraph (6)(a) of this rule, for a day representative of current or projected maximum production levels.
  2. On and after April 22, 1994, or on and after the initial startup date, the owner or operator shall collect and record all of the following information each day for each subject coating line and maintain the information for a period of 3 years:
    - (i) The name and identification number of each coating, as applied;
    - (ii) The mass of VOC per volume (excluding water and/or exempt compounds) and the volume of each coating (excluding water and/or exempt compounds), as applied, used each day; and
    - (iii) The weighted average VOC content of all coatings, as applied, calculated according to the procedure in Subparagraph (6)(a) of this rule.

(Rule 1200-03-18-.21, continued)

3. On and after April 22, 1994, the owner or operator shall notify the Technical Secretary in the following instances:
  - (i) Any record showing noncompliance with the applicable daily-weighted average requirements shall be reported by sending a copy of the record to the Technical Secretary within 30 calendar days following the occurrence.
  - (ii) At least 30 calendar days before changing the method of compliance from daily-weighted averaging to the use of complying coatings or control devices, the owner or operator shall comply with all requirements of Part (b)1 or (d)1 of this paragraph, respectively.
- (d) Any owner or operator of a flat wood paneling coating line subject to this rule and complying with Paragraph (3) of this rule by the use of control devices shall comply with the following:
  1. By April 22, 1994, or upon startup of a new coating line, or upon changing the method of compliance for an existing coating line from the use of complying coatings or weighted averaging to control devices, the owner or operator of the subject coating line shall perform or shall have performed, as applicable, a compliance test. Testing shall be pursuant to the procedures in this chapter and Paragraph (6) of this rule. No later than 60 days after the completion of the performance testing, the owner or operator of the subject coating line shall submit to the Technical Secretary the results of all tests and calculations necessary to demonstrate that the subject coating line is in compliance.
  2. On and after April 22, 1994, or on and after the initial startup date, the owner or operator shall collect and record all of the following information each day for each coating line and maintain the information for a period of 3 years:
    - (i) The name and identification number of each coating used;
    - (ii) The mass of VOC per area of surface to which the coating is applied in terms of kg VOC/100 m<sup>2</sup> (lb VOC/1,000 ft<sup>2</sup>), and the surface area coated;
    - (iii) The maximum VOC content (mass of VOC per area of surface to which the coating is applied in terms of kg VOC/100 m<sup>2</sup> [lb VOC/1,000 ft<sup>2</sup>] or the weighted average VOC content (mass of VOC per area of surface to which the coating is applied in terms of kg VOC/100 m<sup>2</sup> [lb VOC/1,000 ft<sup>2</sup>]) of the coatings used;
    - (iv) The required overall emission reduction efficiency as determined in Subparagraph (6)(b) of this rule;
    - (v) The actual overall emission reduction efficiency achieved as determined in this chapter;
    - (vi) Control device monitoring data;
    - (vii) A log of operating time for the capture system, control device, monitoring equipment, and the associated coating line;

(Rule 1200-03-18-.21, continued)

- (viii) A maintenance log for the capture system, control device, and monitoring equipment detailing all routine and non-routine maintenance performed including dates and duration of any outages;
  - (ix) For thermal incinerators, all 3-hour periods of operation in which the average combustion temperature was more than 28°C (50°F) below the average combustion temperature during the most recent performance test that demonstrated that the facility was in compliance;
  - (x) For catalytic incinerators:
    - (I) Continuous records of the temperature of the gas stream both upstream and downstream of the incinerator;
    - (II) Records of all 3-hour periods of operation for which the average temperature measured before the catalyst bed is more than 28°C (50°F) below the gas stream temperature measured before the catalyst bed during the most recent determination of destruction efficiency of the catalytic incinerator that demonstrated that the facility was in compliance; and
    - (III) Records of all 3-hour periods for which the average temperature across the catalyst bed is less than 80 percent of the temperature difference measured during the most recent determination of the destruction efficiency of the catalytic incinerator that demonstrated that the facility was in compliance.
  - (xi) For carbon adsorbers, all 3-hour periods of operation during which the average VOC concentration or reading of organics in the exhaust gases is more than 20 percent greater than the average exhaust gas concentration or reading measured by the organics monitoring device during the most recent determination of the recovery efficiency of the carbon adsorber that demonstrated that the facility was in compliance. This specification applies only to carbon adsorbers for which stack emission testing was required to demonstrate compliance with a standard of this chapter.
3. On and after April 22, 1994, the owner or operator shall notify the Technical Secretary of any instance of noncompliance with the applicable requirements for control devices, such instance of noncompliance including any period of operation during which the parameter boundaries established during the most recent performance test are exceeded as specified in Subparts 2(ix), (x), and (xi) of this subparagraph, by sending a copy of that notice to the Technical Secretary within 30 calendar days following the occurrence.

**Authority:** T.C.A. §§ 4-5-202 and 68-201-105. **Administrative History:** Original rule filed May 15, 1992; effective July 10, 1979. Amendment filed March 23, 1981; effective May 7, 1981. Amendment filed January 19, 1983; effective February 18, 1983. Amendment filed September 26, 1986; effective November 10, 1986. Amendment filed September 22, 1988; effective November 6, 1988. Amendment filed September 22, 1989; effective November 11, 1989. Amendment filed April 23, 1992; effective June 7, 1992. Repeal and new rule filed March 8, 1993; effective April 22, 1993. Amendment filed July 27, 1995; effective October 9, 1995.

#### 1200-03-18-.22 BULK GASOLINE PLANTS.

- (1) Applicability of this rule is as follows:

(Rule 1200-03-18-.22, continued)

- (a) This rule applies to all unloading, loading, and storage operations at bulk gasoline plants in Anderson, Blount, Carter, Cheatham, Davidson, Dickson, Fayette, Hamilton, Hawkins, Haywood, Jefferson, Knox, Loudon, Marion, Meigs, Montgomery, Putnam, Robertson, Rutherford, Sevier, Shelby, Sullivan, Sumner, Tipton, Unicoi, Union, Washington, Williamson, and Wilson Counties and to gasoline tank trucks delivering or receiving gasoline at these bulk gasoline plants.
- (b) The following are subject only to the requirements of Parts (3)(c)7, 8, and 9 of this rule:
  - 1. Any stationary storage tank of 2,082 liters (L) (550 gallons [gal]) capacity or less notwithstanding Rule .06 of this chapter; or
  - 2. Any bulk gasoline plant with an average daily throughput of gasoline of less than 15,000 L (4,000 gal) on a monthly average provided that records are maintained according to the requirements in Subparagraph (5)(a) of this rule. Any plant that becomes or is currently subject to all of the provisions of this rule by exceeding this applicability threshold will remain subject to these provisions even if its throughput later falls below the applicability threshold.
- (2) (Reserved)
- (3) Standards as follow apply:
  - (a) Each bulk gasoline plant subject to this rule shall be equipped with a vapor balance system between the gasoline storage vessel and the incoming gasoline tank truck designed to capture and transfer vapors displaced during filling of the gasoline storage vessel. These lines shall be equipped with fittings that are vapor tight and that automatically and immediately close upon disconnection.
  - (b) Each bulk gasoline plant subject to this rule shall be equipped with a vapor balance system between the gasoline storage vessel and the outgoing gasoline tank truck designed to capture and transfer vapors displaced during the loading of the gasoline tank truck. The vapor balance system shall be designed to prevent any vapors collected at one loading rack from passing to another loading rack.
  - (c) Each owner or operator of a bulk gasoline plant subject to this rule and owner or operator of each tank truck delivering or receiving gasoline at a plant subject to this rule, as applicable, shall act to ensure that the procedures described below are followed during all loading, unloading, and, with respect to the owner or operator of the plant, storage operations:
    - 1. The vapor balance system shall be connected between the tank truck and storage vessel during all gasoline transfer operations;
    - 2. All storage vessel openings, including inspection hatches and gauging and sampling devices shall be vapor tight when not in use;
    - 3. The gasoline tank truck compartment hatch covers shall not be opened during the gasoline transfer;
    - 4. All vapor balance systems shall be designed and operated at all times to prevent gauge pressure in the gasoline tank truck from exceeding 450 millimeters (mm) (18 inches [in]) of water and vacuum from exceeding 150 mm (5.9 in) of water during product transfers;

(Rule 1200-03-18-.22, continued)

5. No pressure vacuum relief valve in the bulk gasoline plant vapor balance system shall begin to open at a system pressure of less than 450 mm (18 in) of water or at a vacuum of less than 150 mm (5.9 in) of water;
  6. All product transfers involving gasoline tank trucks at bulk gasoline plants subject to this rule shall be limited to vapor-tight gasoline tank trucks;
  7. Filling of storage vessels shall be restricted to submerged fill;
  8. Loading of outgoing gasoline tank trucks shall be limited to submerged fill; and
  9. Owners or operators of bulk gasoline plants or owners or operators of tank trucks shall observe all parts of the transfer and shall discontinue transfer if any leaks are observed.
- (d) Each calendar month, the vapor balance systems and each loading rack handling gasoline shall be inspected for liquid or vapor leaks during gasoline transfer operations. For purposes of this subparagraph, detection methods incorporating sight, sound, or smell are acceptable. Each leak that is detected shall be repaired within 15 calendar days after it is detected. Dripping liquid resulting upon disconnect following gasoline transfer shall not constitute a leak.
- (4) A pressure measurement device (liquid manometer, magnehelic gauge, or equivalent instrument) capable of measuring 500 mm (20 in) of water gauge pressure within a  $\pm 2.5$  mm (0.098 in) of water precision, shall be calibrated and installed on the bulk gasoline plant vapor balance system at a pressure tap, located as close as possible to the connection with the gasoline tank truck, to allow determination of compliance with Part (3)(c)4 of this rule.
  - (5) The owner or operator of a facility subject to this rule shall maintain the following records for at least 3 years and shall make these records available to the Technical Secretary upon request:
    - (a) Daily records showing the quantity of gasoline loaded into gasoline tank trucks; and
    - (b) A record of each monthly leak inspection kept on file at the plant. Inspection records shall include, as a minimum, the following information:
      1. Date of inspection;
      2. Findings (may indicate no leaks discovered or location, nature, and severity of each leak);
      3. Leak determination method;
      4. Corrective action (date each leak repaired; reasons for any repair interval in excess of 15 calendar days); and
      5. Inspector name and signature.
  - (6) The owner or operator of any facility containing sources subject to this rule shall comply with the requirements in paragraphs .04(1) and (2) of this chapter, except that for any bulk gasoline plant in Anderson, Blount, Carter, Cheatham, Dickson, Fayette, Hamilton, Hawkins, Haywood, Jefferson, Knox, Loudon, Marion, Meigs, Montgomery, Putnam, Robertson, Sevier, Sullivan, Tipton, Unicoi, Union, or Washington County that is an existing source on December 29, 2004 the initial compliance certification required in paragraph .04(1) shall be submitted by May 1, 2006 instead of the date specified in this paragraph .04(1).

(Rule 1200-03-18-.22, continued)

**Authority:** T.C.A. §§ 4-5-202 and 68-201-105. **Administrative History:** Original rule filed May 15, 1979; effective July 10, 1979. Amendment filed March 23, 1981; effective May 7, 1981. Amendment filed January 31, 1983; effective March 2, 1983. Amendment filed April 23, 1992; effective June 7, 1992. Repeal and new rule filed March 8, 1993; effective April 22, 1993. Amendment filed October 15, 2004; effective December 29, 2004.

### 1200-03-18-.23 BULK GASOLINE TERMINALS.

- (1) Applicability of this rule is as follows:
  - (a) This rule applies to all loading racks at any bulk gasoline terminal which deliver liquid product into gasoline tank trucks and to gasoline tank trucks while loading at a terminal subject to this rule.
  - (b) Any facility that becomes or is currently subject to the provisions of this rule by exceeding the throughput specified in the definition of bulk gasoline terminal in Rule .01 of this chapter will remain subject to these provisions even if its throughput later falls below the applicability threshold.
- (2) Standards as follow apply:
  - (a) Each loading rack at a bulk gasoline terminal subject to this rule shall be equipped with a vapor collection system designed to collect the total volatile organic compound (VOC) vapors displaced from tank trucks during product loading.
  - (b) Each vapor collection system shall be designed to prevent any VOC vapors collected at one loading rack from passing to another loading rack.
  - (c) In Davidson, Rutherford, Shelby, Sumner, Williamson, and Wilson Counties, loadings of liquid product into gasoline tank trucks shall be limited to vapor-tight gasoline tank trucks using the following procedures:
    1. The owner or operator shall obtain the vapor-tightness documentation described in Subparagraphs (4)(a) and (b) of this rule for each gasoline tank truck that is to be loaded at the bulk gasoline terminal loading rack subject to this rule;
    2. The owner or operator shall require the tank identification number, which allows for verification of vapor-tightness documentation, to be recorded as each gasoline tank truck is loaded at the terminal;
    3. The owner or operator shall cross-check each tank identification number with the file of tank vapor-tightness documentation within 2 weeks after the corresponding tank is loaded;
    4. The terminal owner or operator shall notify the owner or operator of each non-vapor-tight gasoline tank truck loaded at the bulk gasoline terminal loading rack that the truck is not vapor-tight subject to this rule within 3 weeks after the loading has occurred; and
    5. The terminal owner or operator shall insure that the non-vapor-tight gasoline tank truck will not be reloaded at the bulk gasoline terminal loading rack subject to this rule until vapor-tightness documentation for that tank is obtained.
  - (d) The terminal owner or operator or tank truck owner or operator shall ensure that loadings of any gasoline tank truck at the bulk gasoline terminal loading rack subject to

(Rule 1200-03-18-.23, continued)

this rule is made only into a tank equipped with vapor collection equipment that is compatible with the terminal's vapor collection system.

- (e) The terminal owner or operator or tank truck operator shall ensure that the terminal's and the tank truck's vapor collection systems are connected during each loading of a gasoline tank truck at the bulk gasoline terminal loading racks subject to this rule.
  - (f) The vapor collection and liquid loading equipment shall be designed and operated to prevent gauge pressure in the tank truck from exceeding 4,500 Pascals (Pa) (450 millimeters [mm] of water) during product loading. This level shall not be exceeded when measured by the procedures specified in Subparagraph (3)(a) of this rule.
  - (g) No pressure-vacuum vent in the bulk gasoline terminal's vapor collection system shall begin to open at a system pressure less than 4,500 Pa (450 mm of water).
  - (h) Each calendar month, the vapor collection system, the vapor control system, and each loading rack handling gasoline shall be inspected during the loading of gasoline tank trucks for liquid or vapor leaks. For purposes of this subparagraph, detection methods incorporating sight, sound, or smell are acceptable. Each detection of a leak shall be recorded and the source of the leak repaired within 15 calendar days after it is detected. Dripping liquid resulting upon disconnect following gasoline transfer shall not constitute a leak.
  - (i) Emissions to the atmosphere from the vapor collection system due to the loading of gasoline tank trucks shall not exceed 80 milligrams per liter (mg/L) (4.7 grains per gallon [grain/gal]) of gasoline loaded.
  - (j) Loading of outgoing gasoline tank trucks shall be restricted to the use of submerged fill, with all hatches on the gasoline tank truck kept closed and securely fastened during loading.
- (3) Test methods and procedures as follow apply:
- (a) For the purpose of determining compliance with Subparagraph (2)(f) of this rule, the following procedures shall be used:
    - 1. Calibrate and install a pressure measurement device (liquid manometer, magnehelic gauge, or equivalent instrument) capable of measuring up to 500 mm (20 inches [in]) of water gauge pressure with  $\pm 2.5$  mm (0.098 in) of water precision.
    - 2. Connect the pressure measurement device to a pressure tap in the terminal's vapor collection system, located as close as possible to the connection with the gasoline tank truck.
    - 3. During the performance test, record the pressure every 5 minutes (min) while a gasoline tank truck is being loaded, and record the highest instantaneous pressure that occurs during each loading. Every loading position shall be tested at least once during the performance test.
  - (b) For the purpose of determining compliance with the mass emission limitations of Subparagraph (2)(i) of this rule, the following reference methods shall be used:
    - 1. For the determination of volume at the exhaust vent:
      - (i) Reference Method 2B for combustion vapor processing systems; and



(Rule 1200-03-18-.23, continued)

- (ii) Reference Method 2A for all other vapor processing systems.
2. For the determination of total organic compounds concentration at the exhaust vent, Reference Method 25A or 25B. The calibration gas shall be either propane or butane.
- (c) Immediately prior to a performance test required for determination of compliance with Subparagraphs (2)(f) and (i) of this rule, all potential sources of vapor leakage in the terminal's vapor collection system equipment shall be monitored for leaks according to the procedures in Rule .85 of this chapter. The monitoring shall be conducted only while a gasoline tank truck is being loaded. A reading of 10,000 parts per million by volume (ppmv) or greater as methane shall be considered a leak. All leaks shall be repaired prior to conducting the performance test.
- (d) The test procedure for determining compliance with Subparagraphs (2)(f) and (i) of this rule is as follows:
  1. All testing equipment shall be prepared and installed as specified in the appropriate test methods;
  2. The time period for a performance test shall be not less than 6 hours, during which at least 300,000 liters (L) (80,000 gallons [gal]) of gasoline are loaded. If the throughput criterion is not met during the initial 6 hours, the test may be either continued until the throughput criterion is met, or resumed the next day with another complete 6 hours of testing. As much as possible, testing should be conducted during the 6-hour period in which the highest throughput normally occurs;
  3. For intermittent vapor processing systems:
    - (i) The vapor holder level shall be recorded at the start of the performance test. The end of the performance test shall coincide with a time when the vapor holder is at its original level; and
    - (ii) At least two startups and shutdowns of the vapor processor shall occur during the performance test. If this does not occur under automatically controlled operation, the system shall be manually controlled.
  4. The volume of gasoline dispensed during the performance test period at all loading racks whose vapor emissions are controlled by the vapor processing system being tested shall be determined. This volume may be determined from terminal records or from gasoline dispensing meters at each loading rack;
  5. An emission testing interval shall consist of each 5-minute period during the performance test. For each interval:
    - (i) The reading from each measurement instrument shall be recorded; and
    - (ii) The volume exhausted and the average total organic compounds concentration in the exhaust vent shall be determined, as specified in the appropriate test method. The average total organic compounds concentration shall correspond to the volume measurement by taking into account the sampling system response time;
  6. The mass emitted during each testing interval shall be calculated as follows:

(Rule 1200-03-18-.23, continued)

$$M_{ei} = 10^{-6} K V_{es} C_e$$

where:

$M_{ei}$  = Mass of total organic compounds (milligrams [mg]) emitted during testing interval  $i$ ;

$V_{es}$  = Volume of air-vapor mixture exhausted (cubic meters [ $m^3$ ]), at standard conditions;

$C_e$  = Total organic compounds concentration (measured as carbon) at the exhaust vent (ppmv);

$K$  = Density of calibration gas (milligrams/cubic meter [ $mg/m^3$ ]) at standard conditions;

=  $1.83 \times 10^6$  for propane;

=  $2.41 \times 10^6$  for butane; and

$s$  = Standard conditions,  $20^\circ C$  and 760 millimeters of mercury (mm Hg); and

7. The total organic compounds mass emissions shall be calibrated as follows:

$$E = \frac{\sum_{i=1}^n M_{ei}}{L}$$

where:

$E$  = mass of total organic compounds emitted per volume of gasoline loaded, mg/L;

$M_{ei}$  = mass of total organic compounds emitted during testing interval  $i$ , mg;

$L$  = total volume of gasoline loaded, L; and

$n$  = number of testing intervals.

(e) The owner or operator may adjust the emission results to exclude the methane and ethane content in the exhaust vent by any method approved by the Technical Secretary and the EPA.

(4) The owner or operator of a facility subject to the requirements of this rule shall maintain the following records for at least 3 years and shall make these records available to the Technical Secretary upon request:

(Rule 1200-03-18-.23, continued)

- (a) The tank truck vapor-tightness documentation required under Subparagraph (2)(c) of this rule shall be kept on file at the terminal in a permanent form available for inspection.
  - (b) The documentation file for each gasoline tank truck shall be updated at least once per year to reflect current test results as determined by Reference Method 27. This documentation shall include, as a minimum, the following information:
    - 1. Test title: Gasoline Delivery Tank Pressure Test--Reference Method 27;
    - 2. Tank owner and address;
    - 3. Tank identification number;
    - 4. Testing location;
    - 5. Date of test;
    - 6. Tester name and signature;
    - 7. Witnessing inspector, if any: Name, signature, and affiliation; and
    - 8. Test results: Actual pressure change in 5 min, mm of water (average for two runs).
  - (c) A record of each monthly leak inspection required under Subparagraph (2)(h) of this rule shall be kept on file at the terminal. Inspection records shall include, as a minimum, the following information:
    - 1. Date of inspection;
    - 2. Findings (may indicate either no leaks discovered or the location, nature, and severity of each leak);
    - 3. Leak determination method;
    - 4. Corrective action (date each leak repaired, reasons for any repair interval in excess of 15 calendar days; and
    - 5. Inspector name and signature.
  - (d) The terminal owner or operator shall keep documentation of all notifications required under Part (2)(c)4 of this rule on file at the terminal.
  - (e) Daily records shall be maintained of gasoline throughput.
- (5) The owner or operator of any facility containing sources subject to this rule shall comply with the requirements in Paragraphs .04(1) and (2) of this chapter.

**Authority:** T.C.A. §§ 4-5-202 and 68-201-105. **Administrative History:** Original rule filed May 15, 1979; effective July 10, 1979. Amendment filed March 23, 1981; effective May 7, 1981. Amendment filed April 23, 1992; effective June 7, 1992. Repeal and new rule filed March 8, 1993; effective April 22, 1993. Amendment filed July 27, 1995; effective October 9, 1995.

**1200-03-18-.24 GASOLINE DISPENSING FACILITIES.**

- (1) The provisions of 40 CFR 63 Subpart CCCCCC (National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities) are hereby adopted by reference as published in the July 1, 2014 edition of the Code of Federal Regulations (CFR), except as provided in subparagraphs (a) through (d) of this paragraph.
  - (a) Any reference contained in 40 CFR 63 Subpart CCCCCC to the:
    1. Administrator shall instead be a reference to the Technical Secretary;
    2. Applicable EPA regional office for the State of Tennessee shall instead be a reference to the EPA Region IV office; and
    3. Delegated State authority shall instead be a reference to the Technical Secretary.
  - (b) If your gasoline dispensing facility (GDF) has a monthly throughput of less than 10,000 gallons of gasoline, and is located in Anderson, Blount, Carter, Cheatham, Davidson, Dickson, Fayette, Hamilton, Hawkins, Haywood, Jefferson, Knox, Loudon, Marion, Meigs, Montgomery, Putnam, Robertson, Rutherford, Sevier, Shelby, Sullivan, Sumner, Tipton, Unicoi, Union, Washington, Williamson, or Wilson Counties, you must also comply with the requirements in 40 CFR § 63.11117(b) and (c).
  - (c) If your GDF has a monthly throughput of 10,000 gallons of gasoline or more and is located in Anderson, Blount, Carter, Cheatham, Davidson, Dickson, Fayette, Hamilton, Hawkins, Haywood, Jefferson, Knox, Loudon, Marion, Meigs, Montgomery, Putnam, Robertson, Rutherford, Sevier, Shelby, Sullivan, Sumner, Tipton, Unicoi, Union, Washington, Williamson, or Wilson Counties, you must comply with the requirements in 40 CFR § 63.11118.
  - (d) For any GDF otherwise exempt from subparagraph (c) of this paragraph based on monthly throughput, if the GDF ever exceeds the applicability threshold specified in subparagraph (c) of this paragraph, it shall be subject to the requirements of subparagraph (c) of this paragraph and shall remain subject to those requirements even if its throughput later falls below the threshold. The owner or operator shall inform the Technical Secretary within 30 days following the exceedance.
  - (e) The owner or operator of any GDF in Davidson, Rutherford, Shelby, Sumner, Knox, Blount, Anderson, Williamson, or Wilson County which has actual emissions from stationary sources of 25 tons or more of volatile organic compounds (VOC) during a calendar year shall report to their permitting authority in accordance with paragraph (8) of Rule 1200-03-18-.02.
- (2) Stage II vapor recovery requirements for GDF in Davidson, Rutherford, Sumner, Williamson, and Wilson counties.
  - (a) This paragraph applies only to GDF located in Davidson, Rutherford, Sumner, Williamson, and Wilson counties.
  - (b) Any GDF with an existing Stage II vapor recovery system shall decommission and remove the system no later than July 14, 2019, and no GDF shall install a Stage II vapor recovery system on or after such date.

(Rule 1200-03-18-.24, continued)

- (c) On and after July 14, 2016, no GDF shall be required to install a Stage II vapor recovery system and a GDF may decommission and remove the GDF's existing Stage II vapor recovery system.
- (d) Any GDF that decommissions and removes a Stage II vapor recovery system shall conduct the decommissioning and removal in accordance with Petroleum Equipment Institute (PEI) guidance, "Recommended Practices for Installation and Testing of Vapor Recovery Systems at Vehicle Fueling Sites, PEI/RP300-09" for removal, notification, and certification.
- (e) Any GDF that has a Stage II vapor recovery system must comply with all applicable provisions of subparagraph (f) of this paragraph until the system is decommissioned and removed.
- (f) Stage II vapor recovery.
  - 1. Definitions.
    - (i) "Vacuum assist system" means the gasoline vapor recovery system that employs a vacuum generating device to effect transfer of gasoline vapor displaced in fueling a vehicle tank to a gasoline storage tank, vapor storage tank, or vapor processing unit.
    - (ii) "Motor vehicle" means any self-propelled vehicle used to carry people or property on a street or highway.
    - (iii) "Stage II vapor recovery system" means a system to recover gasoline vapors displaced during dispensing to motor vehicle fuel tanks.
    - (iv) "Storage tank or storage vessel" means any stationary tank, reservoir or container used for the storage of a volatile organic liquid.
    - (v) "Volatile organic liquid" means any substance which is liquid at storage conditions and which contains volatile organic compounds.
  - 2. The owner or operator of each GDF subject to this subparagraph shall comply with the following requirements:
    - (i) The Stage II vapor recovery system must be approved by the Technical Secretary; certified by the California Air Resources Board; designed, installed, operated, and maintained to recover gasoline vapors displaced during dispensing to motor vehicle fuel tanks; and accessible for inspection and testing.
    - (ii) The Stage II vapor recovery system shall include for any dispenser and system the following:
      - (I) Vapor-tight coaxial hose to conduct vapors captured during dispensing, except on new vehicle fueling lines at motor vehicle assembly plants where vapor-tight dual hose on vacuum assist systems may be employed in lieu of vapor-tight coaxial hose;
      - (II) For balance systems:

(Rule 1200-03-18-.24, continued)

- I. Installation of piping between the dispenser and the vapor collection tank which precludes liquid blockage in the piping; and
  - II. No device which inhibits immediate testing for dynamic backpressure;
- (III) For vacuum assist systems, sufficient vacuum to prevent escape of gasoline vapors during dispensing;
- (IV) Vapor-tight piping, fittings, caps, couplers, and adapters; and
- (V) Maintenance of vapor tightness throughout the vapor recovery system, except during facility storage tank loading, gauging, and sampling and during maintenance and testing necessitating disruption in the integrity of the system.
- (iii) Use of any aftermarket or rebuilt parts is restricted to parts approved by the California Air Resources Board.
- (iv) Gasoline shall not be dispensed from a dispensing unit served by or permitted to be served by a component which does not satisfy the following:
- (I) Each component required for operation of the system is in place and, to the extent it can be confirmed by sensory inspection, is unimpaired and operational;
  - (II) Each nozzle boot is not torn in either of the following manners:
    - I. Triangular - shaped or similar tear 1/2 inch or more to a side, or hole 1/2 inch or more in length; or
    - II. Slit 1 inch or more in length.
  - (III) Each faceplate or flexible cone is not damaged in the following manner:
    - I. For balance nozzles and nozzles for aspirator and eductor assist type systems, damage such that the capability to achieve a seal with a fillpipe interface is diminished for an accumulated total of 1/4 of the circumference of the faceplate; or
    - II. For nozzles for vacuum assist systems, more than 1/4 of the flexible cone is missing;
  - (IV) Each nozzle shutoff mechanism is operational;
  - (V) Each vacuum producing unit is operational;
  - (VI) Each vapor processing unit is operational;
  - (VII) Each fitting, cap, coupler, and adapter is vapor-tight; and

(Rule 1200-03-18-.24, continued)

- (VIII) Each pressure/vacuum relief valve, vapor check valve, and dry break is operational.
  - (v) The owner or operator shall conspicuously display fueling instructions and information in the gasoline dispensing area. These instructions and this information shall describe to customers clearly the proper procedure to be used for fueling vehicles from the dispenser. These instructions and this information shall include instruction about the proper method of reporting system defects first to facility management, and, then if defects are not corrected, to the Technical Secretary. The notice of the method of reporting to the Technical Secretary shall be displayed no earlier than 3 months after and no later than 6 months after the display of the other instructions and information listed above.
3. Test methods as follow apply:
    - (i) The test methods found in Appendix J, Technical Guidance - Stage II Vapor Recovery Systems for Control of Vehicle Refueling Emissions at Gasoline Dispensing Facilities, Volume II, EPA - 450/3-91-022b (November 1991), to determine compliance with applicable requirements specified in part (2)(f)2 of this rule; or
    - (ii) Other methods necessary for demonstration of compliance approved by the Technical Secretary and the EPA.
  4. Notification requirements – Each owner or operator of any facility containing sources subject to this subparagraph shall provide the Technical Secretary written notice of any compliance demonstration testing. This notice shall be provided to the Technical Secretary such that the Technical Secretary is informed of the proposed testing at least 14 days before the proposed date of testing, thereby providing the Technical Secretary opportunity to observe the testing.
  5. Recordkeeping requirements -- Each owner or operator of any facility containing sources subject to this subparagraph shall, except as provided otherwise in this chapter, maintain required permits and required logs of maintenance at the facility for which the permits are issued and the logs created for a minimum of 3 years. Such records shall be made available to the Technical Secretary upon request.
  6. Excess Emissions Report - The owner or operator of any facility containing sources subject to this subparagraph shall comply with the requirements in paragraph (2) of Rule 1200-03-18-.04.
  7. Compliance Demonstration Testing - The owner or operator of any facility containing sources subject to the provisions of this subparagraph shall:
    - (i) Within 30 days following the occurrence of an incident which could reasonably be expected to have adversely affected the performance of the system, such as excavation near system piping or following replacement of the system, perform applicable testing to demonstrate compliance is maintained; and
    - (ii) Within 5 years following any compliance demonstration for the complete system, demonstrate the system maintains compliance.

(Rule 1200-03-18-.24, continued)

**Authority:** T.C.A. §§ 4-5-201 et seq., 4-5-202 et seq., 68-201-101 et seq., and 68-201-105.  
**Administrative History:** Original rule filed March 8, 1993; effective April 22, 1993. Stay for rules 1200-03-18-.24(1)(d), 1200-03-18-.24(2), 1200-03-18-.24(3)(c), 1200-03-18-.24(4)(b), 1200-03-18-.24(6)(c), 1200-03-18-.24(d) and 1200-03-18-.24(7) filed April 16, 1993; effective June 21, 1993. Amendment filed April 16, 1993; effective June 21, 1993. Amendment filed May 30, 1996; effective August 10, 1996. Amendment filed December 23, 2003; effective March 7, 2004. Amendments filed October 15, 2004; effective December 29, 2004. Repeal and new rule filed February 14, 2006; effective April 30, 2006. Amendments filed April 15, 2016; effective July 14, 2016. Amendments filed June 2, 2017; effective August 31, 2017.

#### **1200-03-18-.25 LEAKS FROM GASOLINE TANK TRUCKS.**

- (1) This rule applies to any gasoline tank truck equipped for gasoline vapor collection. No exemptions are allowable based on number of gasoline tank trucks or total quantity of volatile organic compound (VOC) emissions.
- (2) Each owner or operator of a gasoline tank truck subject to this rule shall ensure that the gasoline tank truck:
  - (a) Is a vapor-tight gasoline tank truck as demonstrated by Reference Method 27.
  - (b) Operates with hatches open only during measurement of product level or maintenance, with no product loading or unloading conducted during this measurement or maintenance.
  - (c) Retests for vapor-tightness documentation not more than 12 months from the month of the last vapor-tightness test.
- (3) Monitoring for leaks from gasoline tank trucks shall be as follows:
  - (a) The Technical Secretary may, at any time, monitor a gasoline tank by the procedure referenced in Subparagraph (b) of this paragraph to confirm continuing compliance with this rule.
  - (b) Monitoring to confirm the continuing existence of leak-tight conditions shall be performed according to the procedures described in Appendix B of the OAQPS Guideline Series document, Control of Organic Compound Leaks from Gasoline Tank Trucks and Vapor Collection Systems, EPA-450/2-78-051.
  - (c) Within 30 days of detection of a leak, the owner or operator shall certify in writing to the Technical Secretary that repairs have been made.
- (4) The test procedure to determine compliance with Subparagraph (2)(a) of this rule shall be Reference Method 27.
- (5) Recordkeeping and reporting requirements as follow apply:
  - (a) The owner or operator of a gasoline tank truck subject to this rule shall maintain records of all certification, testing, and repairs concerning vapor-tightness and leaks. The records shall identify the gasoline tank truck, the date of the tests or repair, and, if applicable, the type of repair and the date of retest. The records shall be maintained for at least 3 years after the date the testing or repair is completed. These records shall be made available to the Technical Secretary upon request.
  - (b) The records required by Subparagraph (a) of this paragraph with respect to vapor-tightness shall, as a minimum, contain:



(Rule 1200-03-18-.25, continued)

1. The gasoline tank truck vessel tank identification number (serial number);
  2. The initial test pressure;
  3. The test pressure after 5 minutes;
  4. The initial test vacuum;
  5. The test vacuum after 5 minutes;
  6. The testing company name and the date and location of the test; and
  7. The signature of person conducting the test.
- (c) The owner or operator of a gasoline tank truck subject to this rule shall certify and report to the Technical Secretary annually that the gasoline tank truck has been tested by Reference Method 27 as specified in Paragraph (4) of this rule. The certification shall include:
1. The name and address of the company and the name and telephone number of the responsible company representative under whose signature the certification is submitted; and
  2. A copy of the information recorded to comply with Subparagraph (b) of this paragraph.
- (d) Copies of all records and reports under this rule shall be made available to the Technical Secretary upon request.

**Authority:** T.C.A. §§ 4-5-202 and 68-201-105. **Administrative History:** Original rule filed May 15, 1979; effective July 10, 1979. Amendment filed March 23, 1981; effective May 7, 1981. Amendment filed April 23, 1992; effective June 7, 1992. Repeal and new rule filed March 8, 1993; effective April 22, 1993.

#### **1200-03-18-.26 PETROLEUM REFINERY SOURCES.**

- (1) Applicability of this rule is as follows:
  - (a) This rule applies to any vacuum-producing system, wastewater separator, and process unit turnaround at petroleum refinery sources. No exemptions are allowable based on size or throughput of a facility.
  - (b) This rule does not apply to segregated storm water run-off drain systems or to non-contact cooling water systems.
- (2) For the purpose of this rule, the following definitions apply:

“Accumulator” means the reservoir of a condensing unit receiving the condensate from the condenser.

“Firebox” means the chamber or compartment of a boiler or furnace in which materials are burned but does not mean the combustion chamber of an incinerator.

“Forebays” means the primary sections of a wastewater separator.

(Rule 1200-03-18-.26, continued)

“Hot well” means the reservoir of a condensing unit receiving the warm condensate from the condenser.

“Refinery fuel gas” means any gas that is generated by a petroleum refinery process unit and that is combusted, including any gaseous mixture of natural gas and fuel gas.

“Turnaround” means the procedure of shutting a refinery unit down after a run to perform necessary maintenance and repair work and returning the unit to operation.

“Vacuum producing system” means any reciprocating, rotary, or centrifugal blower or compressor, or any jet ejector or device that takes suction from a pressure below atmospheric and discharges against atmospheric pressure.

“Wastewater (oil/water) separator” means any device or piece of equipment that utilizes the difference in density between oil and water to remove oil and associated chemicals from water, or any device, such as a flocculation tank, clarifier, etc., that removes petroleum-derived compounds from wastewater.

(3) Standards as follow apply:

- (a) No person shall permit the emission of any uncondensed volatile organic compound (VOC) from the condensers, hot wells, or accumulators of any vacuum producing system at a petroleum refinery. The standard shall be achieved by:
  1. Piping the uncondensed vapors to a firebox or incinerator, or
  2. Compressing the vapors and adding them to the refinery fuel gas.
- (b) The owner or operator of any wastewater (oil/water) separator at a petroleum refinery shall:
  1. Provide covers and seals on all separators and forebays, and
  2. Equip all openings in covers, separators, and forebays with lids or seals and keep the lids or seals in the closed position at all times except when in actual use.
- (c) The owner or operator of a petroleum refinery shall provide for the following during process unit turnaround:
  1. Depressurization venting of the process unit or vessel to a vapor recovery system, flare, or firebox;
  2. No emission of VOC from a process unit or vessel until its internal pressure is 136 kiloPascals (kPa) (19.7 pounds per square inch atmospheric [psia]) or less; and,
  3. Recordkeeping of the following items:
    - (i) Date of every process unit or vessel turnaround; and
    - (ii) The internal pressure of the process unit or vessel immediately prior to venting to the atmosphere.

(Rule 1200-03-18-.26, continued)

- (4) The owner or operator of a petroleum refinery shall maintain the records required by Part (3)(c)3 of this rule for at least 3 years and shall make these records available to the Technical Secretary upon request.
- (5) The owner or operator of any facility containing sources subject to this rule shall comply with the requirements in Paragraphs .04(1) and (2) of this chapter.

**Authority:** T.C.A. §§ 4-5-202 and 68-201-105. **Administrative History:** Original rule filed May 15, 1979; effective July 10, 1979. Amendment filed March 23, 1981; effective May 7, 1981. Amendment filed April 23, 1992; effective June 7, 1992. Repeal and new rule filed March 8, 1993; effective April 22, 1993.

#### 1200-03-18-.27 LEAKS FROM PETROLEUM REFINERY EQUIPMENT.

- (1) Applicability of this rule is as follows:
  - (a) This rule applies to all equipment in volatile organic compound (VOC) service in any process unit at a petroleum refinery, regardless of size or throughput.
  - (b) The requirements of Paragraphs (4) through (8) of this rule do not apply to:
    1. Any equipment in vacuum service;
    2. Any pressure relief valve that is connected to an operating flare header or vapor recovery device;
    3. Any liquid pump that has a dual mechanical pump seal with a barrier fluid system;
    4. Any compressor with a degassing vent that is routed to an operating VOC control device; and
    5. Pumps and valves in heavy liquid service except that if evidence of a leak is found by visual, audible, olfactory, or other detection method, the owner or operator shall confirm the presence of a leak using the methods specified in Rule .85 of this chapter. If a leak is confirmed, the owner or operator shall repair the leak as specified in Paragraph (7) of this rule.
- (2) For the purpose of this rule, the following definitions apply:
  - (a) “[In] gas/vapor service” means that the piece of equipment in VOC service contains process fluid that is in the gaseous state at operating conditions.
  - (b) “[In] heavy liquid service” means that the piece of equipment in VOC service is not in gas/vapor service or in light liquid service.
  - (c) “[In] light liquid service” means that the piece of equipment in VOC service contains a liquid that meets the following conditions:
    1. The vapor pressure of one or more of the components is greater than 0.3 kPa (0.044 in Hg) at 20 °C (68 °F) (standard reference texts or ASTM D2879 shall be used to determine the vapor pressures);
    2. The total concentration of the pure components having a vapor pressure greater than 0.3 kPa (0.044 in. Hg) at 20 °C (68 °F) is equal to or greater than 20 percent by weight; and

(Rule 1200-03-18-.27, continued)

3. The fluid is a liquid at operating conditions.
  - (d) “[In] vacuum service” means that the equipment in VOC service is operating at an interval pressure which is at least 5 kPa below ambient pressure.
  - (e) “[In] VOC service” means that the piece of equipment contains or contacts a process fluid that is at least 10 percent VOC by weight. The provisions of Subparagraph (9)(b) of this rule specify how to determine that a piece of equipment is not in VOC service.
- (3) The owner or operator of a petroleum refinery complex subject to this regulation shall ensure that:
  - (a) Any open-ended line or valve is sealed with a second valve, blind flange, cap, or plug except during operations requiring process fluid flow through the open-ended line or valve;
  - (b) When a second valve is used, each open-ended line or valve equipped with a second valve is operated in such a manner that the valve on the process fluid end is closed before the second valve is closed; and
  - (c) When a double block-and-bleed system is used, the bleed valve or line is open only during operations that require venting of the line between the block valves and is closed at all other times.
- (4) Equipment inspection program standards as follow apply:
  - (a) The owner or operator of a petroleum refinery shall conduct quarterly monitoring of each:
    1. Compressor;
    2. Pump in light liquid service;
    3. Valve in light liquid service, except as provided in Paragraphs (5) and (6) of this rule;
    4. Valve in gas/vapor service, except as provided in Paragraphs (5) and (6) of this rule; and
    5. Pressure relief valve in gas/vapor service, except as provided in Paragraphs (5) and (6) of this rule.
  - (b) The owner or operator of a petroleum refinery shall conduct a weekly visual inspection of each pump in light liquid service;
  - (c) The owner or operator of a petroleum refinery shall monitor each pressure relief valve after each overpressure relief to ensure that the valve has properly reseated and is not leaking;
  - (d) When an instrument reading of 10,000 parts per million (ppm) or greater is measured, it shall be determined that a leak has been detected;
  - (e) If there are indications of liquid dripping from the equipment, it shall be determined that a leak has been detected; and

(Rule 1200-03-18-.27, continued)

- (f) When a leak is detected, the owner or operator shall affix a weatherproof, readily visible tag in a bright color such as red or yellow bearing the equipment identification number and the date on which the leak was detected. This tag shall remain in place until the leaking equipment is repaired. The requirements of this subparagraph apply to any leak detected by the equipment inspection program and to any leak from any equipment that is detected on the basis of sight, sound, or smell.
- (5) Alternative standards for skip period leak detection and repair apply as follows:
- (a) An owner or operator shall comply initially with the requirements for valves in gas/vapor service and valves in light liquid service, as described in Paragraph (4) of this rule.
  - (b) After two consecutive quarterly leak detection periods with the percent of valves leaking equal or less than 2.0, an owner or operator may begin to skip one of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.
  - (c) After five consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0, an owner or operator may begin to skip 3 of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.
  - (d) If the percent of valves leaking is greater than 2.0, the owner or operator shall comply with the requirements as described in Paragraph (4) of this rule but can again elect to use the requirements in Paragraph (5) of this rule.
  - (e) The percent of valves leaking shall be determined by dividing the sum of valves found leaking during current monitoring and valves for which repair has been delayed by the total number of valves subject to the requirements of this rule.
  - (f) An owner or operator shall keep a record of the percent of valves found leaking during each leak detection period.
- (6) Alternative standards for unsafe-to-monitor valves and difficult-to-monitor valves apply as follow:
- (a) Any valve that is designated, as described in Part (10)(e)1 of this rule, as an unsafe-to-monitor valve is exempt from the requirements of Paragraph (4) if:
    - 1. The owner or operator of the valve demonstrates that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with Paragraph (4); and
    - 2. The owner or operator of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times.
  - (b) Any valve that is designated, as described in Part (10)(e)2, as a difficult-to-monitor valve is exempt from the requirements of Paragraph (4) if:
    - 1. The owner or operator of the valve demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters (m) (6.6 feet [ft]) above a support surface; and
    - 2. The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.
- (7) The owner or operator of a petroleum refinery shall:

(Rule 1200-03-18-.27, continued)

- (a) Make a first attempt at repair for any leak not later than 5 calendar days after the leak is detected; and
  - (b) Repair any leak as soon as practicable, but not later than 15 calendar days after it is detected except as provided in Paragraph (8) of this rule.
- (8) Delay of repair standards apply as follow:
- (a) Delay of repair of equipment for which a leak has been detected will be allowed if the repair is technically infeasible without a process unit shutdown. Repair of such equipment shall occur before the end of the next process unit shutdown.
  - (b) Delay of repair of equipment will be allowed for equipment that is isolated from the process and that does not remain in VOC service.
  - (c) Delay of repair beyond a process unit shutdown will be allowed for a valve, if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next process unit shutdown will not be allowed unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown.
- (9) Test methods and procedures apply as follow:
- (a) In conducting the tests required to comply with Paragraph (4) of this rule, the owner or operator shall use the test methods specified in Rule .85 of this chapter.
  - (b) The owner or operator shall test each piece of equipment as required under Paragraph (4) of this rule unless it is demonstrated that a process unit is not in VOC service, i.e., that the VOC content would never be reasonably expected to exceed 10 percent by weight. For purposes of this demonstration, the following methods and procedures shall be used:
    - 1. Procedures that conform to the general methods in ASTM E260, E168, and E169 shall be used to determine the percent VOC content in the process fluid that is contained in or contacts a piece of equipment;
    - 2. Where the test methods in Part 1 of this subparagraph also measure exempt compounds, these compounds may be excluded from the total quantity of organic compounds in determining the VOC content of the process fluid; and
    - 3. Engineering judgment may be used to estimate the VOC content, if a piece of equipment had not been shown previously to be in VOC service. If the Technical Secretary disagrees with the judgment, Parts 1 and 2 of this subparagraph shall be used to resolve the disagreement.
  - (c) The owner or operator shall demonstrate that a piece of equipment is in light liquid service by showing that:
    - 1. All of the following conditions apply:
      - (i) The vapor pressure of one or more of the components is greater than 0.3 kiloPascals (kPa) at 20°C (0.09 inches of Mercury [in Hg] at 68°F); standard reference texts or ASTM D2879 shall be used to determine the vapor pressures;

(Rule 1200-03-18-.27, continued)

- (ii) The total concentration of the pure components having a vapor pressure greater than 0.3 kPa at 20°C (0.09 in Hg at 68°F) is equal to or greater than 20 percent by weight; and
      - (iii) The fluid is a liquid at operating conditions.
    - 2. The percent VOC evaporated is greater than 10 percent at 150°C (302°F) as determined by ASTM D86.
  - (d) Samples used in conjunction with Subparagraphs (b) and (c) of this paragraph shall be representative of the process fluid that is contained in or contacts the equipment.
- (10) Recordkeeping requirements apply as follow:
- (a) Each owner or operator subject to the provisions of this rule shall comply with the recordkeeping requirements of this rule. Except as noted, these records will be maintained for a minimum of 3 years and shall be made available to the Technical Secretary upon request.
  - (b) An owner or operator of more than one affected facility subject to the provisions of this rule may comply with the recordkeeping requirements for these facilities in one recordkeeping system if the system identifies each record by each facility.
  - (c) When each leak is detected as specified in Paragraph (4) of this rule, the following information shall be recorded in a log and shall be kept for 3 years:
    - 1. The instrument and operator identification numbers and the equipment identification number;
    - 2. The date the leak was detected and the dates of each attempt to repair the leak;
    - 3. The repair methods employed in each attempt to repair the leak;
    - 4. The notation "Above 10,000" if the maximum instrument reading measured by the methods specified in Rule .85 of this chapter after each repair attempt is equal to or greater than 10,000 ppm;
    - 5. The notation "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak;
    - 6. The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a process shutdown;
    - 7. The expected date of successful repair of the leak if a leak is not repaired within 15 calendar days;
    - 8. The dates of process unit shutdowns that occur while the equipment is unrepaired; and
    - 9. The date of successful repair of the leak.
  - (d) A list of identification numbers of equipment in vacuum service shall be recorded in a log that is kept.
  - (e) The following information pertaining to all valves subject to the requirements of Paragraph (6) of this rule shall be recorded in a log that is kept for 3 years:

(Rule 1200-03-18-.27, continued)

1. A list of identification numbers for valves that are designated as unsafe-to-monitor, an explanation for each valve stating why the valve is unsafe to monitor, and the plan for monitoring each valve; and
  2. A list of identification numbers for valves that are designated as difficult-to-monitor, an explanation for each valve stating why the valve is difficult to monitor, and the schedule for monitoring each valve.
- (f) The following information for valves complying with Paragraph (5) of this rule shall be recorded in a log that is kept for 3 years:
1. A schedule of monitoring; and
  2. The percent of valves found leaking during each monitoring period as noted in Subparagraph (5)(f) of this rule.
- (g) Information and data used to demonstrate that a piece of equipment is not in VOC service shall be recorded in a log that is kept 3 years in a readily accessible location for use in determining exemptions as provided in Paragraph (1) of this rule.
- (11) The owner or operator of any facility containing sources subject to this rule shall comply with the requirements in Paragraphs .04(1) and (2) of this chapter.

**Authority:** T.C.A. §§ 4-5-202 and 68-201-105. **Administrative History:** Original rule filed May 15, 1979; effective July 10, 1979. Amendment filed March 23, 1981; effective May 7, 1981. Amendment filed April 23, 1992; effective June 7, 1992. Repeal and new rule filed March 8, 1993; effective April 22, 1993.

#### 1200-03-18-.28 PETROLEUM LIQUID STORAGE IN EXTERNAL FLOATING ROOF TANKS.

- (1) Applicability of this rule is as follows:
- (a) This rule applies to any petroleum liquid storage tank that is equipped with an external floating roof and that has a capacity greater than 150,000 liters (L) (40,000 gallons [gal]).
  - (b) This rule does not apply to any petroleum liquid storage tank that:
    1. Is used to store waxy, heavy pour crude oil;
    2. Has a capacity less than 1,600,000 L (420,000 gal) and is used to store produced crude oil and condensate prior to lease custody transfer;
    3. Contains a petroleum liquid with a maximum true vapor pressure less than 10.5 kiloPascals (kPa) (1.5 pounds per square inch atmospheric [psia]) provided that records are kept consistent with Subparagraph (4)(b) of this rule;
    4. Contains a petroleum liquid with a maximum true vapor pressure less than 27.6 kPa (4.0 psia); and
      - (i) Is of welded construction, and
      - (ii) Presently possesses a metallic-type shoe seal, a liquid-mounted foam seal, a liquid-mounted liquid-filled type seal, or other closure device of demonstrated equivalence approved as a revision to the State Implementation Plan; or



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5. Is of welded construction, equipped with a metallic-type shoe primary seal and has a secondary seal from the top of the shoe seal to the tank wall (shoe-mounted secondary seal).
- (2) For the purpose of this rule, the following definitions apply:
    - (a) "Liquid-mounted seal" means a primary seal mounted in continuous contact with the liquid between the tank wall and the floating roof around the circumference of the tank.
    - (b) "Vapor-mounted seal" means a primary seal mounted so there is an annular vapor space underneath the seal. The annular vapor space is bounded by the bottom of the primary seal, the tank wall, the liquid surface, and the floating roof.
    - (c) "Waxy, heavy-pour crude oil" means a crude oil with a pour point of 10°C (50°F) or higher as determined by the American Society for Testing and Materials Standard D97-66, "Test for Pour Point of Petroleum Oils".
  - (3) No owner of a petroleum liquid storage vessel subject to this rule shall store a petroleum liquid in that tank unless:
    - (a) The tank has been fitted with:
      1. A continuous secondary seal extending from the floating roof to the tank wall (rim-mounted secondary seal); or
      2. A closure or other device that controls VOC emissions with an effectiveness equal to or greater than a seal required under Part 1 of this subparagraph and is approved as a revision to the State Implementation Plan.
    - (b) All seal closure devices meet the following requirements:
      1. There are no visible holes, tears, or other openings in the seal(s) or seal fabric;
      2. The seal(s) are intact and uniformly in place around the circumference of the floating roof between the floating roof and the tank wall; and
      3. For vapor-mounted primary seals, the accumulated area of gaps exceeding 0.32 centimeters (cm) (0.125 inches [in]) in width between the secondary seal and the tank wall shall not exceed 21.2 square centimeters per meter ( $\text{cm}^2/\text{m}$ ) (1.0 square inches per foot [ $\text{in}^2/\text{ft}$ ]) of tank diameter, as determined by the method in Paragraph (6) of this rule.
    - (c) All openings in the external floating roof, except for automatic bleeder vents, rim space vents, and leg sleeves, are:
      1. Equipped with covers, seals, or lids in the closed position except when the openings are in actual use; and
      2. Equipped with projections into the tank that remain below the liquid surface at all times.
    - (d) Automatic bleeder vents are closed at all times except when the roof is being floated off or being landed on the roof leg supports.

(Rule 1200-03-18-.28, continued)

- (e) Rim vents are set to open when the roof is being floated off the leg supports or at the manufacturer's recommended setting.
  - (f) Emergency roof drains are provided with slotted membrane fabric covers or equivalent covers which cover at least 90 percent of the area of the opening.
- (4) The owner or operator of a petroleum liquid storage tank with an external floating roof subject to this rule shall:
- (a) Perform routine inspections semi-annually in order to ensure compliance with Paragraph (3) of this rule (the inspections shall include a visual inspection of the secondary seal gap); and
  - (b) Measure the secondary seal gap annually in accordance with Paragraph (6) of this rule when the floating roof is equipped with a vapor-mounted primary seal.
- (5) Recordkeeping requirements apply as follow:
- (a) The owner or operator of any petroleum liquid storage tank with an external floating roof subject to this rule shall maintain the following records for at least 3 years and shall make copies of the records available to the Technical Secretary upon request:
    - 1. Records of the types of volatile petroleum liquids stored;
    - 2. Records of the maximum true vapor pressure of the liquid as stored; and
    - 3. Records of the results of the inspections performed in accordance with Paragraph (4) of this rule.
  - (b) The owner or operator of a petroleum liquid storage vessel with an external floating roof exempted from this rule by Part (1)(b)3, but containing a petroleum liquid with a true vapor pressure greater than 7.0 kPa (1.0 psi), shall maintain the following records for at least 3 years and shall make copies of the records available to the Technical Secretary upon request:
    - 1. Records of the average monthly storage temperature;
    - 2. Records of the type of liquid stored; and
    - 3. Records of the maximum true vapor pressure for all petroleum liquids with a true vapor pressure greater than 7.0 kPa (1.0 psia).
  - (c) The Technical Secretary may, upon written notice, require more frequent inspections or modify the monitoring and recordkeeping requirements, when necessary to accomplish the purposes of this regulation.
- (6) Compliance with Part (3)(b)3 of this rule shall be determined by:
- (a) Physically measuring the length and width of all gaps around the entire circumference of the secondary seal in each place where a 0.32 cm (0.125 in) uniform diameter probe passes freely (without forcing or binding against the seal) between the seal and tank wall; and
  - (b) Summing the area of the individual gaps.

(Rule 1200-03-18-.28, continued)

- (7) The owner or operator of any facility containing sources subject to this rule shall comply with the requirements in Paragraphs .04(1) and (2) of this chapter.

**Authority:** T.C.A. §§ 4-5-202 and 68-201-105. **Administrative History:** Original rule filed May 15, 1979; effective July 10, 1979. Amendment filed March 23, 1981; effective May 7, 1981. Amendment filed April 23, 1992; effective June 7, 1992. Repeal and new rule filed March 8, 1993; effective April 22, 1993.

#### 1200-03-18-.29 PETROLEUM LIQUID STORAGE IN FIXED ROOF TANKS.

- (1) Applicability of this rule is as follows:
- (a) This rule applies to any fixed roof petroleum liquid storage tank with a capacity greater than 150,000 liters (L) (40,000 gallons [gal]).
  - (b) This rule does not apply to any petroleum liquid storage tank that:
    - 1. Has a capacity of less than 1,600,000 L (420,000 gal) and is used to store produced crude oil and condensate prior to lease custody transfer;
    - 2. Is a horizontal underground storage tank used to store JP-4 jet fuel; or,
    - 3. Contains a petroleum liquid with a maximum true vapor pressure less than 10.5 kiloPascals (kPa) (1.5 pounds per square inch atmospheric [psia]), provided that records are maintained consistent with Subparagraph (5)(b) of this rule.
- (2) For the purpose of this rule, "Internal floating roof" means a cover or roof in a fixed roof tank that rests upon or is floated upon the petroleum liquid being contained and is equipped with a closure seal or seals to close the space between the roof edge and tank shell.
- (3) No owner or operator of a petroleum liquid storage tank subject to this rule shall store petroleum liquid in that tank unless:
- (a) The tank is equipped with:
    - 1. An internal floating roof equipped with a closure seal or seals to close the space between the roof edge and tank wall; or
    - 2. An equally effective alternative control, approved as a revision to the State Implementation Plan.
  - (b) The tank is maintained such that there are no visible holes, tears, or other openings in the seal or any seal fabric or materials.
  - (c) All openings, except stub drains, are equipped with covers, lids, or seals such that:
    - 1. The cover, lid, or seal is in the closed position at all times except when in actual use;
    - 2. Automatic bleeder vents are closed at all times except when the roof is being floated off or being landed on the roof leg supports; and
    - 3. Rim vents, if provided, are set to open when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting.
- (4) The owner or operator of a petroleum liquid storage tank with a fixed roof subject to this rule shall:

(Rule 1200-03-18-.29, continued)

- (a) Perform routine, semi-annual, visual inspections of the internal floating roof and its closure seal or seals through roof hatches; and
  - (b) Perform a complete inspection of the cover and seal whenever the tank is emptied and degassed or at least every 10 years, whichever is more frequent. To qualify for the 10 year inspection interval, the primary seal must be either a liquid-mounted or mechanical shoe primary seal. Otherwise if the above mentioned controls are not in place, a complete inspection of the cover and seal must be performed whenever the tank is emptied and degassed or at least every 5 years, whichever is more frequent.
- (5) Recordkeeping requirements apply as follows:
- (a) The owner or operator of a petroleum liquid storage tank with a fixed roof subject to this rule shall maintain the following records for at least 3 years and shall make copies of the records available to the Technical Secretary upon request:
    - 1. Records of the types of volatile petroleum liquids stored in that tank;
    - 2. Records of the maximum true vapor pressure of the liquid as stored; and
    - 3. Records of the results of the inspections required in Paragraph (4) of this rule.
  - (b) The owner or operator of a petroleum liquid storage tank with a fixed roof exempted from this rule by Subparagraph (1)(b), but containing a petroleum liquid with a true vapor pressure greater than 7.0 kPa (1.0 psia), shall maintain the following records for at least 3 years and shall make copies of the records available to the Technical Secretary upon request:
    - 1. Records of the average monthly storage temperature;
    - 2. Records of the type of liquid stored; and
    - 3. Records of the maximum true vapor pressure for any petroleum liquid with a true vapor pressure greater than 7.0 kPa (1.0 psia).
- (6) The owner or operator of any facility containing sources subject to this rule shall comply with the requirements in Paragraphs .04(1) and (2) of this chapter.

**Authority:** T.C.A. §§ 4-5-201, et seq., 4-5-202, 68-201-101, et seq., and 68-201-105. **Administrative History:** Original rule filed May 15, 1979; effective July 10, 1979. Amendment filed March 23, 1981; effective May 1, 1981. Amendment filed April 23, 1992; effective June 7, 1992. Repeal and new rule filed March 8, 1993; effective April 22, 1993. Amendment filed May 25, 2011; effective August 23, 2011.

#### 1200-03-18-.30 LEAKS FROM NATURAL GAS/GASOLINE PROCESSING EQUIPMENT.

- (1) Applicability of this rule is as follows:
- (a) This rule applies to all equipment in volatile organic compound (VOC) service in any process unit at any on-shore natural gas/gasoline processing facility in Davidson, Rutherford, Shelby, Sumner, Williamson, or Wilson County.
  - (b) This rule does not apply to:
    - 1. Any equipment in vacuum service;

(Rule 1200-03-18-.30, continued)

2. Any equipment in heavy liquid service; or
  3. Wet gas reciprocating compressors in plants that do not have a VOC control device, such as a flare or a continuously burning process heater or boiler.
- (c) The equipment inspection requirements in Paragraph (4) of this rule do not apply to:
1. Any natural gas/gasoline processing facility with a design field gas capacity of less than  $2.8 \times 10^5$  standard cubic meters ( $10 \times 10^6$  standard cubic feet) per day that does not fractionate natural gas liquids;
  2. Any pump with dual pump seals;
  3. Any pressure relief valve that is connected to an operating flare header or vapor recovery device; or
  4. Any compressor with a degreasing vent that is routed to an operating VOC control device.
- (2) For the purpose of this rule, the following definitions apply:
- (a) "Equipment" means each pump, compressor, pressure relief device, sampling connection system, open-ended valve or line, valve, and flange or other connector in VOC service or in wet gas service and any devices or systems required by this rule.
  - (b) "Field gas" means feedstock gas entering the natural gas processing plant.
  - (c) "[In] gas/vapor service" means that the piece of equipment in VOC service contains process fluid that is in the gaseous state at operating conditions.
  - (d) "[In] heavy liquid service" means that the piece of equipment in VOC service is not in gas/vapor service or in light liquid service.
  - (e) "[In] light liquid service" means that the piece of equipment in VOC service contains a liquid that meets the following conditions:
    1. The vapor pressure of one or more of the components is greater than 0.3 kPa (0.044 in. Hg) at 20°C (68°C) (standard reference texts or ASTM D2879 shall be used to determine the vapor pressures);
    2. The total concentration of the pure components having a vapor pressure greater than 0.3 kPa (0.044 in. Hg) at 20°C (68°F) is equal to or greater than 20 percent by weight; and
    3. The fluid is a liquid at operating conditions.
  - (f) "Liquids dripping" means any visible leakage from a seal including spraying, misting, clouding, and ice formation.
  - (g) "Natural gas liquids" means the hydrocarbons, such as ethane, propane, butane, and pentane, that are extracted from field gas.
  - (h) "Natural gas processing plant" (gas plant) means any processing site engaged in the extraction of natural gas liquids from field gas, fractionation of mixed natural gas liquids to natural gas products, or both.

(Rule 1200-03-18-.30, continued)

- (i) "Nonfractionating plant" means any gas plant that does not fractionate mixed natural gas liquids into natural gas products.
  - (j) "On-shore" means all facilities except those that are located in the territorial seas or on the outer continental shelf.
  - (k) "Process unit" means equipment assembled for the extraction of natural gas liquids from field gas, the fractionation of the liquids into natural gas products, or other operations associated with the processing of natural gas products. A process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the products.
  - (l) "Reciprocating compressor" means a piece of equipment that increases the pressure of a process gas by positive displacement, employing linear movement of the driveshaft.
  - (m) "[In] vacuum service" means that the equipment in VOC service is operating at an internal pressure which is at least 5 kPa below ambient pressure.
  - (n) "[In] VOC service" means that the piece of equipment contains or contacts a process fluid that is at least 1 percent VOC by weight. The provisions of Subparagraph (9)(b) of this rule specify how to determine that a piece of equipment is not in VOC service.
  - (o) "[In] wet gas service" means that a piece of equipment contains or contacts the field gas before the extraction step in the process.
- (3) The owner or operator of a natural gas/gasoline processing facility subject to this rule shall ensure that:
- (a) Any open-ended line or valve is sealed with a second valve, blind flange, cap, or plug except during operations requiring process fluid flow through the open-ended line or valve;
  - (b) When a second valve is used, each open-ended line or valve equipped with a second valve is operated in such a manner that the valve on the process fluid end is closed before the second valve is closed; and
  - (c) When a double block-and-bleed system is used, the bleed valve or line is open only during operations that require venting of the line between the block valves and is closed at all other times.
- (4) Equipment inspection program standards as follow apply:
- (a) The owner or operator of a natural gas/gasoline processing facility subject to this rule shall conduct quarterly monitoring of each:
    - 1. Compressor;
    - 2. Pump in light liquid service;
    - 3. Valve in light liquid service, except as provided in Paragraphs (5) and (6) of this rule;
    - 4. Valve in gas/vapor service, except as provided in Paragraphs (5) and (6) of this rule; and

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5. Pressure relief valve in gas/vapor service, except as provided in Paragraphs (5) and (6) of this rule.
  - (b) The owner or operator of a natural gas/gasoline processing facility subject to this rule shall conduct a weekly visual inspection of each pump in light liquid service.
  - (c) The owner or operator of a natural gas/gasoline processing facility subject to this rule shall monitor each pressure relief valve within 5 days after each overpressure relief to ensure that the valve has properly reseated and is not leaking.
  - (d) Pressure relief device requirements apply as follow:
    1. Any pressure relief device that is located in a nonfractionating plant that is monitored only by non-plant personnel may be monitored after a pressure release the next time the monitoring personnel are on-site, instead of within 5 days; but
    2. No pressure relief device described in Part 1 of this subparagraph shall be allowed to operate for more than 30 days after a pressure release without monitoring.
  - (e) Leak provisions apply as follow:
    1. When an instrument reading of 10,000 parts per million (ppm) or greater is measured, it shall be determined that a leak has been detected; or
    2. If there are indications of liquid dripping from the equipment, it shall be determined that a leak has been detected.
  - (f) When a leak is detected, the owner or operator shall affix a weatherproof, readily visible tag in a bright color such as red or yellow, bearing the equipment identification number and the date on which the leak was detected. This tag shall remain in place until the leaking equipment is repaired. The requirements of this subparagraph apply to any leak detected by the equipment inspection program and to any leak from any equipment that is detected on the basis of sight, sound, or smell.
- (5) Alternative standards for skip period leak detection and repair apply as follows:
  - (a) An owner or operator shall comply initially with the requirements for valves in gas/vapor service and valves in light liquid service, as described in Paragraph (4) of this rule.
  - (b) After two consecutive quarterly leak detection periods with the percent of valves leaking equal or less than 2.0, an owner or operator may skip one of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.
  - (c) After five consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0, an owner or operator may begin to skip three of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.
  - (d) If the percent of valves leaking is greater than 2.0, the owner or operator shall comply with the requirements as described in Paragraph (4) of this rule but can again elect to use the requirements in Paragraph (5) of this rule.
  - (e) The percent of valves leaking shall be determined by dividing the sum of valves found leaking during current monitoring and valves for which repair has been delayed by the total number of valves subject to the requirements of this rule.

(Rule 1200-03-18-.30, continued)

- (f) An owner or operator shall keep a record of the percent of valves found leaking during each leak detection period.
- (6) Alternative standards for valves that are unsafe or difficult to monitor apply as follow:
- (a) Any valve that is designated, as described in Part (10)(e)1 of this rule, as an unsafe-to-monitor valve is exempt from the requirements of Paragraph (4) if:
    - 1. The owner or operator of the valve demonstrates that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with Paragraph (4); and
    - 2. The owner or operator of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times.
  - (b) Any valve that is designated, as described in Part (10)(e)2, as a difficult-to-monitor valve is exempt from the requirements of Paragraph (4) if:
    - 1. The owner or operator of the valve demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters (m) (6.6 feet [ft]) above a support surface; and
    - 2. The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.
- (7) The owner or operator of a natural gas/gasoline processing facility shall:
- (a) Make a first attempt at repair for any leak not later than 5 calendar days after the leak is detected; and
  - (b) Repair any leak as soon as practicable, but not later than 15 calendar days after it is detected except as provided in Paragraph (8) of this rule.
- (8) Delay of repair standards apply as follow:
- (a) Delay of repair of equipment for which a leak has been detected will be allowed if the repair is technically infeasible without a process unit shutdown. Repair of such equipment shall occur before the end of the next process unit shutdown.
  - (b) Delay of repair of equipment will be allowed for equipment that is isolated from the process and that does not remain in VOC service.
  - (c) Delay of repair beyond a process unit shutdown will be allowed for a valve, if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next process unit shutdown will not be allowed unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown.
- (9) Test methods and procedures apply as follow:
- (a) In conducting the tests required to comply with Paragraph (4) of this rule, the owner or operator shall use the test methods specified in Rule .85 of this chapter.



(Rule 1200-03-18-.30, continued)

- (b) The owner or operator shall test each piece of equipment unless it is demonstrated that a process unit is not in VOC service, i.e., that the VOC content would never be reasonably expected to exceed 1 percent by weight. For purposes of this demonstration, the following methods and procedures shall be used:
    - 1. Procedures that conform to the general methods in ASTM E260, E168 and E169 shall be used to determine the percent VOC content in the process fluid that is contained in or contacts a piece of equipment;
    - 2. Where the test methods in Part 1 of this subparagraph also measure exempt compounds, these compounds may be excluded from the total quantity of organic compounds in determining the VOC content of the process fluid; and
    - 3. Engineering judgment may be used to estimate the VOC content, if a piece of equipment had not been shown previously to be in VOC service. If the Technical Secretary disagrees with this judgment, Parts 1 and 2 of this subparagraph shall be used to resolve the disagreement.
  - (c) The owner or operator shall demonstrate that a piece of equipment is in light liquid service by showing that all of the following conditions apply:
    - 1. The vapor pressure of one or more of the components is greater than 0.3 kilopascal (kPa) at 20°C (0.09 inches of mercury [in. Hg] at 68°F). Standard reference texts or ASTM D2879 shall be used to determine the vapor pressures;
    - 2. The total concentration of the pure components having a vapor pressure greater than 0.3 kPa at 20°C (0.09 in. Hg at 68°F) is equal to or greater than 20 percent by weight; and
    - 3. The fluid is a liquid at operating conditions.
  - (d) Samples used in conjunction with Subparagraphs (b) and (c) of this paragraph shall be representative of the process fluid that is contained in or contacts the equipment.
- (10) Recordkeeping requirements apply as follow:
- (a) Each owner or operator subject to the provisions of this rule shall comply with the recordkeeping requirements of this rule.
  - (b) An owner or operator of more than one facility subject to the provisions of this rule may comply with the recordkeeping requirements for these facilities in one recordkeeping system if the system identifies each record by facility.
  - (c) When each leak is detected as specified in Paragraph (4) of this rule, the following information shall be recorded in a log and shall be kept for 3 years in a readily accessible location:
    - 1. The instrument and operator identification numbers and the equipment identification number;
    - 2. The date the leak was detected and the dates of each attempt to repair the leak;
    - 3. The repair methods employed in each attempt to repair the leak;

(Rule 1200-03-18-.30, continued)

4. The notation "Above 10,000" if the maximum instrument reading measured by the methods specified in Rule .85 of this chapter after each attempt is equal to or greater than 10,000 ppm;
  5. The notation "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak;
  6. The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a process shutdown;
  7. The expected date of successful repair of the leak if a leak is not repaired within 15 calendar days;
  8. The dates of process unit shutdowns that occur while the equipment is unrepaired; and
  9. The date of successful repair of the leak.
- (d) A list of identification numbers of equipment in vacuum service shall be recorded in a log that is kept in a readily accessible location.
- (e) The following information pertaining to all valves subject to the requirements of Paragraph (6) of this rule shall be recorded in a log that is kept for 3 years in a readily accessible location:
1. A list of identification numbers for valves that are designated as unsafe-to-monitor, an explanation for each valve stating why the valve is unsafe to monitor, and the plan for monitoring each valve; and
  2. A list of identification numbers for valves that are designated as difficult-to-monitor, an explanation for each valve stating why the valve is difficult to monitor, and the schedule for monitoring each valve.
- (f) The following information pertaining to all valves complying with Paragraph (5) of this rule shall be recorded in a log that is kept for 3 years in a readily accessible location:
1. A schedule of monitoring; and
  2. The percent of valves found leaking during each monitoring period.
- (g) The following information shall be recorded in a log that is kept for 3 years in a readily accessible location for use in determining exemptions as provided in Paragraph (1) of this rule:
1. An analysis demonstrating the design capacity of the affected facility;
  2. Information and data used to demonstrate that a piece of equipment is not in VOC service; and
  3. Information and data used to demonstrate that a reciprocating compressor is in wet gas service.
- (11) The owner or operator of any facility containing sources subject to this rule shall comply with the requirements in rule 1200-03-18-.04(1) and (2) of this chapter.

(Rule 1200-03-18-.30, continued)

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-201-105. **Administrative History:** Original rule certified March 2, 1983. Repeal filed April 23, 1992; effective June 7, 1992. New rule filed March 8, 1993; effective April 22, 1993. Amendment filed May 16, 1997; effective July 30, 1997.

### 1200-03-18-.31 SOLVENT METAL CLEANING.

- (1) This rule applies to all solvent metal cleaning sources with the following exemptions:
  - (a) Any open top vapor degreasing operation with an open area smaller than 1 square meter ( $m^2$ ) (10.8 square feet [ $ft^2$ ]) is exempt from Subparts (3)(b)3(ii) and (iv) of this rule;
  - (b) Any conveyORIZED degreaser with an air/solvent interface smaller than  $2.0 m^2$  ( $21.5 ft^2$ ) is exempt from Part (3)(c)2 of this rule; and
  - (c) Sources within a facility:
    1. In Hamilton or Shelby County whose potential VOC emissions from all solvent metal cleaning within the facility are less than 25 tons of volatile organic compounds (VOC's) per year; or
    2. In any county other than Davidson, Hamilton, Rutherford, Shelby, Sumner, Williamson, or Wilson County whose potential VOC emissions from all solvent metal cleaning within the facility are less than 100 tons of volatile organic compounds (VOC's) per year.
- (2) For the purpose of this rule, the following definitions apply:
  - (a) "Air/solvent interface" means the surface area defined by points of contact between the solvent liquid or vapor in the cleaner/degreaser and the surrounding air.
  - (b) "Cold cleaning" means the batch process of cleaning and removing soils from a metal surface by spraying, brushing, flushing, or immersion while maintaining the solvent below its boiling point. Wipe cleaning is not included in this definition.
  - (c) "Conveyorized degreasing" means the process of cleaning and removing soils from a continuous stream of metal parts using either cold or vaporized solvents.
  - (d) "Freeboard height" means, for a cold cleaner, the distance from the liquid solvent level in the degreaser tank to the lip of the tank. For an open-top vapor degreaser, it is the distance from the vapor level in the tank during idling to the lip of the tank. For a vapor-conveyorized degreaser, it is the distance from the vapor level to the bottom of the entrance or exit opening, whichever is lower. For a cold-conveyorized degreaser, it is the distance from the liquid solvent level to the bottom of the entrance or exit opening, whichever is lower.
  - (e) "Freeboard ratio" means the freeboard height divided by the smaller interior dimension (length, width, or diameter) of the degreaser tank.
  - (f) "Open-top vapor degreasing" means the process using condensation of hot solvent vapor to clean and remove soils from a batch of metal parts.
  - (g) "Refrigerated chiller" means a device mounted above both the water jacket and the primary condenser coils which carries a refrigerant that provides a chilled air blanket above the solvent vapor, thereby reducing emissions from the degreaser bath.

(Rule 1200-03-18-.31, continued)

- (h) "Solvent metal cleaning" means the process of cleaning soils from metal surfaces by cold cleaning, open-top vapor degreasing, or conveyORIZED degreasing.
- (3) Standards as follow apply:
- (a) The owner or operator of a cold cleaning facility shall:
    - 1. Equip the cleaner with a cover that is easily operated with one hand, if:
      - (i) The solvent true vapor pressure is greater than 2 kiloPascals (kPa) (15 millimeters of Mercury [mm Hg] or 0.3 pounds per square inch [psi]) measured at 38C (100°F) by ASTM D323-89;
      - (ii) The solvent is agitated; or
      - (iii) The solvent is heated;
    - 2. Equip the cleaner with an internal drainage facility so that parts are enclosed under the cover while draining if the solvent true vapor pressure is greater than 4.3 kPa (32 mm Hg or 0.6 psi) measured at 38°C (100°F) by ASTM D323-89, except that the drainage facility may be external for applications where an internal type cannot fit into the cleaning system;
    - 3. Implement one of the following control measures if the solvent true vapor pressure is greater than 4.3 kPa (32 mm of mercury or 0.6 psi) measured at 38°C (100°F) by ASTM D323-89, or if the solvent is heated above 50°C (120°F):
      - (i) Freeboard that gives a freeboard ratio greater than or equal to 0.7; or
      - (ii) Water cover at least 2.54 centimeters (1 inch) in depth (solvent shall be insoluble in and heavier than water); or
      - (iii) Another system of equivalent control, such as a refrigerated chiller or a carbon adsorber, approved as a revision to the State Implementation Plan;
    - 4. Provide a permanent, legible, conspicuous label, summarizing the operating requirements;
    - 5. Store waste solvent in covered containers;
    - 6. Close the cover whenever parts are not being handled in the cleaner;
    - 7. Drain the cleaned parts until dripping ceases;
    - 8. If used, supply a solvent spray that is a solid fluid stream (not a fine, atomized, or shower-type spray) at a pressure that does not exceed 10 pounds per square inch gauge (psig); and
    - 9. Degrease only materials that are neither porous nor absorbent.
  - (b) The owner or operator of an open top vapor degreaser shall:
    - 1. Equip the vapor degreaser with a cover that can be opened and closed easily without disturbing the vapor zone;

(Rule 1200-03-18-.31, continued)

2. Provide the following safety switches:
  - (i) A vapor level thermostat that shuts off the sump heat if the condenser coolant is either not circulating or too warm; and
  - (ii) A spray safety switch that shuts off the spray pump if the vapor level drops more than 10 centimeters (cm) (4 inches [in]);
3. Implement one of the following control measures:
  - (i) Freeboard ratio greater than or equal to 0.75 and, if the degreaser opening is greater than  $1 \text{ m}^2$  ( $10.8 \text{ ft}^2$ ), a powered cover;
  - (ii) Refrigerated chiller;
  - (iii) Enclosed design (cover or door opens only when the dry part is actually entering or exiting the degreaser);
  - (iv) Carbon adsorption system, with ventilation greater than or equal to 15 cubic meters per minute per square meter ( $\text{m}^3/\text{min}/\text{m}^2$ ) (50 cubic feet per minute per square foot [ $\text{ft}^3/\text{min}/\text{ft}^2$ ]) of air/solvent interface (when cover is open), and exhausting less than 25 parts per million (ppm) of solvent averaged over one complete adsorption cycle, or 24 hours, whichever is less; or
  - (v) A control system, demonstrated to have a capture efficiency equivalent to or greater than any of the above and approved as a revision to the State Implementation Plan;
4. Keep the cover closed at all times except when processing work loads through the degreaser;
5. Minimize solvent carryout by:
  - (i) Racking parts so that solvent will drain freely and not be trapped;
  - (ii) Moving parts in and out of the degreaser at less than 3.3 meters per minute (m/min) (11 feet per minute [ft/min]);
  - (iii) Holding the parts in the vapor zone at least 30 seconds or until condensation ceases, whichever is longer;
  - (iv) Tipping out any pools of solvent on the cleaned parts before removal from the vapor zone; and
  - (v) Allowing parts to dry within the degreaser for at least 15 seconds or until visually dry, whichever is longer.
6. Degrease only materials that are neither porous nor absorbent;
7. Occupy no more than one-half of the degreaser's open top area with a workload;
8. Always spray within the vapor level;

(Rule 1200-03-18-.31, continued)

9. Repair solvent leaks immediately, or shut down the degreaser;
  10. Store waste solvent only in covered containers;
  11. Operate the cleaner such that water cannot be visually detected in solvent exiting the water separator;
  12. Use no ventilation fans near the degreaser opening;
  13. When the cover is open, not expose the open top vapor degreaser to drafts greater than 40 m/min (131 ft/min), as measured between 1 and 2 m upwind and at the time elevation as the tank lip;
  14. If a lip exhaust is used on the open top vapor degreaser, not use a ventilation rate that exceeds  $20 \text{ m}^3/\text{min}/\text{m}^2$  ( $65 \text{ ft}^3/\text{min}/\text{ft}^2$ ) of degreaser open area, unless a higher rate is necessary to meet OSHA requirements; and
  15. Provide a permanent, conspicuous label, summarizing the operating procedures of Parts 4 through 14 of this subparagraph.
- (c) The owner or operator of a conveyORIZED degreaser shall:
1. Use no workplace fans near the degreaser opening, and ensure that exhaust ventilation does not exceed  $20 \text{ m}^3/\text{min}/\text{m}^2$  ( $65 \text{ ft}^3/\text{min}/\text{ft}^2$ ) of degreaser opening, unless a higher rate is necessary to meet OSHA requirements;
  2. Install one of the following control devices:
    - (i) Refrigerated chiller;
    - (ii) Carbon adsorption system, with ventilation greater than or equal to  $15 \text{ m}^3/\text{min}/\text{m}^2$  ( $50 \text{ ft}^3/\text{min}/\text{ft}^2$ ) of air/solvent interface (when downtime covers are open), and exhausting less than 25 ppm of solvent by volume averaged over one complete adsorption cycle, or 24 hours, whichever is less; or
    - (iii) A system demonstrated to have a capture efficiency equivalent to or greater than the device listed in Subpart 2(i) or (ii) of this subparagraph and approved as a revision to the State Implementation Plan;
  3. Equip the cleaner with equipment, such as a drying tunnel or rotating (tumbling) basket, sufficient to prevent cleaned parts from carrying out solvent liquid or vapor;
  4. Provide the following safety switches:
    - (i) A condenser flow switch and thermostat that shut off the sump heat if the condenser coolant is either not circulating or too warm;
    - (ii) A spray safety switch which shuts off the spray pump or the conveyor if the vapor level drops more than 10 cm (4 in); and
    - (iii) A vapor level control thermostat that shuts off the pump heat when the vapor level rises too high;

(Rule 1200-03-18-.31, continued)

5. Minimize openings during operation so that entrances and exits will silhouette workloads with an average clearance between the parts and the edge of the degreaser opening of less than 10 cm (4 in) or less than 10 percent of the width of the opening;
  6. Provide downtime covers for closing off the entrance and exit during shutdown hours;
  7. Minimize carryout emissions by:
    - (i) Racking parts so that solvent will drain freely from parts and not be trapped; and
    - (ii) Maintaining the vertical conveyor speed at less than 3.3 m/min (11 ft/min);
  8. Store waste solvent only in covered containers;
  9. Repair solvent leaks immediately, or shut down the degreaser;
  10. Operate the cleaner such that water cannot be visually detected in solvent exiting the water separator;
  11. Place downtime covers over entrances and exits of the conveyORIZED degreaser at all times, except during maintenance activities on the degreaser, when the conveyors and exhausts are not being operated; and
  12. Degrease only materials that are neither porous nor absorbent.
- (4) Compliance with Parts (3)(a)1 through 3, Subpart (3)(b)3(iv), Parts (3)(b)7 through 14, Part (3)(c)1, and Subpart (3)(c)2(ii) of this rule shall be determined by applying the following test methods, as appropriate:
- (a) Reference Methods 1-4 for determining flow rates.
  - (b) Reference Method 18 for determining gaseous organic compound emissions by gas chromatography.
  - (c) Reference Method 25 for determining total gaseous non-methane organic emissions as carbon.
  - (d) Reference Method 25A or 25B for determining total gaseous organic concentrations using flame ionization or non-dispersive infrared analysis.
  - (e) ASTM D323-89 for measuring solvent true vapor pressure.
- (5) Each owner or operator of a solvent metal cleaning source subject to this rule shall maintain the following records for at least 3 years and shall make these records available to the Technical Secretary upon request:
- (a) A record of central equipment maintenance, such as replacement of the carbon in a carbon adsorption unit.
  - (b) The results of all tests conducted in accordance with the requirements in Paragraph (4) of this rule.

(Rule 1200-03-18-.31, continued)

- (6) The owner or operator of any facility containing sources subject to this rule shall:
- (a) Comply with the initial compliance certification requirements of Paragraph .04(1) of this chapter;
  - (b) Comply with the requirements of Paragraph .04(2) of this chapter regarding reports of excess emissions; and
  - (c) Comply with the requirements of Paragraph .04(3) of this chapter for excess emissions related to any control devices used to comply with Subparts (3)(a)3(iii), (3)(b)3(iv) or (v), and (3)(c)1(ii) or (iii) of this rule.

**Authority:** T.C.A. §§ 4-5-202 and 68-201-105. **Administrative History:** Original rule filed March 8, 1993; effective April 22, 1993.

**1200-03-18-.32 CUTBACK AND EMULSIFIED ASPHALT.**

- (1) This rule applies to the manufacture, mixing, storage, use, and application of cutback and emulsified asphalts. No exemptions are allowable based on the size or throughput of an operation.
- (2) For the purpose of this rule, the following definitions apply:
  - (a) "Asphalt" means a dark-brown to black cementitious material (solid, semisolid, or liquid in consistency) of which the main constituents are bitumens that occur naturally or are a residue of petroleum refining.
  - (b) "Cutback asphalt" means asphalt cement that has been liquefied by blending with petroleum solvents (diluent). Upon exposure to atmospheric conditions, the diluents evaporate, leaving the asphalt cement to perform its function.
  - (c) "Emulsified asphalt" means an emulsion of asphalt cement and water that contains a small amount of an emulsifying agent; it is a heterogeneous system containing two normally immiscible phases (asphalt and water) in which the water forms the continuous phase of the emulsion, and minute globules of asphalt form the discontinuous phase.
  - (d) "Penetrating prime coat" means an application of low-viscosity liquid asphalt to an absorbent surface. It is used to prepare an untreated base for an asphalt surface. The prime coat penetrates the base, plugs the voids, and hardens and helps bind the top of the overlying asphalt course. The penetrating prime coat also reduces the necessity of maintaining an untreated base course prior to placing the asphalt pavement.
- (3) Standards as follow apply:
  - (a) No person shall cause, allow, or permit the manufacture, mixing, storage, use, or application of cutback asphalts April 1 through October 31, except:
    1. For long-life stockpile storage; and
    2. When the cutback asphalt is to be used solely as a penetrating prime coat.
  - (b) April 1 through October 31, no person shall cause, allow, or permit the manufacturing, mixing, storage, or use of emulsified asphalt that contains more than 3 percent by volume of volatile organic compounds (VOC) which evaporate at 260 °C (500 °F) as determined by ASTM Method D244-92.



(Rule 1200-03-18-.32, continued)

- (4) The owner or operator of any facility subject to this rule shall maintain records of the manufacture, mixing, storage, use, or application of any asphalt containing VOC April 1 through October 31. These records shall be maintained for a minimum of 3 years and shall be made available to the Technical Secretary upon request.

**Authority:** T.C.A. §§ 4-5-202 and 68-201-105. **Administrative History:** Original rule filed March 8, 1993; effective April 22, 1993. Amendment filed June 10, 2010; effective September 8, 2010.

### 1200-03-18-.33 MANUFACTURING OF SYNTHESIZED PHARMACEUTICAL PRODUCTS.

- (1) Applicability of this rule is as follows:

- (a) This rule applies to the following sources of volatile organic compounds (VOC) at synthesized pharmaceutical manufacturing facilities:

1. Reactors;
2. Distillation operations;
3. Crystallizers;
4. Centrifuges;
5. Vacuum dryers;
6. Air dryers;
7. Production equipment exhaust systems;
8. Rotary vacuum filters and other filters;
9. In-process tanks; and
10. Leaks.

- (b) This rule does not apply to sources in a facility:

1. In Hamilton or Shelby County whose potential emissions from all sources listed in Subparagraph (a) of this paragraph within the facility are less than 25 tons of volatile organic compounds (VOC's) per year; or
2. In any other county except Davidson, Hamilton, Rutherford, Shelby, Sumner, Williamson, and Wilson Counties whose potential VOC emissions from all sources listed in Subparagraph (a) of this paragraph within the facility are less than 100 tons on volatile organic compounds (VOC's) per year.

- (2) For the purpose of this rule, the following definitions apply:

"Production equipment exhaust system" means a device for collecting and directing out of the work area VOC fugitive emissions from reactor openings, centrifuge openings, and other vessel openings for the purpose of protecting workers from excessive VOC exposure.

"Reactor" means a vat or vessel, which may be jacketed to permit temperature control, designed to contain chemical reactions.

(Rule 1200-03-18-.33, continued)

“Separation operation” means a process that separates a mixture of compounds and solvents into two or more components. Specific mechanisms include extraction, centrifugation, filtration, and crystallization.

“Synthesized pharmaceutical manufacturing” means manufacture of pharmaceutical products and intermediates by chemical synthesis. The production and recovery of materials produced via fermentation, extraction of organic chemical from vegetative materials or animal tissues, and formulation and packaging of the product are not considered synthesized pharmaceutical manufacturing.

(3) Standards as follow apply:

(a) The owner or operator of a synthesized pharmaceutical manufacturing facility subject to this regulation shall control the VOC emissions from all vents from reactors, distillation operations, crystallizers, centrifuges, and vacuum dryers at the facility that emit 6.8 kilograms per day (kg/day) (15 pounds per day [lb/day]) or more of VOC as determined by the procedure in “Control of Volatile Organic Emissions from Manufacture of Synthesized Pharmaceutical Products”, Appendix B, EPA-450/2-78-029, December 1978. Surface condensers or equivalent controls shall be used, provided that:

1. If surface condensers are used, the condenser outlet gas temperature shall not exceed the allowable temperature limit described for each associated vapor pressure in the following table; or

| Allowable Condenser<br>Outlet Gas Temperature<br>°C | VOC Vapor<br>Pressure at<br>20°C, kPa (psi) |
|---|---|
| -25   | >40.01 (5.8)                                |
| -15   | >20.0 (2.9)                                 |
| 0   | >10.0 (1.5)                                 |
| 10  | > 7.0 (1.0)                                 |
| 25  | > 3.5 (0.5)                                 |

2. If equivalent controls such as carbon adsorption or incineration are used, the VOC emissions shall be reduced by at least as much as they would be by using a surface condenser. The owner or operator shall calculate the efficiency equivalent to a condenser in accordance with the procedures specified on pages 4-2 through 4-6 in “Control of Volatile Organic Emissions from Manufacture of Synthesized Pharmaceutical Products”, Appendix B, EPA-450/2-78-029, December 1978.

(b) The owner or operator of a synthesized pharmaceutical manufacturing facility subject to this regulation shall reduce the VOC emissions from all air dryers and production equipment exhaust systems:

1. By at least 90 percent if emissions are 150 kg/day (330 lb/day) or more of VOC; or
2. To 15.0 kg/day (33 lb/day) or less if emissions are less than 150 kg/day (330 lb/day) of VOC.

(c) The owner or operator of a synthesized pharmaceutical manufacturing facility subject to this regulations shall reduce the VOC emissions from storage tanks by:

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1. Providing a vapor balance system or equivalent control that is at least 90 percent effective in reducing emissions from truck or railcar deliveries to storage tanks with capacities greater than 7,500 liters (l) (2,000 gallons [gal]).
  2. Installing pressure/vacuum conservation vents set at 0.2 kPa (0.03 pounds per square inch atmospheric [psia]) on all storage tanks that store VOC with vapor pressures greater than 10.0 kPa (1.5 psi) at 20°C (68°F).
- (d) The owner or operator of a synthesized pharmaceutical facility subject to this regulation shall enclose all centrifuges, rotary vacuum filters, and other filters having an exposed liquid surface where the liquid contains VOC and exerts a total VOC vapor pressure of 3.50 kPa (0.5 psi) or more at 20°C (68°F).
- (e) The owner or operator of a synthesized pharmaceutical facility subject to this regulation shall install covers on all in-process tanks that contain VOC at any time. These covers shall remain closed, unless production, sampling, maintenance, or inspection procedures require operator access.
- (f) The owner or operator of a synthesized pharmaceutical manufacturing facility subject to this regulation shall repair all leaks from which a liquid containing VOC can be observed running or dripping. The repair shall be completed as soon as practicable but not later than 15 calendar days after the leak is found. If the leaking component cannot be repaired until the process is shut down, the leaking component shall then be repaired before the process is restarted.
- (4) (Reserved).
- (5) Monitoring for air pollution control equipment shall be as follows:
- (a) At a minimum, continuous monitors for the following parameters shall be installed on air pollution control equipment used to control sources subject to this rule:
    1. Destruction device combustion temperature;
    2. Temperature rise across a catalytic incinerator bed;
    3. VOC concentration on a carbon adsorption unit to determine breakthrough;
    4. Outlet gas temperature of a refrigerated condenser; and
    5. Temperature of a non-refrigerated condenser coolant supply system.
  - (b) Each monitor shall be equipped with a recording device.
  - (c) Each monitor shall be calibrated quarterly.
  - (d) Each monitor shall operate at all times while the associated control equipment is operating.
- (6) Recordkeeping shall be as follows:
- (a) The owner or operator of a pharmaceutical manufacturing facility subject to this rule shall maintain the following records:
    1. Parameters listed in Paragraph (5) of this rule shall be recorded; and

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2. For sources subject to this rule, the solvent true vapor pressure as determined by ASTM D323-89 shall be recorded for every process.
- (b) For any leak subject to Subparagraph (3)(f) of this rule, which cannot be readily repaired within 1 hour after detection, the following records shall be kept:
1. The name of the leaking equipment;
  2. The date and time the leak is detected;
  3. The action taken to repair the leak; and
  4. The date and time the leak is repaired.
- (7) The owner or operator of any facility containing sources subject to this rule shall comply with the requirements in Paragraphs .04(1) and (2) of this chapter.

**Authority:** T.C.A. §§ 4-5-202 and 68-201-105. **Administrative History:** Original rule filed March 8, 1993; effective April 22, 1993. Amendment filed September 7, 1993; effective November 21, 1993.

#### 1200-03-18-.34 PNEUMATIC RUBBER TIRE MANUFACTURING.

- (1) Applicability of this rule is as follows:
- (a) This rule applies to the following operations in pneumatic rubber tire manufacturing facilities:
    1. Undertread cementing;
    2. Tread-end cementing;
    3. Bead cementing; and
    4. Green tire spraying.
  - (b) The provisions of this rule do not apply to the production of specialty tires for antique or other vehicles when produced on an irregular basis or with short production runs. This exemption applies only to tires produced on equipment separate from normal production lines for passenger-type tires.
  - (c) This rule does not apply to operations in a facility:
    1. In Hamilton or Shelby County whose potential VOC emissions from all operations listed in Subparagraph (a) of this paragraph within the facility are less than 25 tons of volatile organic compounds (VOC's) per year; or
    2. In any other county except Davidson, Hamilton, Rutherford, Shelby, Sumner, Williamson, and Wilson Counties whose potential VOC emissions from all operations listed in Subparagraph (a) of this paragraph within the facility are less than 100 tons of volatile organic compounds (VOC's) per year.
- (2) For the purpose of this rule, the following definitions apply:
- (a) "Bead cementing operation" means the system that is used to apply cement to the bead rubber before or after it is wound into its final, circular form. A bead cementing operation consists of a cement application station, such as a dip tank, spray booth and

(Rule 1200-03-18-.34, continued)

nozzles, cement trough and roller or swab applicator, and all other equipment necessary to apply cement to wound beads or bead rubber and to allow evaporation of solvent from cemented beads.

- (b) "Green tire" means an assembled, uncured tire.
  - (c) "Green tire spraying operation" means the system used to apply a mold-release agent and lubricant to the inside and/or outside of green tires to facilitate the curing process and to prevent rubber from sticking to the curing press. A green tire spraying operation consists of a booth where spraying is performed, the spray application station, and related equipment, such as the lubricant supply system.
  - (d) "Passenger-type tire" means an agricultural, airplane, industrial, mobile home, light- or medium-duty truck, or passenger vehicle tire with a bead diameter up to 50.8 centimeters (cm) (20.0 inches [in.]) and cross-sectional dimension up to 32.5 cm (12.8 in.).
  - (e) "Pneumatic rubber tire manufacturing" means the production of pneumatic rubber passenger-type tires on a mass-production basis.
  - (f) "Sidewall cementing operation" means the system used to apply cement to a continuous strip of sidewall component or any other continuous strip component (except combined tread/sidewall component) that is incorporated into the sidewall of a finished tire. A sidewall cementing operation consists of a cement application station and all other equipment, such as the cement supply system and feed and takeaway conveyors, necessary to allow evaporation of solvent from the cemented rubber.
  - (g) "Tread-end cementing operation" means the system used to apply cement to one or both ends of the tread or combined tread/sidewall component. A tread and cementing operation consists of a cement application station and all other equipment, such as the cement supply system and feed and takeaway conveyors, necessary to apply cement to tread ends and to allow evaporation of solvent from the cemented tread ends.
  - (h) "Undertread cementing operation" means the system used to apply cement to a continuous strip of tread or combined tread/sidewall component. An undertread cementing operation consists of a cement application station and all other equipment, such as the cement system and feed and takeaway conveyors, necessary to apply cement to tread or combined tread/sidewall strips and to allow evaporation of solvent from the cemented tread or combined tread/sidewall.
  - (i) "Water-based green tire spray" means any mold release agent and lubricant applied to the inside or outside of green tires that contains 12 percent or less, by weight, of VOC as sprayed.
- (3) Standards as follow apply:
- (a) The owner or operator of an undertread cementing operation subject to this rule shall:
    - 1. Install and operate a capture and control system for emissions from the undertread cementing operation that achieves an overall emission reduction of at least 75 percent calculated according to the procedures in this chapter, or
    - 2. Meet the equipment design and performance specifications in the July 1, 1991, 40 C.F.R. 60.543(j)(1), (2), and (4) through (6), or under paragraphs (j)(1) and (3) through (6), and conduct a control device efficiency performance test to determine compliance as described under paragraph (j)(7), or

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3. Maintain total (uncontrolled) VOC use less than or equal to the levels specified in the July 1, 1991, 40 C.F.R. 60.542(a)(1)(ii)(A) through (E).
- (b) The owner or operator of a sidewall cementing operation subject to this rule shall:
1. Install and operate a capture and control system for emissions from the sidewall cementing operation that achieves an overall emission reduction of at least 75 percent calculated according to the procedures in this chapter, or
  2. Meet the equipment design and performance specifications in the July 1, 1991, 40 C.F.R. 60.543(j)(1), (2), and (4) through (6) or under paragraphs (j)(1) and (3) through (6), and conduct a control device efficiency performance test to determine compliance as described under paragraph (j)(7), or
  3. Maintain total (uncontrolled) VOC use less than or equal to the levels specified in the July 1, 1991, 40 C.F.R. 60.542(a)(2)(ii)(A) through (E).
- (c) Alternate standards for undertread cementing and sidewall cementing as follow apply:
1. The owner or operator of each undertread cementing and sidewall cementing operation at a rubber tire manufacturing facility that meets the criteria in Subparts 2(i) through (iii) of this subparagraph shall have the option of complying with the alternate standard in the July 1, 1991, 40 C.F.R. 60.542a in lieu of the standards in Subparagraphs (a) and (b) of this paragraph. The election of complying with this option shall be irreversible.
  2. The owner or operator may elect to comply with the alternate standard in the July 1, 1991, 40 C.F.R. 60.542(a) provided that the undertread cementing and sidewall cementing operation meets all of the following criteria:
    - (i) Commenced construction, modification, or reconstruction after January 20, 1983, and before September 15, 1987;
    - (ii) Uses 25 g or less of VOC per tire per month; and
    - (iii) Does not use a control device to control VOC emissions from these operations.
- (d) The owner or operator of a green tire spraying operation subject to this rule:
1. Using only water-based sprays shall meet the g/tire limits in the July 1, 1991, 40 C.F.R. 60.542(a)(5)(i) and (ii).
  2. Using only organic solvent-based sprays shall:
    - (i) Install and operate a capture and control system for emissions from the green tire spraying operation that achieves an overall emission reduction of at least 75 percent calculated according to the procedures in this chapter;
    - (ii) Meet the equipment design and performance specifications in the July 1, 1991, 40 C.F.R. 60.543(j)(1), (2), and (4) through (6), or under paragraphs (j)(1) and (3) through (6), and conduct a control device efficiency performance test to determine compliance as described under paragraph (j)(7); or

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- (iii) Meet the g/tire limits in the July 1, 1991, 40 C.F.R. 60.542(a)(6)(ii)(A) through (E).
- 3. Using both water-based and organic solvent-based sprays shall meet the emission limits in the July 1, 1991, 40 C.F.R. 60.542(a)(7).
- (e) The owner or operator of a tread-end cementing operation subject to this rule shall:
  - 1. Install and operate a capture and control system for emissions from these operations that achieves an overall emission reduction of at least 75 percent calculated according to the procedures in this chapter; or
  - 2. Meet the g/tire limit in the July 1, 1991, 40 C.F.R. 60.542(a)(3).
- (f) The owner or operator of a bead cementing operation subject to this rule shall:
  - 1. Install and operate a capture and control system for emissions from these operations that achieves an overall emission reduction of at least 75 percent calculated according to the procedures in this chapter; or
  - 2. Meet the g/bead limit in the July 1, 1991, 40 C.F.R. 60.542(a)(4).
- (4) The compliance procedures as follow shall be used to determine compliance with the standards in Paragraph (3) of this rule:
  - (a) An owner or operator of a tread-end cementing operation who does not use a VOC control device and who is seeking to comply with the g/tire standards in Part (3)(e)2 shall:
    - 1. Determine the density and weight fraction VOC (including dilution VOC) of each cement by analysis of the cement using Reference Method 24.
    - 2. Calculate the total mass of VOC used at the tread-end cementing operation for the day ( $M_d$ ) as follows:
      - (i) For each tread-end cementing operation subject to this rule for which cement is delivered in batch or via a distribution system that serves only that tread-end cementing operation, use the following equation to calculate the total mass of VOC used per day ( $M_d$ ):

$$M_d = \sum_{i=1}^a L_{ci} D_{ci} W_{oi}$$

where:

a = The number of different cements used during the day that are delivered in batch or via a distribution system that serves only a single operation subject to this rule.

$L_c$  = Volume of cement used for a day (liters).

$D_c$  = Density of cement (grams per liter).

(Rule 1200-03-18-.34, continued)

$W_o$  = Weight fraction of VOC in a cement.

- (ii) For each tread-end cementing operation subject to this rule for which cement is delivered via a common distribution system that also serves other operations that may or may not be subject to this rule:
- (I) Calculate the total mass of VOC used for all operations served by the common distribution system for the day (M):

$$M = \sum_{i=1}^b L_{ci} D_{ci} W_{oi}$$

where:

$b$  = The number of different cements used during the day that are delivered via a common distribution system that also serves other operations.

- (II) Determine the fraction ( $F_o$ ) of M used at the operation subject to this rule by comparing the production records and process specifications for the material cemented at the subject operation for the day to the production records and process specifications for all the material cemented at all other operations served by the common distribution system for the day.
- (III) Calculate the total mass of VOC used at the operation subject to this rule for the day ( $M_d$ ):

$$M_d = MF_o$$

where:

$M$  = Total mass of VOC used for a day by all operations served by a common cement distribution system (grams).

$F_o$  = Fraction of total mass of VOC used in a day by all operations served by a common cement distribution system that is used by a particular operation subject to this rule served by the common distribution system.

3. Determine the total number of tread or combined tread/sidewall components that receive an application of cement for the day at the tread-end cementing operation subject to this rule ( $T_o$ ).
4. Calculate the mass of VOC used per tire cemented at the tread-end cementing operation subject to this rule for the day (G):

$$G = \frac{M_d}{T_o}$$



(Rule 1200-03-18-.34, continued)

5. Calculate the mass of VOC emitted per tire cemented at the tread-end cementing operation subject to this rule for the day (N):

$$N = G$$

- (b) An owner or operator of a bead cementing operation who does not use a VOC control device and who is seeking to comply with the g/bead standard in Part (3)(f)2 shall:

1. Determine the density and weight fraction VOC of each cement as specified under Part (a)1 of this paragraph.
2. Calculate the total mass of VOC used at the bead cementing operation subject to this rule for the day ( $M_d$ ) as specified under Part (a)2 of this rule.

3. Determine the number of beads cemented at the operation subject to this rule for the day ( $B_d$ ) using production records;  $B_d$  equals the number of beads that receive an application of cement for the day.

4. Calculate the mass of VOC used per bead cemented at the operation subject to this rule ( $G_b$ ):

$$G_b = \frac{M_d}{B_d}$$

5. Calculate the mass of VOC emitted per bead cemented at the operation subject to this rule for the day ( $N_b$ ):

$$N_b = G_b$$

- (c) For each tread-end cementing operation or each bead cementing operation that uses a VOC control device that destroys VOC (e.g., an incinerator), the owner or operator shall use the following procedure to determine compliance with the g/tire or g/bead standards in Parts (3)(e)2 and (f)2 of this rule:

1. Calculate the mass of VOC used per tire cemented (G) at the tread-end cementing operation subject to this rule as specified under Parts (a)1 through (a)4 of this paragraph, or calculate the mass of VOC used per bead cemented ( $G_b$ ) at the bead cementing operation subject to this rule as specified in Parts (b)1 through (b)4 of this paragraph.
2. Calculate the mass of VOC emitted per tire cemented (N) or per bead cemented ( $N_b$ ) at the operation subject to this rule:

$$N = G(1-R)$$

$$N_b = G_b(1-R)$$

where:

R = Overall efficiency of an emission reduction system (fraction) as determined by the procedures specified in Subparts 3(i) through 3(iii) of this subparagraph.

(Rule 1200-03-18-.34, continued)

3. For the initial compliance test, determine the overall reduction efficiency (R) as follows:
- (i) The owner or operator shall construct a temporary total enclosure around the application and drying areas during the test for the purpose of capturing fugitive VOC emissions. The enclosure shall be maintained at a negative pressure to ensure that all evaporated VOC are measurable. Determine the fraction ( $F_c$ ) of total VOC used at the operation subject to this rule that enters the control device:

$$F_c = \frac{\sum_{i=1}^m C_{bi} Q_{bi}}{\sum_{i=1}^m C_{bi} Q_{bi} + \sum_{i=1}^n C_{fi} Q_{fi}}$$

where:

$C_b$  = Concentration of VOC in the gas stream in the vents prior to a control device (parts per million by volume);

$C_f$  = Concentration of VOC in each gas stream vented directly to the atmosphere from an operation subject to this rule or from a temporary total enclosure around an operation subject to this rule (parts per million by volume);

$m$  = The number of vents from the operation subject to this rule to the control device;

$n$  = The number of vents from the operation subject to this rule to the atmosphere and from the temporary total enclosure;

$Q_b$  = Volumetric flow rate in the vents before a control device (dry standard cubic meters per hour); and

$Q_f$  = Volumetric flow rate of each stream vented directly to the atmosphere from an operation subject to this rule or from a temporary total enclosure around an operation subject to this rule (dry standard cubic meters per hour).

- (ii) Determine the destruction efficiency of the control device (E) by using values of the volumetric flow rate (Q) of each of the gas streams and the VOC concentration (as carbon) (C) of each of the gas streams in and out of the control device:

$$E = \frac{\sum_{i=1}^m C_{bi} Q_{bi} - \sum_{i=1}^p C_{ai} Q_{ai}}{\sum_{i=1}^m C_{bi} Q_{bi}}$$

(Rule 1200-03-18-.34, continued)

$$\sum_{i=1}^m C_{bi} Q_{bi}$$

where:

p = Number of vents after the control device;

C<sub>a</sub> = Concentration of VOC in the gas stream in the vents after the control device (parts per million by volume); andQ<sub>a</sub> = Volumetric flow rate in vents after the control device (dry standard cubic meters per hour).

(iii) Determine the overall reduction efficiency (R):

$$R = EF_C$$

4. If subsequent compliance tests are required, the owner or operator may use the most recently determined overall reduction efficiency (R) if the conditions under which the capture system and control device are being operated have not changed since R was most recently determined. If the conditions under which the capture system and control device are being operated are different from those in effect when R was determined, the owner or operator shall re-establish R as specified in Subparts 3(i) through 3(iii).

(d) For each tread-end cementing operation and each bead cementing operation subject to this rule that uses a VOC emission reduction system with a control device that recovers VOC (e.g., a carbon adsorber), the owner or operator shall use the following procedure to determine compliance with the g/tire or g/bead standards specified under Parts (3)(e)2 and (3)(f)2 of this rule:

1. Calculate the mass of VOC used per tire cemented at the operation subject to this rule for the day (G) as specified under Parts (a)1 through (a)4 of this paragraph or the mass of VOC used per bead cemented for the day (G<sub>b</sub>) as specified in Parts (b)1 through (b)4 of this paragraph.
2. Calculate the total mass of VOC recovered from the operation subject to this rule for the day (M<sub>r</sub>):

$$M_r = L_r D_r$$

where:

L<sub>r</sub> = Volume of VOC recovered by a control device for a day (liters); andD<sub>r</sub> = Density of VOC recovered by a control device (grams per liter).

3. Calculate the overall reduction efficiency for the VOC emission reduction system (R) for the day:

(Rule 1200-03-18-.34, continued)

$$R = \frac{M_r}{M_o}$$

4. Calculate the mass of VOC emitted per tire cemented at the operation subject to this rule for the day (N) or mass of VOC emitted per bead cemented at the operation subject to this rule for the day ( $N_b$ ):

$$N = G(1-R)$$

$$N_b = G_b(1-R)$$

- (e) An instance of operation of a control device outside of the parameter boundaries listed in Paragraph (6) of this rule shall be an instance of excess emission and noncompliance.
- (5) Each owner or operator subject to the provisions of this rule shall install, calibrate, maintain, and operate according to the manufacturer's specifications the following equipment:
- (a) Where a thermal incinerator is used for VOC emission reduction, a temperature monitoring device equipped with a continuous recorder for the temperature of the gas stream in the combustion zone of the incinerator. The temperature monitoring device shall have an accuracy of  $\pm 1$  percent of the combustion temperature being measured in  $^{\circ}\text{C}$  or  $\pm 0.5^{\circ}\text{C}$ , whichever is greater.
- (b) Where a catalytic incinerator is used for VOC emission reduction, temperature monitoring devices, each equipped with a continuous recorder, for the temperature in the gas stream immediately before and after the catalyst bed of the incinerator. The temperature monitoring devices shall have an accuracy of  $\pm 1$  percent of the combustion temperature being measured in  $^{\circ}\text{C}$  or  $\pm 0.5^{\circ}\text{C}$ , whichever is greater.
- (c) Where a carbon adsorber is used for VOC emission reduction, and stack emission testing was required to demonstrate compliance with a standard in this rule, an organics monitoring device used to indicate the concentration level of organic compounds based on a detection principle such as infrared, photoionization, or thermal conductivity, equipped with a continuous recorder, for the outlet of the carbon bed.
- (6) Recordkeeping requirements as follow apply:
- (a) Each owner or operator of a facility subject to this rule that uses a thermal incinerator shall maintain the following records:
1. Continuous records of the temperature of the gas stream in the combustion zone of the incinerator; and
  2. Records of all 3-hour periods of operation for which the average temperature of the gas stream in the combustion zone was more than  $28^{\circ}\text{C}$  ( $50^{\circ}\text{F}$ ) below the combustion zone temperature measured during the most recent determination of the destruction efficiency of the thermal incinerator that demonstrated that the facility was in compliance.
- (b) Each owner or operator of a facility subject to this rule that uses a catalytic incinerator shall maintain the following records:
1. Continuous records of the temperature of the gas stream both upstream and downstream of the incinerator;

(Rule 1200-03-18-.34, continued)

2. Records of all 3-hour periods of operation for which the average temperature measured before the catalyst bed is more than 28 °C (50 °F) below the gas stream temperature measured before the catalyst bed during the most recent determination of destruction efficiency of the catalytic incinerator that demonstrated that the facility was in compliance; and
  3. Records of all 3-hour periods for which the average temperature difference across the catalyst bed is less than 80 percent of the temperature difference measured during the most recent determination of the destruction efficiency of the catalytic incinerator that demonstrated that the facility was in compliance.
- (c) Each owner or operator of a facility subject to this rule that uses a carbon adsorber shall maintain continuous records of all 3-hour periods of operation during which the average VOC concentration level or reading of organics in the exhaust gases is more than 20 percent greater than the reading measured by the organics monitoring device during the most recent determination of the removal efficiency of the carbon adsorber that demonstrated that the facility was in compliance. This specification applies only to carbon adsorbers for which stack emission testing was required to demonstrate compliance with a standard of this rule.
- (7) The owner or operator of any facility containing emission sources subject to this rule shall comply with the reporting requirements in Paragraphs .04(1) and (2) of this chapter.

**Authority:** T.C.A. §§ 4-5-202 and 68-201-105. **Administrative History:** Original rule filed March 8, 1993; effective April 22, 1993.

#### 1200-03-18-.35 GRAPHIC ARTS SYSTEMS.

- (1) This rule applies to any packaging rotogravure, publication rotogravure, or flexographic printing press at any facility whose potential VOC emissions from all such printing presses is greater than or equal to 90.7 megagrams (Mg) (100 tons) per year.
- (2) For the purpose of this rule, the following definitions apply:
  - (a) "Flexographic printing press" means a printing press that uses a roll printing technique in which the pattern to be applied is raised above the printing roll and the image carrier is made of rubber or other elastomeric materials.
  - (b) "Packaging rotogravure printing press" means a rotogravure printing press used to print on paper, paper board, metal foil, plastic film, and other substrates that are, in subsequent operations, formed into packaging products and labels, and other nonpublication products.
  - (c) "Publication rotogravure printing press" means a rotogravure printing press on which the paper products such as the following are printed:
    1. Catalogues, including mail order and premium;
    2. Direct mail advertisements, including circulars, letters, pamphlets, cards, and printed envelopes;
    3. Display advertisements, including general posters, outdoor advertisements, car cards, window posters; counter and floor displays; point-of-purchase, and other printed display material;

(Rule 1200-03-18-.35, continued)

4. Magazines, books;
  5. Miscellaneous advertisements, including brochures, pamphlets, catalogue sheets, circular folders, announcements, package inserts, book jackets, market circulars, magazine inserts, and shopping news;
  6. Newspapers, magazine and comic supplements for newspapers, and pre-printed newspaper inserts;
  7. Periodicals; or
  8. Telephone and other directories, including business reference services.
- (d) "Rotogravure printing press" means any printing press designed to print on a substrate using a gravure cylinder.
- (3) Standards as follow apply:
- (a) No owner or operator of a packaging rotogravure or flexographic printing press subject to this rule shall apply any coating or ink unless the VOC content is equal to or less than one of the following:
    1. 40 percent VOC by volume of the coating or ink, excluding water, as applied;
    2. 25 percent VOC by volume of the volatile content in the coating or ink, as applied; or
    3. 0.5 kilogram (kg) VOC per kg (0.5 pound [lb] VOC per lb) coating or ink solids, as applied.
  - (b) No owner or operator of a publication rotogravure printing press subject to this rule shall apply any coating or ink unless the VOC content is equal to or less than one of the following:
    1. 40 percent VOC by volume of the coating or ink, excluding water, as applied; or
    2. 25 percent VOC by volume of the volatile content in the coating or ink, as applied.
  - (c) As an alternative to compliance with the limits in Subparagraphs (a) or (b) of this paragraph, an owner or operator of a packaging rotogravure, publication rotogravure, or flexographic printing press may comply with the requirements of this rule by meeting the requirements of Paragraph (4) or (5) of this rule.
- (4) Weighted average limitations as follow apply:
- (a) No owner or operator of a packaging rotogravure, publication rotogravure, or flexographic printing press shall apply coatings and/or inks on the subject printing press unless the weighted average, by volume, VOC content of all coatings and/or inks, as applied, each day on the subject printing press is equal to or less than the limitation specified in either Part (3)(a)1 or (3)(b)1 [as determined by Subparagraph (4)(d)]; (3)(a)2 or (3)(b)2 [as determined by Subparagraph (4)(e)]; or, in the case of packaging rotogravure or flexographic printing, (3)(a)3 [as determined by Subparagraph (4)(f)] of this rule.

(Rule 1200-03-18-.35, continued)

- (b) An owner or operator may comply with the weighted average limitation by grouping coatings and/or inks used on a printing press into two categories that meet the conditions in Parts 1 and 2 of this subparagraph as follow. (Any use of averaging between the two categories of coatings and/ or inks used on a packaging rotogravure press or on a flexographic press requires compliance with the emission standard in Part (3)(a)3, as determined by the equation in Subparagraph (f) of this paragraph.):
1. The weighted average VOC content for the first category shall comply with Part (3)(a)1 or (3)(b)1 of this rule, as determined by applying the equation in Subparagraph (d) of this paragraph to the coatings and/or inks in this first category.
  2. The weighted average VOC content for the second category shall comply with Part (3)(a)2 or (3)(b)2 of this rule, as determined by applying the equation in Subparagraph (e) of this paragraph to the coatings and/or inks in this second category.
- (c) (Reserved)
- (d) The following equation shall be used to determine if the weighted average VOC content of all coatings and/or inks, as applied, on the subject printing press exceeds the limitation specified in Part (3)(a)1 or (3)(b)1 of this rule:

$$\text{VOC}_{(i)(A)} = \frac{\sum_{i=1}^n L_i V_{\text{VOC}i}}{\sum_{i=1}^n L_i (V_{\text{si}} + V_{\text{VOC}i})} \times 100$$

where:

$\text{VOC}_{(i)(A)}$  = The weighted average VOC content in units of percent VOC by volume of all coatings and/or inks (excluding water and/or exempt compounds) used each day;

$i$  = Subscript denoting a specific coating or ink, as applied;

$n$  = The number of different coatings and/or inks, as applied, each day on a printing press;

$L_i$  = The liquid volume of each coating or ink, as applied, used that day in units or liters (L) (gallons [gal]);

$V_{\text{si}}$  = The volume fraction of solids in each coating or ink, as applied; and

$V_{\text{VOC}i}$  = The volume fraction of VOC in each coating or ink, as applied.

- (e) The following equation shall be used to determine if the weighted average VOC content of all coatings and/or inks, as applied, on the subject printing press exceeds the limitation specified in Part (3)(a)2 or (3)(b)2 of this rule:

(Rule 1200-03-18-.35, continued)

$$\text{VOC}_{(i)(B)} = \frac{\sum_{i=1}^n L_i V_{\text{VOC}i}}{\sum_{i=1}^n L_i V_{\text{VC}i}} \times 100$$

where:

$\text{VOC}_{(i)(B)}$  = The weighted average VOC content in units of percent VOC by volume of the volatile content of all coatings and/or inks used each day;

$i$  = Subscript denoting a specific coating or ink, as applied;

$n$  = The number of different coatings and/or inks, as applied, each day on a printing press;

$L_i$  = The liquid volume of each coating or ink, as applied, in units of L (gal);

$V_{\text{VOC}i}$  = The volume fraction of VOC in each coating or ink, as applied; and

$V_{\text{VC}i}$  = The volume fraction of volatile matter in each coating or ink, as applied.

- (f) The following equation shall be used to determine if the weighted average VOC content of all coatings and/or inks, as applied, on the subject printing press exceeds the limitation specified in Part (3)(a)3 of this rule:

$$\text{VOC}_{(i)(C)} = \frac{\sum_{i=1}^n L_i D_i W_{\text{VOC}i}}{\sum_{i=1}^n L_i D_i W_{s_i}}$$

where:

$\text{VOC}_{(i)(C)}$  = The weighted average VOC content in units of mass of VOC per mass of coating and/or ink solids;

$i$  = Subscript denoting a specific coating or ink, as applied;

$n$  = The number of different coatings and/or inks, as applied, each day on a printing press;

$L_i$  = The liquid volume of each coating or ink, as applied, used on the day in units of L (gal);



(Rule 1200-03-18-.35, continued)

$D_i$  = The density of each coating or ink, as applied, in units of mass of coating or ink per unit volume of coating or ink;

$W_{VOCi}$  = The weight fraction of VOC in each coating or ink, as applied; and

$W_{si}$  = The weight fraction of solids in each coating or ink, as applied.

(5) Control device requirements as follow apply:

(a) No owner or operator of a packaging rotogravure, publication rotogravure, or flexographic printing press equipped with a control system shall operate the printing press unless the owner or operator meets the following requirements:

1. A carbon adsorption, incineration, or other control device is used that reduces the VOC emissions delivered from the capture system to the control device by at least 90 percent by weight; and
2. The printing press is equipped with a capture system and control device that provides an overall emission reduction efficiency of at least:
  - (i) 75 percent for a publication rotogravure printing press;
  - (ii) 65 percent for a packaging rotogravure printing press; or
  - (iii) 60 percent for a flexographic printing press.

(b) An owner or operator of a packaging rotogravure, publication rotogravure, or flexographic printing press equipped with a control system shall ensure that:

1. A capture system and control device are operated at all times that the printing press is in operation, and the owner or operator demonstrates compliance with this rule through the applicable coating analysis and capture system and control device efficiency test methods specified in this chapter; and
2. The control device is equipped with the applicable monitoring equipment specified in this chapter, and the monitoring equipment is installed, calibrated, operated, and maintained according to the vendor's specifications at all times the control device is in use.

(6) The VOC content of each coating and ink and the efficiency of each capture system and control device shall be determined by the applicable test methods and procedures specified in this chapter to establish the records required under Paragraph (7) of this rule.

(7) Recordkeeping and reporting requirements as follow apply:

(a) By April 22, 1994, any owner or operator of a printing press that is exempt from the requirements of this rule because of the criteria in Paragraph (1) of this rule shall comply with the following:

1. The owner or operator of a facility in Davidson, Knox, Rutherford, Shelby, Sumner, Williamson, or Wilson County shall certify to the Technical Secretary that the facility is exempt under the provisions of Paragraph (1) of this rule. Such certification shall include:

(Rule 1200-03-18-.35, continued)

- (i) The name and location of the facility;
    - (ii) The address and telephone number of the person responsible for the facility;
    - (iii) A declaration that the facility is exempt from this rule because of the criteria in Paragraph (1) of this rule; and
    - (iv) Calculations demonstrating that total potential VOC emissions of VOC from all flexographic and rotogravure printing presses at the facility are less than 90.7 Mg (100 tons) per calendar year.
  2. The owner or operator shall collect and record all of the following information each year for each printing press and maintain the information for a period of 3 years:
    - (i) The name and identification number of each coating and ink, as applied each year;
    - (ii) The weight of VOC per volume of coating solids and the volume of solids of each coating and ink, as applied, each year; and
    - (iii) The total emissions as calculated for that year.
  3. Any record showing that total emissions of VOC from all flexographic and rotogravure printing presses exceeded 90.7 Mg (100 tons) in any calendar year, before the application of capture systems and control devices, shall be reported by sending a copy of such record to the Technical Secretary within 30 calendar days after the exceedance occurs.
- (b) Any owner or operator of a printing press subject to this rule and complying by means of use of complying coatings and/or inks, shall comply with the following:
1. By April 22, 1994, or upon initial startup of a new printing press, the owner or operator of a subject printing press shall certify to the Technical Secretary that the printing press is in compliance with Subparagraph (3)(a) or (3)(b) of this rule. Such certification shall include:
    - (i) The name and location of the facility;
    - (ii) The address and telephone number of the person responsible for the facility;
    - (iii) Identification of subject sources;
    - (iv) The name and identification number of each coating and ink, as applied; and
    - (v) The VOC content of all coatings and inks, as applied, expressed in units of the applicable standard.
  2. By April 22, 1994, or on and after the initial startup date, the owner or operator of a printing press subject to the limitations of this rule and complying with Subparagraph (3)(a) or (3)(b) shall collect and record all of the following

(Rule 1200-03-18-.35, continued)

- information for each printing press and maintain the information for a period of 3 years:
- (i) The name and identification number of each coating and ink used or, in the alternative, each coating and ink kept available for use on the press if only complying coatings and inks are used, as applied; and
  - (ii) The VOC content of each coating and ink, as applied, expressed in units of the applicable standard.
3. Any record showing an exceedance of the VOC content standards of Subparagraph (3)(a) or (3)(b) of this rule shall be reported by the owner or operator of the subject printing press to the Technical Secretary within 30 calendar days following the exceedance; and
- (c) Any owner or operator of a printing press subject to the limitations of this rule and complying by means of weighted averaging shall comply with the following:
1. By April 22, 1994, or upon initial startup of a new printing press, the owner or operator of the subject printing press shall certify to the Technical Secretary that the printing press is in compliance with Paragraph (4) of this rule. Such certification shall include:
    - (i) The name and location of the facility;
    - (ii) The address and telephone number of the person responsible for the facility;
    - (iii) The name and identification of each printing press which will comply by means of Paragraph (4) of this rule;
    - (iv) The name and identification number of each coating and/or ink kept in inventory for use on each printing press;
    - (v) The VOC content of each coating and/or ink, as applied, each day on each printing press, expressed in units necessary to determine compliance;
    - (vi) The instrument or method by which the owner or operator will accurately measure or calculate the volume of each coating and/or ink, as applied, each day on each printing press;
    - (vii) The method by which the owner or operator will create and maintain records each day as required in Part 2 of this subparagraph; and
    - (viii) An example of the format in which the records required in Part 2 of this subparagraph will be kept.
  2. On and after April 22, 1994, or on and after the initial startup date, the owner or operator of a printing press subject to the limitations of this rule and complying by means of weighted averaging shall collect and record all of the following information each day for each printing press and maintain the information for a period of 3 years:
    - (i) The name and identification number of each coating and/or ink, as applied;

(Rule 1200-03-18-.35, continued)

- (ii) The VOC content and the volume of each coating and/or ink, as applied, expressed in units necessary to determine compliance; and
  - (iii) The weighted average VOC content of all coatings and/or inks, as applied;
3. On and after April 22, 1994, the owner or operator of a subject printing press shall notify the Technical Secretary of any instance of noncompliance with Paragraph (4) by sending a copy of the calculation showing such noncompliance to the Technical Secretary within 30 calendar days following the occurrence.
- (d) Any owner or operator of a printing press subject to this rule and complying by means of control devices shall comply with Paragraph .03(5) of this chapter.

**Authority:** T.C.A. §§ 4-5-202 and 68-201-105. **Administrative History:** Original rule filed March 8, 1993; effective April 22, 1993.

### 1200-03-18-.36 PETROLEUM SOLVENT DRY CLEANERS.

- (1) Applicability of this rule is as follows:
- (a) This rule applies to petroleum solvent dry cleaning facilities in Davidson, Rutherford, Shelby, Sumner, Williamson, and Wilson Counties.
  - (b) Of the facilities referred to in Subparagraph (a) of the paragraph, any petroleum solvent dry cleaning facility that consumes less than 123,000 liters (L) (32,500 gallons [gal]) of petroleum solvent per year is subject only to the requirements of Subparagraph (5)(a) of this rule.
  - (c) This rule does not apply to facilities that use only petroleum-based solvents that contain chlorine.
- (2) For the purpose of this rule, the following definitions apply:
- (a) "Filter cartridge" means a replaceable filter unit containing filtration paper and carbon or carbon only.
  - (b) "Perceptible leaks" means any petroleum solvent vapor or liquid leaks that are conspicuous from visual observation or that bubble after application of a soap solution, such as pools or droplets of liquid, open containers of solvent, or solvent-laden waste standing open to the atmosphere.
  - (c) "Petroleum solvent cartridge filtration system" means a process in which soil-laden solvent is pumped under pressure from a washer through a sealed vessel containing filter cartridges that remove entrained solids and impurities from the solvent.
  - (d) "Petroleum solvent dry cleaning facility" means a facility engaged in the cleaning of fabrics, clothing, and other articles in a petroleum solvent by means of one or more washes in the solvent, extraction of excess solvent by spinning, and drying by tumbling in an airstream. Equipment at the facility includes, but is not limited to, any petroleum solvent washer, dryer, solvent filter system, settling tank, vacuum still, and any other container or conveyor of petroleum solvent.
  - (e) "Settling tank" means a container, and any associated piping and ductwork, that gravimetrically separates oils, grease, and dirt from petroleum solvent.

(Rule 1200-03-18-.36, continued)

- (f) "Solvent filter" means a discrete solvent filter unit containing a porous medium that traps and removes contaminants from petroleum solvent, together with the piping and ductwork used in the installation of this device.
  - (g) "Solvent recovery dryer" means a class of dry cleaning dryers that employs a condenser to condense and recover solvent vapors evaporated in a closed-loop stream of heated air, together with the piping and ductwork used in the installation of this device.
  - (h) "Standard dryer" means a device that dries dry-cleaned articles by tumbling in a heated airstream.
  - (i) "Still" means a device used to volatilize, separate, and recover petroleum solvent from contaminated solvent, together with the piping and ductwork used in the installation of this device.
  - (j) "Washer" means a machine which agitates fabric articles in a petroleum solvent bath and spins the articles to remove the solvent, together with the piping and ductwork used in the installation of this device.
- (3) Standards as follow apply:
- (a) The owner or operator of a petroleum solvent dry cleaning facility subject to this rule shall ensure that:
    - 1. There are no perceptible leaks from any portion of the equipment; and
    - 2. All washer lint traps, button traps, access doors, and other parts of the equipment where solvent may be exposed to the atmosphere are kept closed at all times except when opening is required for proper operation or maintenance.
  - (b) The owner or operator of a petroleum solvent dry cleaning facility subject to this rule shall repair any perceptible leaks in any portion of the dry cleaning equipment within 3 working days after the leak is detected. If necessary repair parts are not on hand, the owner or operator shall order these parts within 3 working days and repair the leaks no later than 3 working days after the parts arrive.
  - (c) The owner or operator of a petroleum solvent dry cleaning facility subject to this rule shall:
    - 1. Limit the volatile organic compound (VOC) emissions from each standard dryer to 1.6 kilograms (kg) (3.5 pounds [lb]) VOC per 45 kg (100 lb) dry weight of articles dry cleaned, or
    - 2. Install, maintain, and operate a solvent-recovery dryer such that the dryer remains closed and the recovery phase continues until a final recovered solvent flow rate of no greater than 50 milliliters per minute (ml/min) (0.013 gallons per minute [gal/min]) is attained.
  - (d) The owner or operator of a petroleum solvent filtration system subject to this rule shall:
    - 1. Reduce the VOC content in filtration waste to 1 kg (2.2 lb) VOC per 100 kg (220 lb) dry weight of articles dry cleaned, or
    - 2. As an alternative:

(Rule 1200-03-18-.36, continued)

- (i) Install, maintain, and operate a cartridge filtration system according to the manufacturer's instructions, and
  - (ii) Drain all filter cartridges in their sealed housings for 8 hours or more before their removal.
- (4) Test methods and procedures as follow apply:
- (a) To be in compliance with Part (3)(c)1 of this rule, each owner or operator of a petroleum solvent dry cleaning facility subject to this rule shall:
    - 1. Calculate the weight of VOC's vented from the dryer emission control device calculated by using Reference Methods 1, 2, and 25A with the following specifications:
      - (i) Field calibration of the flame ionization analyzer with propane standards;
      - (ii) Laboratory determination of the ratio of the flame ionization analyzer response to a given parts per million (ppm) by volume concentration of propane to the response to the same ppm concentration of the VOC's to be measured; and
      - (iii) Determination of the weight of VOC's vented to the atmosphere by:
        - (I) Multiplying the ratio determined in Subpart (ii) of this part by the measured concentration of VOC gas (as propane) as indicated by the flame ionization analyzer response output record;
        - (II) Converting the ppm by volume value calculated in Item (I) of this subpart into a mass concentration value for the VOC's present; and
        - (III) Multiplying the mass concentration value calculated in Item (II) of this subpart by the exhaust flow rate determined by using Reference Methods 1 and 2.
    - 2. Calculate the dry weight of articles dry cleaned; and
    - 3. Repeat Parts 1 and 2 of this subparagraph for normal operating conditions that encompass at least 30 dryer loads, which total not less than 1,800 kg (4,000 lb) dry weight and represent a normal range of variations in fabrics, solvents, load weights, temperatures, flow rates, and process deviations.
  - (b) To determine initial compliance with Part (3)(c)2 of this rule, the owner or operator of a petroleum solvent dry cleaning facility shall:
    - 1. Verify that the flow rate of recovered solvent from the solvent-recovery dryer at the termination of the recovery phase is no greater than 50 ml/min (0.013 gal/min) by using the following procedure:
      - (i) Determine the appropriate location for measuring the flow rate of recovered solvent; the suggested point is at the outlet of the solvent-water separator;
      - (ii) Near the end of the recovery cycle, divert the flow of recovered solvent to a graduated cylinder;

(Rule 1200-03-18-.36, continued)

- (iii) Continue the cycle until a flow rate of solvent no greater than 50 ml/min (0.013 gal/min) is reached; and
      - (iv) Record the type of articles dry cleaned and the length of the cycle.
    - 2. To determine initial compliance with Part (3)(c)2 of this rule, conduct the procedure in Part 1 of this subparagraph for at least 50 percent of the dryer loads over a period of no less than 2 consecutive weeks.
  - (c) To be in compliance with Subparagraph (3)(d) of this rule, the owner or operator of a petroleum solvent dry cleaning facility subject to this rule shall:
    - 1. Calculate the weight of volatile organic compounds contained in each of at least five 1-kg (2.2-lb) samples of filtration waste material taken at intervals of at least 1 week, by employing ASTM D322-80 (Standard Test Method for Gasoline Diluent in Used Gasoline Engine Oils by Distillation);
    - 2. Calculate the total dry weight of articles dry cleaned during the intervals between removal of filtration waste samples, as well as the total mass of filtration waste produced in the same period; and
    - 3. Calculate the weight of VOC's contained in filtration waste material per 100 kg (220 lb) dry weight of articles dry cleaned.
  - (d) Compliance with Paragraph (3) of this rule requires that each owner or operator of a petroleum solvent dry cleaning facility subject to this rule make weekly inspections of washers, dryers, solvent filters, settling tanks, vacuum stills, and all containers and conveyors of petroleum solvent to identify perceptible VOC vapor or liquid leaks.
- (5) Recordkeeping requirements as follow apply:
- (a) The owner or operator of a petroleum solvent dry cleaning facility claiming exemption from this regulation by the provisions of Subparagraph (1)(b) shall maintain records of annual solvent consumption for at least 3 years to document whether the applicability threshold in Subparagraph (1)(b) of this rule has been exceeded.
  - (b) The owner or operator of a petroleum solvent dry cleaning facility subject to this rule shall maintain the following records for at least 3 years:
    - 1. Records of the weight of VOC's vented from the dryer emission control device calculated according to Part (4)(a)1 of this rule;
    - 2. Records of the dry weight of articles dry cleaned for use in the calculations required in Subparagraphs (4)(a), (4)(b), and (4)(c) of this rule;
    - 3. Records of the weight of VOC's contained in the filtration waste samples required by Part (4)(c)1 of this rule; and
    - 4. Records of the weight of VOC's in filtration waste material per 100 kg (220 lb) dry weight of articles dry cleaned.
- (6) The owner or operator of any facility containing sources subject to this rule shall:
- (a) Comply with the initial compliance certification requirements of Paragraph .04(1) of this chapter; and

(Rule 1200-03-18-.36, continued)

- (b) Comply with the requirements of Paragraph .04(2) of this chapter for excess emissions related to the control devices required to comply with Subparagraph (3)(b) and Parts (3)(c)2 and (3)(d)2 of this rule.

**Authority:** T.C.A. §§ 4-5-202 and 68-201-105. **Administrative History:** Original rule filed March 8, 1993; effective April 22, 1993. Amendment filed July 27, 1995; effective October 9, 1995. Amendment filed May 16, 1997; effective July 30, 1997.

**1200-03-18-.37 RESERVED.**

**1200-03-18-.38 LEAKS FROM SYNTHETIC ORGANIC CHEMICAL, POLYMER, AND RESIN MANUFACTURING EQUIPMENT.**

- (1) Applicability of this rule is as follows:
  - (a) For general applicability:
    - 1. This rule applies to all equipment in volatile organic compound (VOC) service in any process unit at a synthetic organic chemical, polymer, and resin manufacturing facility in Davidson, Rutherford, Shelby, Sumner, Williamson, or Wilson County.
    - 2. A piece of equipment is not in VOC service if the VOC content of the process fluid can never be reasonably expected to exceed 10 percent by weight. For purposes of this demonstration, the following methods and procedures shall be used:
      - (i) Procedures that conform to the general methods in ASTM E260, E168, and E169 shall be used to determine the percent VOC content in the process fluid that is contained in or contacts a piece of equipment;
      - (ii) Organic compounds that are not volatile organic compounds, including exempt compounds, may be excluded from the total quantity of organic compounds in determining the VOC content of the process fluid; and
      - (iii) Engineering judgment may be used to estimate the VOC content. If the Technical Secretary disagrees with the judgment, Parts (9)(b)1 and (9)(b)2 of this rule shall be used to resolve the disagreement.
  - (b) This rule does not apply to any synthetic organic chemical, polymer, or resin manufacturing facility whose annual design production capacity is less than 1,000 megegrams (Mg) (1,100 tons) of product.
  - (c) The requirements of Paragraph (4) of this rule do not apply to:
    - 1. Any equipment in vacuum service;
    - 2. Any pressure-relief valve that is connected to an operating flare header or vapor recovery device;
    - 3. Any liquid pump that has a dual mechanical pump seal with a barrier fluid system; or
    - 4. Any compressor with a degassing vent that is routed to an operating VOC control device.



(Rule 1200-03-18-.38, continued)

- (2) For the purpose of this rule, the following definitions apply:
- (a) “[In] gas/vapor service” means that the piece of equipment in VOC service contains process fluid that is in the gaseous state at operating conditions.
  - (b) “[In] heavy liquid service” means that the piece of equipment in VOC service is not in gas/vapor service or in light liquid service.
  - (c) “[In] light liquid service” means that the piece of equipment in VOC service contains a liquid that meets the following conditions:
    - 1. The vapor pressure of one or more of the components is greater than 0.3 kPa (0.044 in Hg) at 20°C (68°F) (standard reference texts or ASTM D2879 shall be used to determine the vapor pressures);
    - 2. The total concentration of the pure components having a vapor pressure greater than 0.3 kPa (0.044 in Hg) at 20°C (68°F) is equal to or greater than 10 percent by weight; and
    - 3. The fluid is a liquid at operating conditions.
  - (d) “Process unit” means components assembled to produce, as intermediate or final products, one or more of the chemicals listed in 40 C.F.R. 60.489 as of July 1, 1991. A process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for product.
  - (e) “[In] vacuum service” means that the equipment in VOC service is operating at an internal pressure which is at least 5 kPa below ambient pressure.
  - (f) “[In] VOC service” means that the piece of equipment contains or contacts a process fluid that is at least 10 percent VOC by weight. The provisions of Part (1)(a)2 of this rule specify how to determine that a piece of equipment is not in VOC service.
- (3) The owner or operator of a synthetic organic chemical, polymer, or resin manufacturing facility subject to this rule shall ensure that:
- (a) Any open-ended line or valve is sealed with a second valve, blind flange, cap, or plug except:
    - 1. During operations requiring process fluid flow through the open-ended line or valve; or
    - 2. For an open-ended valve or line containing materials which would autocatalytically polymerize or would present an explosion, serious overpressure, or other safety hazard if capped, plugged, or sealed by a second valve or blind flange;
  - (b) When a second valve is used, each open-ended line or valve equipped with a second valve is operated in such a manner that the valve on the process fluid end is closed before the second valve is closed; and
  - (c) When a double block-and-bleed system is used, the bleed valve or line is open only during operations that require venting of the line between the block valves and is closed at all other times.

(Rule 1200-03-18-.38, continued)

- (4) The owner or operator of a synthetic organic chemical, polymer, or resin manufacturing facility shall conduct the equipment inspection program described in Subparagraphs (a) through (c) of this paragraph using the test methods specified in this chapter, leak determination, and tagging procedure as follow:
- (a) The owner or operator of a synthetic organic chemical, polymer, or resin manufacturing facility shall conduct quarterly monitoring of each:
    - 1. Compressor;
    - 2. Pump in light liquid service;
    - 3. Valve in light liquid service, except as provided in Paragraphs (5) and (6) of this rule;
    - 4. Valve in gas/vapor service, except as provided in Paragraphs (5) and (6) of this rule; and
    - 5. Pressure relief valve in gas/vapor service, except as provided in Paragraphs (5) and (6) of this rule.
  - (b) The owner or operator of a synthetic organic chemical or resin manufacturing facility shall conduct a weekly visual inspection of each pump in light liquid service.
  - (c) The owner or operator of a synthetic organic chemical, polymer, or resin manufacturing facility shall inspect each pressure relief valve immediately after each overpressure relief to ensure that the valve has properly reseated and is not leaking.
  - (d) Leak determination is as follows:
    - 1. When an instrument reading of 10,000 parts per million (ppm) or greater is measured, it shall be determined that a leak has been detected.
    - 2. If there is liquid dripping from the equipment, it shall be determined that a leak has been detected.
  - (e) When a leak is detected, the owner or operator shall affix a weatherproof, readily visible tag in a bright color such as red or yellow, bearing the equipment identification number and the date on which the leak was detected. This tag shall remain in place until the leaking equipment is repaired. The requirements of this subparagraph apply to any leak detected by the equipment inspection program and to any leak from any equipment that is detected on the basis of sight, sound, or smell.
  - (f) Following any attempt to repair a leak which it is believed has been successfully repaired, testing by the methods listed in Subparagraph (d) of this paragraph shall be conducted.
- (5) An owner or operator shall comply with the requirements for valves in gas/vapor service and valves in light liquid service as described in Paragraph (4) of this rule except as follows:
- (a) If the percent of valves leaking is equal or less than 2.0 for two consecutive quarters, an owner or operator may skip alternate quarterly leak detection periods for the valves in gas/vapor and light liquid service;
  - (b) If the percent of valves leaking is equal to or less than 2.0 for five consecutive quarters, an owner or operator may skip three of the quarterly leak detection periods per year for

(Rule 1200-03-18-.38, continued)

- the valves in gas/vapor and light liquid service, provided that each valve shall be monitored once year year;
- (c) If at any time the percent of valves leaking is greater than 2.0, the owner or operator shall resume compliance with the requirements in Paragraph (4) of this rule but may again elect to comply with the alternative standards in this paragraph.
  - (d) The percent of valves leaking shall be determined by dividing the sum of valves found leaking during current monitoring and previously leaking valves for which repair has been delayed by the total number of valves subject to the requirements of this rule.
  - (e) An owner or operator shall keep a record of the percent of valves found leaking during each leak detection period.
- (6) Alternative standards for unsafe-to-monitor valves and difficult-to-monitor valves apply as follow:
- (a) Any valve is exempt from the requirements of Paragraph (4) as an unsafe-to-monitor valve if:
    - 1. The owner or operator of the valve demonstrates that the valve is unsafe-to-monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with Paragraph (4); and
    - 2. The owner or operator of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times.
  - (b) Any valve is exempt from the requirements of Paragraph (4) as a difficult-to-monitor valve if:
    - 1. The owner or operator of the valve demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters (m) (6.6 feet [ft]) above a support surface; and
    - 2. The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.
  - (c) The alternative standards of Paragraph (5) are not available to valves subject to the requirements of this paragraph.
- (7) The owner or operator of a synthetic organic chemical, polymer, or resin manufacturing facility refinery shall:
- (a) Make a first attempt at repair for any leak not later than 5 calendar days after the leak is detected; and
  - (b) Repair any leak as soon as practicable, but not later than 15 calendar days after it is detected except as provided in Paragraph (8) of this rule.
- (8) Delay of repair standards apply as follow:
- (a) Delay of repair of equipment for which a leak has been detected will be allowed if repair is technically infeasible without a process unit shutdown. Repair of such equipment shall occur before the end of the first process unit shutdown after detection of the leak.

(Rule 1200-03-18-.38, continued)

- (b) Delay of repair of equipment will also be allowed for equipment that is isolated from the process and that does not remain in VOC service after detection of the leak.
  - (c) Delay of repair beyond a process unit shutdown will be allowed for a valve, if valve assembly replacement is necessary during the process unit shutdown, and if valve assembly supplies have been depleted, where valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the first process unit shutdown will not be allowed unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown.
- (9) Test methods and procedures apply as follow:
- (a) In conducting the monitoring required to comply with Paragraph (4) of this rule, the owner or operator shall use the test methods specified in this chapter.
  - (b) The owner or operator shall demonstrate that a piece of equipment is in light liquid service by showing that all of the following conditions apply:
    - 1. The vapor pressure of one or more of the components is greater than 0.3 kiloPascal (kPa) (0.044 inches of mercury [in Hg]) at 20°C (68°F) with standard reference texts or ASTM D2879 used to determine the vapor pressures;
    - 2. The total concentration of the pure components having a vapor pressure greater than 0.3 kPa (0.044 in Hg) at 20°C (68°F) is equal to or greater than 20 percent by weight; and
    - 3. The fluid is a liquid at operating conditions.
  - (c) Samples shall be representative of the process fluid that is contained in or contacts the equipment.
- (10) Recordkeeping requirements apply as follow:
- (a) Each owner or operator subject to the provisions of this rule shall comply with the recordkeeping requirements of this rule.
  - (b) An owner or operator of more than one facility subject to the provisions of this rule may comply with the recordkeeping requirements for these facilities in one recordkeeping system if the system identifies each record by each facility.
  - (c) When each leak is detected as specified in Paragraph (4) of this rule, the following information shall be recorded in a log and shall be kept for 3 years:
    - 1. The instrument and operator identification numbers and the equipment identification number;
    - 2. The date the leak was detected and the dates of each attempt to repair the leak;
    - 3. The repair methods employed in each attempt to repair the leak;
    - 4. The notation of and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak;
    - 5. The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a process shutdown;

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6. The dates of process unit shutdowns that occur while the equipment is unrepaired; and
  7. The date of successful repair of the leak.
- (d) A list of identification numbers of equipment in vacuum service shall be recorded in a log that is kept for 3 years.
- (e) The following information for valves complying with Paragraph (5) of this rule shall be recorded in a log that is kept for 3 years.
1. A schedule of monitoring, and
  2. The percent of valves found leaking during each monitoring period.
- (f) The following information pertaining to all valves subject to the requirements of Paragraph (6) of this rule shall be recorded in a log that is kept for 3 years:
1. A list of identification numbers for valves that are designated as unsafe to monitor, an explanation for each valve stating why the valve is unsafe to monitor, and the plan for monitoring each valve, and
  2. A list of identification numbers for valves that are designated as difficult to monitor, an explanation for each valve stating why the valve is difficult to monitor, and the schedule for monitoring each valve.
- (g) The following information shall be recorded in a log that is kept for 3 years for use in determining exemptions as provided in Paragraph (1) of this rule:
1. An analysis demonstrating the design capacity of the affected facility; and
  2. Information and data used to demonstrate that a piece of equipment is not in VOC service.
- (11) The owner or operator of any facility containing sources subject to this rule shall comply with the requirements in Paragraphs .04(1) and (2) of this chapter.

**Authority:** T.C.A. §§ 4-5-202 and 68-201-105. **Administrative History:** Original rule filed March 8, 1993; effective April 22, 1993. Amendment filed July 27, 1995; effective October 9, 1995. Amendment filed May 16, 1997; effective July 30, 1997.

**1200-03-18-.39 MANUFACTURE OF HIGH-DENSITY POLYETHYLENE, POLYPROPYLENE, AND POLYSTYRENE RESINS.**

- (1) Applicability of this rule is as follows:
- (a) This rule applies to the following process sections at facilities in Davidson, Rutherford, Shelby, Sumner, Williamson, and Wilson Counties engaged in the manufacture of high-density polyethylene, polypropylene, and polystyrene:
1. For the manufacture of high-density polyethylene using a liquid-phase slurry process: each material recovery section and each product finishing section;

(Rule 1200-03-18-.39, continued)

2. For the manufacture of polypropylene using a liquid-phase process: each polymerization reaction section, each material recovery section, and each product finishing section; and
  3. For the manufacture of polystyrene using a continuous process: each material recovery section.
- (b) Facilities having all process sections with uncontrolled emission rates at or below those identified as follow are exempt from the requirements of this rule except that owners or operators seeking to comply with this rule by complying with the uncontrolled emission rates in this subparagraph are still required to comply with the initial certification requirements at Paragraph .04(1) of this chapter:

| <u>Production Process</u>                                  | <u>Process Section</u>          | <u>Uncontrolled emission rate, megagram of product per year (Mg/yr)</u> |
|--|---------------------------------|---|
| 1. High density polyethylene, liquid-phase slurry process. | material recovery section       | 7   |
| 2. High density polyethylene, liquid-phase slurry process  | product finishing section       | 19  |
| 3. Polypropylene, liquid-phase process                     | polymerization reaction section | 7   |
| 4. Polypropylene, liquid-phase process                     | material recovery section       | 8   |
| 5. Polypropylene, liquid-phase process                     | product finishing section       | 36  |
| 6. Polystyrene, continuous process                         | material recovery section       | 7   |

- (2) For the purpose of this rule, the following definitions apply:
- (a) "Continuous process" means a polymerization process in which reactants are introduced in a continuous manner and products are removed either continuously or intermittently at regular intervals so that the process can be operated and polymers produced essentially continuously.
  - (b) "Flame zone" means that portion of the combustion chamber in a boiler occupied by the flame envelope.
  - (c) "High-density polyethylene" means a linear, thermoplastic polymer comprised of at least 50 percent ethylene by weight and having a density greater than 0.94 grams per cubic centimeter ( $\text{g/cm}^3$ ) (59 pounds per cubic foot [ $\text{lb/ft}^3$ ]).
  - (d) "Liquid-phase process" means a polymerization process in which the polymerization reaction is carried out in the liquid phase; i.e., the monomer(s) and any catalyst are dissolved or suspended in a liquid solvent.

(Rule 1200-03-18-.39, continued)

- (e) "Liquid-phase slurry process" means a liquid-phase polymerization process in which the monomer(s) are in solution (completely dissolved) in a liquid solvent, but the polymer is in the form of solid particles suspended in the liquid reaction mixture during the polymerization reaction, sometimes called a particle-form process.
  - (f) "Polypropylene" means a polymer comprised of at least 50 percent propylene by weight.
  - (g) "Polystyrene" means a thermoplastic polymer comprised of at least 80 percent styrene or para-methylstyrene by weight.
  - (h) "Process line" means a group of equipment assembled that can operate independently if supplied with sufficient raw materials to produce polypropylene, high-density polyethylene, polystyrene. A process line consists of the equipment in the following process sections (to the extent that these process sections are present at a plant): raw materials preparation, polymerization reaction, product finishing, product storage, and material recovery.
  - (i) "Process section" means the equipment designed to accomplish a general but well-defined task in polymer production. Process sections include raw materials preparation, polymerization reaction, material recovery, product finishing, and product storage and may be dedicated to a single process line or common to more than one process line.
  - (j) "Product finishing section" means the equipment that treats, shapes, or modifies the polymer or resin to produce the finished end product of the particular facility. Product finishing equipment may accomplish extruding and pelletizing, cooling and drying, blending, additives introduction, curing, or annealing. Product finishing does not include polymerization or shaping such as fiber spinning, molding, or fabricating or modification such as fiber stretching and crimping.
- (3) The owner or operator of a high-density polyethylene or polypropylene process line containing a process section subject to this rule shall comply with the following:
- (a) Reduce emissions of total volatile organic compounds (VOC's) by 98 weight percent, determined according to the procedure specified in Subparagraph (5)(a) of this rule, or to a VOC concentration of 20 parts per million volumetric (ppmv), as determined by the procedure specified in Subparagraph (5)(b) of this rule, on a dry basis, whichever is less stringent. Total VOC is expressed as the sum of the actual compounds, not carbon equivalents. If an owner or operator elects to comply with the 20 ppmv concentration standard, the concentration shall include a correction to 3 percent oxygen only when supplemental combustion air is used to combust the vent stream. The procedure in Subparagraph (5)(c) shall be used to correct the concentration to 3 percent oxygen;
  - (b) Combust the emissions in a boiler or process heater with a design heat input capacity of 150 million British thermal units per hour (Btu/hr) or greater by introducing the vent stream into the flame zone of the boiler or process heater; or
  - (c) Combust the emissions in a flare as follows:
    - 1. Flares shall be designed for and operated with no visible emissions as determined by the method specified in Part (5)(d)1 of this rule, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours;

(Rule 1200-03-18-.39, continued)

2. Flares shall be operated with a flame present at all times, as determined by the method specified in Part (5)(d)2 of this rule;
  3. Flares used to comply with provisions of this rule shall be steam-assisted, air-assisted, or non-assisted;
  4. Flares shall be used only with the net heating value of the gas being combusted being 11.2 megaJoules per standard cubic meter (MJ/scm) (300 Btu per standard cubic foot [Btu/scf]) or greater if the flare is steam-assisted or air-assisted; or with the net heating value of the gas being combusted being 7.45 MJ/scm (200 Btu/scf) or greater if the flare is non-assisted. The net heating value of the gas being combusted shall be determined by the method specified in Part (5)(e)7 of this rule.
  5. Consistent with exit velocity requirements as follow:
    - (i) Steam-assisted and non-assisted flares shall be designed for and operated with an exit velocity, as determined by the method specified in Part (5)(e)4 of this rule, less than 18.3 meters per second (m/s) (60 feet per second [ft/s]), except as provided in Subparts (ii) and (iii) of this part;
    - (ii) Steam-assisted and non-assisted flares designed for and operated with an exit velocity, as determined by the methods specified in Part (5)(e)4 of this rule, equal to or greater than 18.3 m/s (60 ft/s) but less than 122 m/s (400 ft/s) are allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf); and
    - (iii) Steam-assisted and non-assisted flares designed for and operated with an exit velocity, as determined by the methods specified in Part (5)(e)4 of this rule, less than the velocity,  $V_{max}$ , as determined by the method specified in Part (5)(e)5 of this rule and less than 122 m/s (400 ft/s) are allowed.
  6. Air-assisted flares shall be designed and operated with an exit velocity less than the velocity,  $V_{max}$ , as determined by the method specified in Part (5)(e)6 of this rule.
- (4) The owner or operator of a polystyrene process line containing process sections subject to this rule shall comply with the following:
- (a) Not allow continuous VOC emissions from the material recovery section to be greater than 0.12 kg (kilograms) VOC per 1,000 kg of product (0.12 pounds [lb] VOC per 1,000 lb of product); or
  - (b) Not allow the outlet gas stream from each final condenser in the material recovery section to exceed -25°C (-13°F).
- (5) Test methods and procedures as follow apply:
- (a) The owner or operator shall determine compliance with the percent emission reduction standard in Subparagraph (3)(a) of this rule as follows:
    1. The emission reduction of total VOC shall be determined using the following equation:

$$E_{inlet} - E_{outlet}$$



(Rule 1200-03-18-.39, continued)

$$P = \frac{E_{\text{inlet}} - E_{\text{outlet}}}{E_{\text{inlet}}} \times 100$$

where:

P = Percent emission reduction, by weight.

 $E_{\text{inlet}}$  = Mass rate of total VOC entering the control device, kg VOC/hr. $E_{\text{outlet}}$  = Mass rate of total VOC discharged to the atmosphere, kg VOC/hr.

2. The mass rates of total VOC ( $E_i$ ,  $E_o$ ) shall be computed using the following equations:

$$E_i = K_1 \left( \sum_{j=1}^n C_{ij} M_{ij} \right) Q_i$$

$$E_o = K_1 \left( \sum_{j=1}^n C_{oj} M_{oj} \right) Q_o$$

where:

 $C_{ij}$ ,  $C_{oj}$  = Concentration of sample component "j" of the gas stream at the inlet and outlet of the control device, respectively, dry basis, ppmv. $M_{ij}$ ,  $M_{oj}$  = Molecular weight of sample component "j" of the gas stream at the inlet and outlet of the control device respectively, g/gmole (lb/lb-mole). $Q_i$ ,  $Q_o$  = Flow rate of the gas stream at the inlet and outlet of the control device, respectively, dscm/hr (dscf/hr). $K_1$  =  $4.157 \times 10^{-8}$  [(kg)/(g-mole)]/[(g)(ppm)(dscm)] or  $\{2.595 \times 10^{-9}$  [(lb)/(lb-mole)]/[(lb)(ppm)(dscf)]}.

3. Reference Method 18 shall be used to determine the concentration of each individual organic component ( $C_{ij}$ ,  $C_{oj}$ ) in the gas stream. Reference Method 1 or 1A, as appropriate, shall be used to determine the inlet and outlet sampling sites. The inlet site shall be before the inlet of the control device and after all product recovery units.
4. Reference Method 2, 2A, 2C, or 2D, as appropriate, shall be used to determine the volumetric flow rates ( $Q_i$ ,  $Q_o$ ). If necessary, Method 4 shall be used to determine the moisture content. Both determinations shall be compatible with the Reference Method 18 determinations.

(Rule 1200-03-18-.39, continued)

5. Inlet and outlet samples shall be taken simultaneously. The sampling time for each run shall be 1 hour in which either an integrated sample or four grab samples shall be taken. If grab sampling is used, then the samples shall be taken at 15 minute intervals.

(b) The owner or operator shall determine compliance with the emission concentration standard in Subparagraph (3)(a) of this rule as follows:

1. The total VOC concentration is the sum of the individual components and shall be computed for each run using the following equation:

$$C_{\text{voc}} = \sum_{j=1}^n C_j$$

where:

$C_{\text{voc}}$  = Concentration of total VOC, dry basis, ppmv;

$C_j$  = Concentration of sample component j, ppm; and

n = Number of components in the sample.

2. Reference Method 18 shall be used to determine the concentration of each individual inorganic component ( $C_j$ ) in the gas stream. Reference Method 1 or 1A as appropriate, shall be used to determine the sampling site at the outlet of the control device. Reference Method 4 shall be used to determine the moisture content, if necessary.
3. The sampling time for each run shall be 1 hour in which either an integrated sample or four grab samples shall be taken. If grab sampling is used, then the samples shall be taken at 15 minute intervals.

(c) Correction for supplemental combustion air shall be as follows:

1. If supplemental combustion air is used, the total VOC concentration shall be corrected to 3 percent oxygen and shall be computed using the following equation:

$$C_{\text{CORR}} = C_{\text{meas}} \frac{17.9}{20.9 - \%O_{2d}}$$

$C_{\text{CORR}}$  = Concentration of total VOC corrected to 3 percent oxygen, dry basis, ppmv;

$C_{\text{MEAS}}$  = Concentration of total VOC, dry basis, ppmv, as calculated in Part (5)(b)1 above; and

$\%O_{2d}$  = Concentration of  $O_2$ , dry basis, percent by volume.

(Rule 1200-03-18-.39, continued)

2. The emission rate correction factor, integrated sampling and analysis procedure of Reference Method 3 shall be used to determine the oxygen concentration (%O<sub>2d</sub>). The sampling site shall be the same as that of the total VOC sample and the samples shall be taken during the same time that the total VOC samples are taken.
- (d) When a flare is used to comply with Subparagraph (3)(c) of this rule:
1. Reference Method 22 shall be used to determine the compliance of flares with the visible emission requirement in Part (3)(c)1 of this rule. The observation period is 2 hours and shall be used according to Reference Method 22; and
  2. The presence of a flare pilot flame shall be monitored using a thermocouple or other equivalent monitoring device to detect the presence of a flame.
- (e) The test methods shall be used for determining the VOC emission rate in terms of kg emission per megagram (Mg) of product, exit velocities, or net heating value of the gas combusted to determine compliance under Paragraphs (3) and (4) of this rule as follows:
1. Reference Method 1 or 1A, as appropriate, for selection of the sampling site. The sampling site for the molar composition and vent stream flow rate determination prescribed in Parts 2 and 3 of this subparagraph shall be prior to the inlet of any combustion device and prior to any dilution of the stream with air.
  2. The composition of the process vent stream shall be determined as follows:
    - (i) Reference Method 18 and ASTM D2504-67 (reapproved 1977) to measure the concentration of VOC and the concentration of all other compounds present except water vapor and carbon monoxide, and
    - (ii) Reference Method 4 to measure the content of water vapor.
  3. The volumetric flow rate shall be determined using Reference Method 2, 2A, 2C, or 2D, as appropriate;
  4. The actual exit velocity of a flare shall be determined by dividing the volumetric flow rate (in units of standard temperature and pressure), as determined by Reference Method 2, 2A, 2C, or 2D as appropriate, by the unobstructed (free) cross-sectional area of the flare tip;
  5. The maximum permitted velocity,  $V_{\max}$ , for flares complying with Subpart (3)(c)5(i) of this rule shall be determined using the following equation:

$$\text{Log}_{10}(V_{\max}) = \frac{H_T + 28.8}{31.7}$$

where:

$V_{\max}$  = Maximum permitted velocity, m/s;

28.8 = Constant;

(Rule 1200-03-18-.39, continued)

31.7 = Constant; and

 $H_T$  = The net heating value as determined in Part 7 of this subparagraph.

6. The  $V_{max}$  for air-assisted flares shall be determined by the following equation:

$$V_{max} = 8.706 + 0.7084 (HT)$$

where:

 $V_{max}$  = Maximum permitted velocity, m/s;

8.706 = Constant;

0.7084 = Constant; and

 $HT$  = The net heating value as determined in Part 7 of this subparagraph.

7. The net heating value of the process vent stream being combusted in a flare shall be calculated using the following equation:

$$HT = K \sum_{i=1}^n C_i H_i$$

where:

$HT$  = Net heating value of the sample, MJ/scm, where the net enthalpy per mole of offgas is based on combustion at 25°C and 760 millimeters of Mercury (mm Hg) (77°F and 29.92 inches of Mercury [in Hg]), but the standard temperature for determining the volume corresponding to one mole is 20°C (68°F);

 $K$  = Constant:

$$K = 1.740 \times 10^{-7} \frac{(1) \quad (g \text{ mole}) \quad (MJ)}{\text{ppm} \quad \text{scm} \quad \text{kcal}}$$

where standard temperature for (g mole)/scm is 200C.

$C_i$  = Concentration of sample components  $i$  in ppm on a wet basis, as measured for organics by Reference Method 18 and measured for hydrogen and carbon monoxide by ASTM D1946-82; and

$H_i$  = Net heat of combustion of sample component  $i$ , kcal/g-mole at 25°C (77°F) and 760 mm Hg (29.92 in Hg). The heats of combustion of process vent stream components may be determined using ASTM D2382-76 (reapproved 1977) if published values are not available or cannot be calculated; 8. The emission rate of VOC in the process vent stream shall be calculated using the following equation:

(Rule 1200-03-18-.39, continued)

8. The emission rate of VOC in the process vent stream shall be calculated using the following equation:

$$E_{\text{VOC}} = K \left( \sum_{i=1}^n C_i M_i \right) Q_s$$

where:

$E_{\text{VOC}}$  = Emission rate of total organic compounds in the sample, kilogram per hour (kg/h);

$K$  = Constant,  $2.494 \times 10^{-6}$  (1/ppm)(g-mole/scm)(kg/g)(min/h), where standard temperature for (g-mole/scm) is 20°C (68°F);

$C_i$  = Concentration of sample component  $i$ , ppm;

$M_i$  = Molecular weight of sample component  $i$ , g/g-mole; and

$Q_s$  = Vent stream flow rate (scm/min), at a standard temperature of 20°C (68°F).

9. The rate of polymer produced,  $P_p$  (kg/h), shall be determined by dividing the weight of polymer pulled in kg from the process line during the performance test by the number of hours (h) taken to perform the performance test. The polymer pulled, in kg, shall be determined by direct measurement or, if approved by the Technical Secretary and approved as a revision to the State Implementation Plan, computed from materials balance by good engineering practice; and
10. The emission rate of VOC in terms of kilograms of emissions per megagram of production shall be calculated using the following equation:

$$ER_{\text{VOC}} \equiv \frac{E_{\text{VOC}}}{P_p \times \frac{1\text{Mg}}{1,000 \text{ kg}}}$$

where:

$ER_{\text{VOC}}$  = Emission rate of VOC, kg VOC/Mg product;

$E_{\text{VOC}}$  = Emission rate of VOC in the sample, kg/h; and

$P_p$  = The rate of polymer produced, kg/h.

- (6) The owner or operator of a facility subject to this rule shall maintain the following records for at least 3 years and shall make these records available to the Technical Secretary upon request:

(Rule 1200-03-18-.39, continued)

- (a) For facilities complying with the standards listed in Subparagraph (3)(a), parameters listed in Subparagraphs (5)(a), (5)(b), and, where applicable, (5)(e);
  - (b) For facilities complying with the standards listed in Subparagraph (3)(b), parameters listed in Subparagraphs (5)(c), and, where applicable, (5)(e);
  - (c) For facilities complying with the standards listed in Subparagraph (3)(c), parameters listed in Subparagraphs (5)(d), and, where applicable, (5)(e);
  - (d) For facilities complying with the standards listed in Paragraph (4), parameters listed in Subparagraph (5)(e) where applicable; and
  - (e) For all facilities containing sources subject to this rule, the following records shall be kept:
    - 1. The time, date, and duration of any excess emissions;
    - 2. The subject source of any excess emissions;
    - 3. The cause of any excess emissions;
    - 4. The estimated rate of emissions (expressed in the units of the applicable emission limitation) and the operating data and the calculations used in determining the magnitude of any excess emissions; and
    - 5. Any corrective actions and schedules utilized to correct the conditions causing any excess emissions.
- (7) The owner or operator of any facility containing sources subject to this rule shall:
- (a) Comply with the initial compliance certification requirements of Paragraph .04(1) of this chapter; and
  - (b) Comply with the requirements of Paragraph .04(2) of this chapter for excess emissions related to the control devices required to comply with Subparagraph (3)(b), (3)(c), or (4)(b) of this rule.

**Authority:** T.C.A. §§ 4-5-202 et seq. and 68-201-105. **Administrative History:** Original rule filed March 8, 1993; effective April 22, 1993. Amendment filed January 31, 1997; effective April 16, 1997.

#### **1200-03-18-.40 AIR OXIDATION PROCESSES IN THE SYNTHETIC ORGANIC CHEMICAL MANUFACTURING INDUSTRY.**

- (1) Applicability of this rule is as follows:
- (a) This rule applies to the following air oxidation facilities in Davidson, Rutherford, Shelby, Sumner, Williamson, and Wilson Counties in the synthetic organic chemical manufacturing industry:
    - 1. Each air oxidation reactor not discharging its vent stream into a recovery system;
    - 2. Each combination of an air oxidation reactor and the recovery system into which its vent stream is discharged; and
    - 3. Each combination of two or more air oxidation reactors and the common recovery system into which their vent streams are discharged.

(Rule 1200-03-18-.40, continued)

- (b) Any air oxidation reactor vent stream that has a total resource effectiveness (TRE) index value greater than 1.0 is exempt from all provisions of this rule except the requirements in Paragraph (3) and Subparagraphs (5)(b) and (6)(j) of this rule.

- (2) For the purpose of this rule, the following definitions apply:

“Air oxidation facility” means a product recovery system and all associated air oxidation process reactors discharging directly into that system or any such reactors discharging directly into the atmosphere.

“Air oxidation process” means a reactor in which air is used as an oxidizing agent to produce an organic chemical.

“Air oxidation reactor” means any device or process vessel in which one or more organic reactants are combined with air or a combination of air and oxygen to produce one or more organic compounds. Ammoxidation and oxychlorination are included in this definition.

“Air oxidation reactor recovery train” means an individual recovery system receiving the vent stream from at least one air oxidation reactor, along with all air oxidation reactors feeding vent streams into this system.

“Product recovery system” means any equipment used to collect volatile organic compounds (VOC’s) for use, reuse, or sale. Such equipment includes, but is not limited to, absorbers, adsorbers, condensers, and devices that recover non-VOC’s such as ammonia and HCl.

“Synthetic organic chemical manufacturing industry” means the industry that produces, as intermediates or final products, one or more of the chemicals listed at 40 C.F.R. 60.489, as of July 1, 1991.

“Total resource effectiveness index value,” or TRE index value, means a measure of the supplemental total resource requirement per unit of VOC emission reduction associated with an individual air oxidation vent stream, based on vent stream flow rate, emission rate of VOC, net heating value, and corrosive properties, as quantified by the equation given under Subparagraph (4)(a) of this rule.

“Vent stream” means any gas stream containing nitrogen that was introduced as air to the air oxidation reactor, released to the atmosphere directly from any air oxidation reactor recovery train or indirectly, after diversion through other process equipment.

- (3) For each vent stream from an air oxidation reactor or combination air oxidation reactor and recovery train subject to this rule, the owner or operator shall comply with Subparagraph (a), (b), or (c) as follows:
- (a) Reduce total VOC emissions by 98 weight percent or to 20 parts per million volumetric (ppmv) on a dry basis corrected to 3 percent oxygen, whichever is less stringent. If a boiler or process heater is used to comply with this subparagraph, the vent stream shall be introduced into the flame zone of the boiler or process heater;
- (b) Combust the emissions in a flare that meets the requirements of 40 C.F.R. 60.18, as of July 1, 1991, except that, for a hydrogen fueled flare serving a hydrogen cyanide process at a facility in Shelby County, the Technical Secretary, upon demonstration that stable-flame conditions are maintained, may waive the net heating value and exit velocity requirements of the C.F.R. section; or

(Rule 1200-03-18-.40, continued)

- (c) Maintain a TRE index value greater than 1.0 without the use of VOC emission control devices.

(4) Monitoring requirements as follow apply:

- (a) The owner or operator of an air oxidation facility that uses an incinerator to seek to comply with the VOC emission limit specified under Subparagraph (3)(a) of this rule, shall install, calibrate, maintain, and operate according to manufacture's specifications the following equipment:
1. A temperature monitoring device equipped with a continuous recorder and having an accuracy of  $\pm 1$  percent of the temperature being monitored expressed in degrees Celsius or  $\pm 0.5^{\circ}\text{C}$ , whichever is greater.
    - (i) Where an incinerator other than a catalytic incinerator is used, a temperature monitoring device shall be installed in the firebox.
    - (ii) Where a catalytic incinerator is used, temperature monitoring devices shall be installed in the gas stream immediately before and after the catalyst bed.
  2. A flow indicator that provides a record of vent stream flow to the incinerator at least once every hour for each air oxidation facility. The flow indicator shall be installed in the vent stream from each air oxidation facility at a point closest to the inlet of each incinerator and before being joined with any other vent stream.
- (b) The owner or operator of an air oxidation facility that uses a flare to seek to comply with Subparagraph (3)(b) of this rule shall install, calibrate, maintain, and operate according to manufacture's specifications the following equipment:
1. A heat sensing device, such as an ultra-violet sensor or thermocouple, at the pilot light to indicate the continuous presence of a flame.
  2. A flow indicator that provides a record of vent stream flow to the flare at least once every hour for each air oxidation facility. The flow indicator shall be installed in the vent stream from each air oxidation facility at a point closest to the flare and before being joined with any other vent stream.
- (c) The owner or operator of an air oxidation facility that uses a boiler or process heater to seek to comply with Subparagraph (3)(a) of this rule shall install, calibrate, maintain, and operate according to the manufacturer's specifications the following equipment:
1. A flow indicator that provides a record of vent stream flow to the boiler or process heater at least once every hour for each air oxidation facility. The flow indicator shall be installed in the vent stream from each air oxidation reactor within a facility at a point closest to the inlet of each boiler or process heater and before being joined with any other vent stream.
  2. A temperature monitoring device in the firebox equipped with a continuous recorder and having an accuracy of  $\pm 1$  percent of the temperature being measured expressed in degrees Celsius or  $\pm 0.5^{\circ}\text{C}$ , whichever is greater, for boilers or process heaters of less than 44 MW (150 million Btu/hr) heat input design capacity.



(Rule 1200-03-18-.40, continued)

3. Monitor and record the periods of operation of the boiler or process heater if the design input capacity of the boiler or process heater is 44 MW (150 million Btu/hr) or greater. The records shall be readily available for inspection.
- (d) The owner or operator of an air oxidation facility that seeks to demonstrate compliance with the TRE index value limit specified under Subparagraph (3)(c) of this rule shall install, calibrate, maintain, and operate according to manufacturer's specifications the following equipment:
1. Where an absorber is the final recovery device in a recovery system:
    - (i) A scrubbing liquid temperature monitoring device having an accuracy of  $\pm 1$  percent of the temperature being monitored, expressed in degrees Celsius or  $\pm 0.5^{\circ}\text{C}$ , whichever is greater, and a specific gravity monitoring device having an accuracy of  $\pm 0.02$  specific gravity unit, each equipped with a continuous recorder; and
    - (ii) An organic monitoring device used to indicate the concentration level of organic compounds exiting the recovery device based on a detection principle such as infrared, photoionization, or thermal conductivity, each equipped with a continuous recorder.
  2. Where a condenser is the final recovery device in a recovery system:
    - (i) A condenser exit (product site) temperature monitoring device equipped with a continuous recorder and having an accuracy of  $\pm 1$  percent of the temperature being monitored expressed in degrees Celsius or  $\pm 0.5^{\circ}\text{C}$ , whichever is greater; and
    - (ii) An organic monitoring device used to indicate the concentration level of organic compounds exiting the recovery device based on a detection principle such as infrared, photoionization, or thermal conductivity, each equipped with a continuous recorder.
  3. Where a carbon adsorber is the final recovery device in a recovery system:
    - (i) An integrating steam flow monitoring device having an accuracy of  $\pm 10$  percent, and a carbon bed temperature monitoring device having an accuracy of  $\pm 1$  percent of the temperature being monitored expressed in degrees Celsius or  $\pm 0.5^{\circ}\text{C}$ , whichever is greater, both equipped with a continuous recorder; and
    - (ii) An organic monitoring device used to indicate the concentration level of organic compounds exiting the recovery device based on a detection principle such as infrared, photoionization, or thermal conductivity, each equipped with a continuous recorder.
- (5) The following methods shall be used to demonstrate compliance with Paragraph (3) of this rule:
- (a) The following equation shall be used to calculate the TRE index for a given vent stream:

$$\text{TRE} = \frac{1}{E} [a + b(\text{FL})^{0.88} + c(\text{FL}) + d(\text{FL})H_T + e(\text{FL})^{0.88}(H_T)^{0.88} + f(\text{FL})^{0.5}]$$

(Rule 1200-03-18-.40, continued)

where:

TRE = The total resource effectiveness index value.

E = The measured hourly emissions in units of kilograms/hour (kg/h).

FL = The vent stream flow rate in scm/min, at a standard temperature of 20°C.

For a Category E stream (see Table 1), the factor  $f(FL)^{0.5}$  should be replaced with

$$f \left[ \left( FL \frac{(H_T)^{0.5}}{3.6} \right) \right]$$

where:

$H_T$  = Vent stream net heating value in units of MJ/scm, where the net enthalpy per mole of offgas is based on combustion at 25°C (68°F) and 760 millimeters of Mercury (mm Hg), but the standard temperature for determining the volume corresponding to one mole is 20°C, as in the definition of FL.

a, b, c, d, e, and f = Specific coefficients for six different general categories of process vent streams. The set of coefficients that apply to a given air oxidation process vent stream are specified in Table 1.

TABLE 1. COEFFICIENTS OF THE TOTAL RESOURCE EFFECTIVENESS (TRE) INDEX EQUATION

A1. For Chlorinated Process Vent Streams, if  $0 \leq \text{Net Heating Value (MJ/scm)} \leq 3.5$ :

| FL - Vent Stream Flow Rate (scm/min) | a      | b     | c     | d       | e | f      |
|--------------------------------------|--------|-------|-------|---------|---|--------|
| FL $\leq$ 13.5                       | 48.73  | 0     | 0.404 | -0.1632 | 0 | 0      |
| 13.5 < FL $\leq$ 700                 | 42.35  | 0.624 | 0.404 | -0.1632 | 0 | 0.0245 |
| 700 < FL $\leq$ 1,400                | 84.38  | 0.678 | 0.404 | -0.1632 | 0 | 0.0346 |
| 1,400 < FL $\leq$ 2,100              | 126.41 | 0.712 | 0.404 | -0.1632 | 0 | 0.0424 |
| 2,100 < FL $\leq$ 2,800              | 168.44 | 0.747 | 0.404 | -0.1632 | 0 | 0.0490 |
| 2,800 < FL $\leq$ 3,500              | 210.47 | 0.758 | 0.404 | -0.1632 | 0 | 0.0548 |

A2. For Chlorinated Process Vent Streams, if  $3.5 < \text{Net Heating Value (MJ/scm)}$ :

| FL - Vent Stream Flow Rate (scm/min) | a      | b     | c     | d | e | f      |
|--------------------------------------|--------|-------|-------|---|---|--------|
| FL $\leq$ 13.5                       | 47.76  | 0     | 0.292 | 0 | 0 | 0      |
| 13.5 < FL $\leq$ 700                 | 41.58  | 0.605 | 0.292 | 0 | 0 | 0.0245 |
| 700 < FL $\leq$ 1,400                | 82.84  | 0.658 | 0.292 | 0 | 0 | 0.0346 |
| 1,400 < FL $\leq$ 2,100              | 123.10 | 0.691 | 0.292 | 0 | 0 | 0.0424 |
| 2,100 < FL $\leq$ 2,800              | 165.36 | 0.715 | 0.292 | 0 | 0 | 0.0490 |

(Rule 1200-03-18-.40, continued)

|                       |        |       |       |   |   |        |
|-----------------------|--------|-------|-------|---|---|--------|
| 2,800 < FL ≤<br>3,500 | 206.62 | 0.734 | 0.292 | 0 | 0 | 0.0548 |
|-----------------------|--------|-------|-------|---|---|--------|

B. For Nonchlorinated Process Vent Streams, if  $0 \leq \text{Net Heating Value (MJ/scm)} \leq 0.48$ :

| FL - Vent Stream<br>Flow Rate (scm/min) | a     | b     | c     | d      | e | f      |
|---|-------|-------|-------|--------|---|--------|
| FL ≤ 13.5                               | 19.05 | 0     | 0.113 | -0.214 | 0 | 0      |
| 13.5 < FL ≤ 1,350                       | 16.61 | 0.239 | 0.113 | -0.214 | 0 | 0.0245 |
| 1,350 < FL ≤<br>2,700                   | 32.91 | 0.260 | 0.113 | -0.214 | 0 | 0.0346 |
| 2,700 < FL ≤<br>3,500                   | 49.21 | 0.273 | 0.113 | -0.214 | 0 | 0.0424 |

C. For Nonchlorinated Process Vent Streams, if  $0.48 < \text{Net Heating Value (MJ/scm)} \leq 1.9$ :

| FL - Vent Stream<br>Flow Rate (scm/min) | a     | b     | c     | d      | e | f      |
|---|-------|-------|-------|--------|---|--------|
| FL ≤ 13.5                               | 19.74 | 0     | 0.400 | -0.202 | 0 | 0      |
| 13.5 < FL ≤ 1,350                       | 18.30 | 0.138 | 0.400 | -0.202 | 0 | 0.0245 |
| 1,350 < FL ≤<br>2,700                   | 36.28 | 0.150 | 0.400 | -0.202 | 0 | 0.0346 |
| 2,700 < FL ≤<br>4,050                   | 54.26 | 0.158 | 0.400 | -0.202 | 0 | 0.0424 |

D. For Nonchlorinated Process Vent Streams, if  $1.9 < \text{Net Heating Value (MJ/scm)} \leq 3.6$ :

| FL - Vent Stream<br>Flow Rate (scm/min) | a     | b     | c     | d | e | f      |
|---|-------|-------|-------|---|---|--------|
| FL ≤ 13.5                               | 15.24 | 0     | 0.033 | 0 | 0 | 0      |
| 13.5 < FL ≤ 1,190                       | 13.63 | 0.157 | 0.033 | 0 | 0 | 0.0245 |
| 1,190 < FL ≤<br>2,380                   | 26.95 | 0.171 | 0.033 | 0 | 0 | 0.0346 |
| 2,380 < FL ≤<br>3,570                   | 40.27 | 0.179 | 0.033 | 0 | 0 | 0.0424 |

E. For Nonchlorinated Process Vent Streams, if  $3.6 < \text{Net Heating Value (MJ/scm)}$ :

| FL - Vent Stream<br>Flow Rate (scm/min) | a     | b | c | d      | e      | f      |
|---|-------|---|---|--------|--------|--------|
| FL ≤ 13.5                               | 15.24 | 0 | 0 | 0.0090 | 0      | 0      |
| 13.5 < FL ≤ 1,190                       | 13.63 | 0 | 0 | 0.0090 | 0.0503 | 0.0245 |
| 1,190 < FL ≤<br>2,380                   | 26.95 | 0 | 0 | 0.0090 | 0.0546 | 0.0346 |
| 2,380 < FL ≤<br>3,570                   | 40.27 | 0 | 0 | 0.0090 | 0.0573 | 0.0424 |

- (b) Each owner or operator of an air oxidation facility seeking to comply with Subparagraph (1)(b) or (3)(c) of this rule shall recalculate the TRE index value for that air oxidation facility whenever process changes are made. Some examples of process changes are changes in production capacity, feedstock type, or catalyst type, or whenever there is replacement, removal, or addition of recovery equipment. The TRE index value shall

(Rule 1200-03-18-.40, continued)

be recalculated based on test data, or on best engineering estimates of the effects of the change to the recovery system.

- (c) Reference Method 1 or 1A, as appropriate, for selection of the sampling sites. The control device inlet sampling site for determination of vent stream molar composition or VOC reduction efficiency shall be prior to the inlet of the control device and after the recovery system.
- (d) Reference Method 2, 2A, 2C, or 2D, as appropriate, for determination of the volumetric flow rates.
- (e) The emission rate correction factor, integrated sampling and analysis procedure of Method 3 shall be used to determine the oxygen concentration (%O<sub>2d</sub>) for the purposes of determining compliance with the 20 ppmv limit. The sampling site shall be the same as that of the VOC samples and the samples shall be taken during the same time that the VOC samples are taken. The VOC concentration corrected to 3 percent O<sub>2</sub> (C<sub>c</sub>) shall be computed using the following equation:

$$C_c = C_{\text{voc}} \frac{17.9}{20.9 - \%O_{2d}}$$

where:

C<sub>c</sub> = Concentration of VOC corrected to 3 percent O<sub>2</sub>, dry basis, ppm by volume.

C<sub>voc</sub> = Concentration of VOC, dry basis, ppm by volume.

%O<sub>2d</sub> = Concentration of O<sub>2</sub>, dry basis, percent by volume.

- (f) Reference Method 18 to determine concentration of VOC in the control device outlet and the concentration of VOC in the inlet when the reduction efficiency of the control device is to be determined, according to the following:
  1. The sampling time for each run shall be 1 hour in which either an integrated sample or four grab samples shall be taken. If grab sampling is used, then the samples shall be taken at 15-minute intervals.
  2. The emission reduction (R) of VOC shall be determined using the following equation:

$$R = \frac{E_i - E_o}{E_i} \times 100$$

where:

R = Emission reduction, percent by weight.

E<sub>i</sub> = Mass rate of VOC entering the control device, kg VOC/hr.

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$E_o$  = Mass rate of VOC discharged to the atmosphere, kg VOC/hr.

3. The mass rates of VOC ( $E_i$ ,  $E_o$ ) shall be computed using the following equations:

$$E_i = K_2 \left( \sum_{j=1}^n C_{ij} M_{ij} \right) Q_i$$

$$E_o = K_2 \left( \sum_{j=1}^n C_{oj} M_{oj} \right) Q_o$$

where:

$C_{ij}$ ,  $C_{oj}$  = Concentration of sample component "j" of the gas stream at the inlet and outlet of the control device, respectively.

$M_{ij}$ ,  $M_{oj}$  = Molecular weight of sample component "j" of the gas stream at the inlet and outlet of the control device, respectively, g/g-mole (lb/lb-mole).

$Q_i$ ,  $Q_o$  = Flow rate of gas stream at the inlet and outlet of the control device, respectively, dscm/min (dscf/hr).

$K_2$  = Constant,  $2.494 \times 10^{-6}$  (1/ppm) (g-mole/scm) (kg/g) (min/h), where standard temperature for (g-mole/scm) is  $20^{\circ}\text{C}$ .

4. The VOC concentration ( $C_{\text{voc}}$ ) is the sum of the individual components and shall be computed for each run using the following equation:

$$C_{\text{voc}} = \sum_{j=1}^n C_j$$

where:

$C_{\text{voc}}$  = Concentration of VOC, dry basis, ppm by volume.

$C_j$  = Concentration of sample components in the sample.

$n$  = Number of components in the sample.

- (g) When a flare is used to seek to comply with Subparagraph (3)(b) of this rule, the flare shall comply with the requirements of 40 C.F.R. 60.18, as of July 1, 1991.
- (h) The following test methods shall be used for determining the net heating value of the gas combusted to determine compliance under Subparagraph (3)(b) of this rule, and

(Rule 1200-03-18-.40, continued)

for determining the process vent stream TRE index value to determine compliance under Subparagraph (3)(c) of this rule:

1. For selection of sampling site:
  - (i) Reference Method 1 or 1A, as appropriate, for selection of the sampling site. The sampling site for the vent stream flow rate and molar composition determination prescribed in Parts 2 and 3 of this subparagraph shall be, except for the situations outlined in Subpart (ii) of this part, prior to the inlet of any control device, prior to any post-reactor dilution of the stream with air, and prior to any post-reactor introduction of halogenated compounds into the vent stream. No transverse site selection method is needed for vents smaller than 4 inches in diameter.
  - (ii) If any gas stream other than the air oxidation vent stream is normally conducted through the final recovery device:
    - (I) The sampling site for vent stream flow rate and molar composition shall be prior to the final recovery device and prior to the point at which the nonair oxidation stream is introduced.
    - (II) The efficiency of the final recovery device is determined by measuring the VOC concentration using Method 18 at the inlet to the final recovery device after the introduction of any nonair oxidation vent stream and at the outlet of the final recovery device.
    - (III) This efficiency is applied to the VOC concentration measured prior to the final recovery device and prior to the introduction of the nonair oxidation stream to determine the concentration of VOC in the air oxidation stream from the final recovery device. This concentration of VOC is then used to perform the calculations outlined in Parts 4 and 5 of this subparagraph.
2. For determining molar composition of the process vent stream:
  - (i) Reference Method 18 to measure the concentration of VOC including those containing halogens.
  - (ii) ASTM D1946-77 to measure the concentration of carbon monoxide and hydrogen.
  - (iii) Reference Method 4 to measure the content of water vapor.
3. For volumetric flow rate Reference Method 2, 2A, 2C, or 2D, as appropriate.
4. For net heating value of the vent stream, the following equation:

$$H_T = K_1 \sum_{j=1}^n C_j H_j$$

where:

$H_T$  = Net heating value of the sample, MJ/scm, where the net enthalpy per mole of offgas is based on combustion at 25°C and 760 mm Hg, but

(Rule 1200-03-18-.40, continued)

the standard temperature for determining the volume corresponding to one mole is 20°C, as in the definition of  $Q_s$  (offgas flow rate).

$$K_1 = \text{Constant, } 1.740 \times 10^{-7} \frac{(1) (\text{g-mole}) (\text{MJ})}{\text{ppm scm kcal}}$$

where standard temperature for  $\frac{(\text{g-mole})}{\text{scm}}$  is 20°C.

$C_j$  = Concentration of compound j in ppm, as measured for organics by Reference Method 18 and measured for hydrogen and carbon monoxide by ASTM D1946-77 as indicated in Part 2 of this subparagraph.

$H_j$  = Net heat of combustion of compound j, kcal/g-mole, based on combustion at 25°C and 760 mm Hg. The heats of combustion of vent stream components would be required to be determined using ASTM D2382-76 if published values are not available or cannot be calculated.

5. For emission rate of VOC in the process vent stream, the following equation:

$$E_{\text{voc}} = K_2 \left( \sum_{j=1}^n C_j M_j \right) Q_s$$

where:

$E_{\text{voc}}$  = Emission rate of VOC in the sample, kg/hr.

$K_2$  = Constant,  $2.494 \times 10^{-6}$  (1/ppm) (g-mole/scm) (kg/g) (min/hr), where standard temperature for (g-mole/scm) is 20°C.

$C_j$  = Concentration on a dry basis of compound j in ppm as measured by Reference Method 18 as indicated in Part 2 of this subparagraph.

$M_j$  = Molecular weight of sample j, g/g-mole.

$Q_s$  = Vent stream flow rate (scm/min) at a standard temperature of 20°C.

- (6) The owner or operator of a facility subject to this rule shall keep the records specified in this paragraph for at least 3 years. These records, as follow, shall be made available to the Technical Secretary immediately upon request:
- (a) Where an owner or operator subject to this rule seeks to demonstrate compliance with Subparagraph (3)(a) of this rule through the use of either a thermal or catalytic incinerator:
1. The average firebox temperature of the incinerator (or the average temperature upstream and downstream of the catalyst bed for a catalytic incinerator),

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- measured at least every 15 minutes and averaged over the same time period as the compliance test, and
2. The percent reduction of VOC determined as specified in Subparagraph (3)(a) of this rule that is achieved by the incinerator, or the concentration of VOC determined as specified in Subparagraph (3)(a) of this rule at the outlet of the control device on a dry basis corrected to 3 percent oxygen.
- (b) Where an owner or operator subject to the provisions of this rule seeks to demonstrate compliance with Subparagraph (3)(a) of this rule through the use of a boiler or process heater:
1. A description of the location at which the vent stream is introduced into the boiler or process heater, and
  2. The average combustion temperature of the boiler or process heater with a design heat input capacity of less than 44 MW (150 million Btu/hr) measured at least every 15 minutes and averaged over the same time period of the compliance testing.
- (c) Where an owner or operator subject to the provisions of this rule seeks to comply with Subparagraph (3)(b) of this rule through the use of a smokeless flare, flare design (i.e., steam-assisted, air-assisted, or non-assisted), all visible emission readings, heat content determinations, flow rate measurements, and exit velocity determinations made during the compliance test, continuous records of the flare pilot flame monitoring, and records of all periods of operation during which the pilot flame is absent.
- (d) Where an owner or operator seeks to demonstrate compliance with Subparagraph (3)(c) of this rule:
1. Where an absorber is the final recovery device in a recovery system, the exit specific gravity and average exit temperature of the absorbing liquid, measured at least every 15 minutes and averaged over the same time period of the compliance testing (both measured while the vent stream is normally routed and constituted), or
  2. Where a condenser is the final recovery device in a recovery system, the average exit (product side) temperature, measured at least every 15 minutes and averaged over the same time period of the compliance testing while the vent stream is normally routed and constituted, or
  3. Where a carbon adsorber is the final recovery device in a recovery system, the total steam mass flow measured at least every 15 minutes and averaged over the same time period of the compliance test (full carbon bed cycle), temperature of the carbon bed after regeneration (and within 15 minutes of completion of any cooling cycle(s)), and duration of the carbon bed steaming cycle (all measured while the vent stream is normally routed and constituted), or
  4. As an alternative to Part 1, 2, or 3 of this subparagraph, the concentration level or reading indicated by the organic monitoring device at the outlet of the absorber, condenser, or carbon adsorber measured at least every 15 minutes and averaged over the same time period of the compliance testing while the vent stream is normally routed and constituted.
  5. All measurements and calculations performed to determine the TRE index value of the vent stream.



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- (e) Each owner or operator subject to the provisions of this rule shall keep up-to-date continuous records of the equipment operating parameters specified to be monitored under Subparagraphs (4)(a) and (4)(c) of this rule as well as up-to-date records of periods of operation during which the parameter boundaries established during the most recent compliance test are exceeded. The Technical Secretary may at any time require a report of these data. Where a combustion device is used by an owner or operator seeking to demonstrate compliance with Subparagraph (3)(a) or (3)(c) of this rule, periods of operation during which the parameter boundaries established during the most recent performance tests are exceeded and therefore an instance of noncompliance has occurred are defined as follows:
1. For thermal incinerators, all 3-hour periods of operation during which the average combustion temperature was more than 28°C (50°F) below the average combustion temperature during the most recent test at which compliance with Subparagraph (3)(a) of this rule was determined.
  2. For catalytic incinerators, all 3-hour periods of operation during which the average temperature of the vent stream immediately before the catalyst bed is more than 28°C (50°F) below the average temperature of the vent stream during the most recent test at which compliance with Subparagraph (3)(a) of this rule was determined. The owner or operator also shall record all 3-hour periods of operation during which the average temperature difference across the catalyst bed is less than 80 percent of the average temperature difference of the device during the most recent test at which compliance with Subparagraph (3)(a) of this rule was determined.
  3. All 3-hour periods of operation during which the average combustion temperature was more than 28°C (50°F) below the average combustion temperature during the most recent test at which compliance with Subparagraph (3)(a) of this rule was determined for boilers or process heaters with a design heat input capacity of less than 44 MW (150 million Btu/hr).
  4. For boilers or process heaters, whenever there is a change in the location at which the vent stream is introduced into the flame zone as required under Subparagraph (3)(a) of this rule.
- (f) Each owner or operator subject to the provisions of this rule shall keep up-to-date continuous records of the flow indication specified under Parts (4)(a)2, (4)(b)2, and (4)(c)1 of this rule, as well as up-to-date records of all periods when the vent stream is diverted from the control device or has no flow rate.
- (g) Each owner or operator subject to the provisions of this rule who uses a boiler or process heater with a design heat input capacity of 44 MW or greater to comply with Subparagraph (3)(a) of this rule shall keep an up-to-date record of all periods of operation of the boiler or process heater. (Examples of such records could include records of steam use, fuel use, or monitoring data collected pursuant to other regulatory requirements.)
- (h) Each owner or operator subject to the provisions of this rule shall keep up-to-date continuous records of the flare pilot flame monitoring specified in Subparagraph (4)(b) of this rule as well as up-to-date records of all periods of operations in which the pilot flame is absent.
- (i) Each owner or operator subject to the provisions of this rule shall keep up-to-date continuous records of the equipment operating parameters specified to be monitored

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under Subparagraph (4)(c) of this rule as well as up-to-date records of periods of operation during which the parameter boundaries established during the most recent compliance test are exceeded. The Technical Secretary may at any time require a report of these data. Where the owner or operator seeks to demonstrate compliance with Subparagraph (3)(c) of this rule, periods of operation during which the parameter boundaries established during the most recent compliance tests are exceeded and therefore an instance of noncompliance has occurred are defined as follows:

1. Where an absorber is the final recovery device in a recovery system, and where an organic monitoring device is not used:
    - (i) All 3-hour periods of operation during which the average absorbing liquid temperature was more than 11°C (20°F) above the average absorbing liquid temperature during the most recent compliance test that demonstrated that the facility was in compliance, or
    - (ii) All 3-hour periods of operation during which the average absorbing liquid specific gravity was more than 0.1 unit above, or more than 0.1 unit below, the average absorbing liquid specific gravity during the most recent compliance test that demonstrated that the facility was in compliance.
  2. Where a condenser is the final recovery device in a recovery system, and where an organic monitoring device is not used, all 3-hour periods of operation during which the average exit (product site) condenser operating temperature was more than 6°C (11°C) above the average exit (product site) operating temperature during the most recent compliance test that demonstrated that the facility was in compliance.
  3. Where a carbon adsorber is the final recovery device in a recovery system and where an organic monitoring device is not used:
    - (i) All carbon bed regeneration cycles during which the total mass steam flow was more than 10 percent below the total mass steam flow during the most recent compliance test that demonstrated that the facility was in compliance, or
    - (ii) All carbon bed regeneration cycles during which the temperature of the carbon bed after regeneration [and after completion of any cooling cycle(s)] was more than 10 percent greater than the carbon bed temperature (in degrees Celsius) during the most recent compliance test that demonstrated that the facility was in compliance.
  4. Where an absorber, condenser, or carbon adsorber is the final recovery device in the recovery system and an organic monitoring device approved by the Technical Secretary is used, all 3-hour periods of operation during which the average concentration level or reading of organic compounds in the exhaust gases is more than 20 percent greater than the exhaust gas organic compound concentration level or reading measured by the monitoring device during the most recent compliance test that demonstrated that the facility was in compliance.
- (j) Each owner or operator subject to the provisions of this rule and seeking to demonstrate compliance with Subparagraph (3)(c) of this rule shall keep up-to-date records of:

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1. Any changes in production capacity, feedstock type, or catalyst type, or of any replacement, removal, or addition of recovery equipment or air oxidation reactors;
  2. Any calculation of the TRE index value performed pursuant to Subparagraph (5)(b) of this rule.
  3. The results of any test performed pursuant to the methods and procedures required by Subparagraph (4)(d) of this rule.
- (7) The owner or operator of any facility containing sources subject to this rule shall:
- (a) Comply with the initial compliance certification requirements of Paragraph .04(1) of this chapter; and
  - (b) Comply with the requirements of Paragraph .04(2) of this chapter for excess emissions related to the control devices required to comply with this rule.

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-201-105. **Administrative History:** Original rule filed May 15, 1979; effective July 10, 1979. Amendment filed October 2, 1979; effective November 16, 1979. Amendment filed April 23, 1992; effective June 7, 1992. Repeal and new rule filed March 8, 1983; effective April 22, 1993. Amendment filed May 16, 1997; effective July 30, 1997.

#### 1200-03-18-.41 RESERVED.

**Authority:** T.C.A. §§ 4-5-202 and 68-201-105. **Administrative History:** Original rule filed May 15, 1979; effective July 10, 1979. Amendment filed December 14, 1981; effective January 28, 1982. Amendment filed April 23, 1992; effective June 7, 1992. Repeal filed March 8, 1993; effective April 22, 1993.

#### 1200-03-18-.42 WOOD FURNITURE FINISHING AND CLEANING OPERATION.

- (1) Applicability of this Rule is as follows:

This Rule applies to any wood furniture coating line within a facility located in Davidson, Rutherford, Shelby, Sumner, Williamson or Wilson County whose maximum potential emissions from all wood furniture coating lines within the facility are 100 tons or more of volatile organic compounds (VOC's) per year.

- (2) For the purpose of this Rule, the following definitions apply:
- (a) "Adhesive" means any chemical substance that is applied for the purpose of bonding two surfaces together other than by mechanical means.
  - (b) "Administrator" means the Administrator of the United States Environmental Protection Agency or his or her authorized representative.
  - (c) "Affected Source" means a wood furniture manufacturing facility that meets the criteria listed in Subparagraph (1).
  - (d) "Alternative method" means any method of sampling and analyzing for an air pollutant that is not a reference or equivalent method but that has been demonstrated to the Technical Secretary and the Administrator's satisfaction to, in specific cases, produce results adequate for a determination of compliance.

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- (e) “Basecoat” means a coat of colored material, usually opaque, that is applied before graining inks, glazing coats, or other opaque finishing materials and is usually topcoated for protection.
- (f) “Baseline conditions” means the conditions that exist prior to an affected source implementing controls, such as a control system.
- (g) “Cleaning operations” means operations in which organic solvent is used to remove coating materials from equipment used in the coating operation.
- (h) “Coating Solids (or solids)” mean the part of the coating that remains after the coating is dried or cured.
- (i) “Continuous coater” means a finishing system that continuously applies finishing materials onto furniture parts moving along a conveyor system. Finishing materials that are not transferred to the part are recycled to the finishing material reservoir. Several types of application methods can be used with a continuous coater including spraying, curtain coating, roll coating, dip coating, and flow coating.
- (j) “Continuous compliance” means that the affected source is meeting the emission limitations and other requirements of the Rule at all times and is fulfilling all monitoring and recordkeeping provisions of the Rule in order to demonstrate compliance.
- (k) “Conventional air spray” means a spray coating method in which the coating is atomized by mixing it with compressed air at an air pressure greater than 10 pounds per square inch (gauge) at the point of atomization. Airless and air assisted airless spray technology are not conventional air spray because the coating is not atomized by mixing it with compressed air.
- (l) “Disposed offsite” means sending used organic solvent or finishing material outside of the facility for disposal.
- (m) “Enamel” means the coat of colored material, usually opaque, that is applied as a protective topcoat over a basecoat, primer, or a previously applied enamel coat. In some cases, another finishing material may be applied as a topcoat over enamel.
- (n) “Equivalent method” means any method of sampling and analyzing for an air pollutant that has been demonstrated to the Technical Secretary and the Administrator’s satisfaction to have a consistent and quantitatively known relationship to the reference method under specific conditions.
- (o) “Final touch-up and repair” means the application of finishing materials after completion of the finishing operation to cover minor imperfections.
- (p) “Finishing application station” means the part of a finishing operation where the finishing material is applied, e.g., a spray booth.
- (q) “Finishing material” means a coating other than an adhesive. For the wood furniture manufacturing industry, such materials include, but are not limited to, basecoats, stains, washcoats, sealers, topcoats, and enamels.
- (r) “Finishing operation” means those activities in which a finishing material is applied to a substrate and is subsequently air-dried, cured in an oven, or cured by radiation.

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- (s) "Incinerator" means, for the purposes of this industry, an enclosed combustion device that thermally oxidizes volatile organic compounds to CO and CO<sub>2</sub>. This term does not include devices that burn municipal or hazardous waste material.
- (t) "Material safety data sheet (MSDS)" means the documentation required by the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard for a solvent, cleaning material, finishing material, or other material that identifies select reportable hazardous ingredients of the material, safety and health considerations, and handling procedures.
- (u) "Normally closed container" means a container that is closed unless an operator is actively engaged in activities such as emptying or filling the container.
- (v) "Operating parameter value" means a minimum or maximum value established for a control device or process parameter that, if achieved by itself or in combination with one or more other operating parameter values, determines that an owner or operator has complied with an applicable emission limit.
- (w) "Organic solvent" means a liquid containing volatile organic compounds that is used for dissolving or dispersing constituents in a coating, adjusting the viscosity of a coating, or cleaning equipment. When used in a coating the organic solvent evaporates during drying and does not become a part of the dried film.
- (x) "Permanent total enclosure" means a permanently installed enclosure that completely surrounds a source of emissions such that all emissions are captured and contained for discharge through a control device.
- (y) "Recycled onsite" means the reuse of an organic solvent in a process other than cleaning or washoff.
- (z) "Sealer" means a finishing material used to seal the pores of a wood substrate before additional coats of finishing material are applied. Special purpose finishing materials that are used in some finishing systems to optimize aesthetics are not sealers.
- (aa) "Stain" means any color coat having a solids content by weight of no more than 8.0 percent that is applied in single or multiple coats directly to the substrate. This includes, but is not limited to, nongrain raising stains, equalizer stains, sap stains, body stains, no-wipe stains, penetrating stains, and toners.
- (bb) "Storage containers" means vessels or tanks, including mix equipment, used to hold finishing or cleaning materials.
- (cc) "Strippable booth coating" means a coating that:
  - 1. Is applied to a booth wall to provide a protective film to receive overspray during finishing operations;
  - 2. That is subsequently peeled off and disposed of; and;
  - 3. By achieving 1. and 2., reduces or eliminates the need to use organic solvents to clean booth walls.
- (dd) "Temporary total enclosure" means an enclosure that meets the requirements of (7)(e)1.(i) through (iv) and is not permanent, but constructed only to measure the capture efficiency of the capture system of a given source. In addition to meeting the

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requirements of (7)(e)1.(i) through (iv), any exhaust point from the enclosure shall be at least 4 equivalent duct or hood diameters from each natural draft opening.

- (ee) "Topcoat" means the last film-building finishing material applied in a finishing system.
  - (ff) "Washcoat" means a transparent special purpose coating having a solids content by weight of 12.0 percent or less. Washcoats are applied over initial stains to protect and control color and to stiffen the wood fibers in order to aid sanding.
  - (gg) "Washoff" operations means those operations in which organic solvent is used to remove coating from a substrate.
  - (hh) "Waterborne" coating means a coating that contains more than five percent water by weight in its volatile fraction.
  - (ii) "Wood furniture" facility means all of the pollutant-emitting activities that belong to the same wood furniture industrial grouping, are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control). The wood furniture industrial grouping includes the following SIC codes: 2434, 2511, 2512, 2517, 2519, 2521, 2531, 2541, and 2599.
  - (jj) "Wood furniture manufacturing operations" means the finishing and cleaning operations conducted at a wood furniture facility.
  - (kk) "Working day" means a day, or any part of a day, in which a facility is engaged in manufacturing.
- (3) The nomenclature used in this Rule has the following meaning:
- (a)  $A_k$  = the area of each natural draft opening (k) in a total enclosure, in square meters.
  - (b) C = the VOC content of a coating (c), in kilograms of VOC per kilogram of coating solids (kg VOC/kg solids), as applied. Also given in pounds of VOC per pound of coating solids (lb VOC/lb solids), as applied.
  - (c)  $C_{aj}$  = the concentration of VOC in gas stream (j) exiting the emission control device, in parts per million by volume.
  - (d)  $C_{bi}$  = the concentration of VOC in gas stream (i) entering the emission control device, in parts per million by volume.
  - (e)  $C_{di}$  = the concentration of VOC in gas stream (i) entering the emission control device from the affected emission point(s), in parts per million by volume.
  - (f)  $C_{rk}$  = the concentration of VOC in each uncontrolled gas stream (k) emitted directly to the atmosphere from the affected emission point(s), in parts per million by volume.
  - (g) E = the emission limit to be achieved by the affected emission point(s), in kg VOC/kg solids.
  - (h) F = the control device efficiency, expressed as a fraction.
  - (i) FV = the average inward face velocity across all natural draft openings in a total enclosure, in meters per hour.
  - (j) N = the capture efficiency, expressed as a fraction.

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- (k)  $Q_{aj}$  = the volumetric flow rate of gas stream (j) exiting the emission control device, in dry standard cubic meters per hour.
  - (l)  $Q_{bi}$  = the volumetric flow rate of gas stream (i) entering the emission control device, in dry standard cubic meters per hour.
  - (m)  $Q_{di}$  = the volumetric flow rate of gas stream (i) entering the emission control device from the affected emission point(s), in dry standard cubic meters per hour.
  - (n)  $Q_{fk}$  = the volumetric flow rate of each uncontrolled gas stream (k) emitted directly to the atmosphere from the affected emission point(s), in dry standard cubic meters per hour.
  - (o)  $Q_{in i}$  = the volumetric flow rate of gas stream (i) entering the total enclosure through a forced makeup air duct, in standard cubic meters per hour (wet basis).
  - (p)  $Q_{out j}$  = the volumetric flow rate of gas stream (j) exiting the total enclosure through an exhaust duct or hood, in standard cubic meters per hour (wet basis).
  - (q)  $R$  = the overall efficiency of the control system, expressed as a percentage.
- (4) Emission Standards
- (a) Each owner or operator of an affected source subject to this Rule shall limit VOC emissions from finishing operations by:
    - 1. Using topcoats with a VOC content no greater than 0.8 kg VOC/kg solids (0.8 lb VOC/lb solids), as applied; or
    - 2. Using a finishing system of sealers with a VOC content no greater than 1.9 kg VOC/kg solids (1.9 lb VOC/lb solids), as applied and topcoats with a VOC content no greater than 1.8 kg VOC/kg solids (1.8 lb VOC/lb solids), as applied; or
    - 3. For affected sources using acid-cured alkyd amino vinyl sealers or acid-cured alkyd amino conversion varnish topcoats, using sealers and topcoats based on the following criteria:
      - (i) If the affected source is using acid-cured alkyd amino vinyl sealers and acid-cured alkyd amino conversion varnish topcoats, the sealer shall contain no more than 2.3 kg VOC/kg solids (2.3 lb VOC/lb solids), as applied, and the topcoat shall contain no more than 2.0 kg VOC/kg solids (2.0 lb VOC/lb solids), as applied; or
      - (ii) If the affected source is using a sealer other than an acid-cured alkyd amino vinyl sealer and acid-cured alkyd amino conversion varnish topcoats, the sealer shall contain no more than 1.9 kg VOC/kg solids (1.9 lb VOC/lb solids), as applied, and the topcoat shall contain no more than 2.0 kg VOC/kg solids (2.0 lb VOC/lb solids), as applied; or
      - (iii) If the affected source is using an acid-cured alkyd amino vinyl sealer and a topcoat other than an acid-cured alkyd amino conversion varnish topcoat, the sealer shall contain no more than 2.3 kg VOC/kg solids (2.3 lb VOC/lb solids), as applied, and the topcoat shall contain no more than 1.8 kg VOC/kg solids (1.8 lb VOC/lb solids), as applied; or

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4. Meeting the provisions established in Paragraph (10) for sources using an averaging approach and demonstrating that actual emissions from the affected source are less than or equal to allowable emissions using one of the following equations:

$$0.9 (\sum_{i=1 \rightarrow N} 0.8(TC_i)) \geq \sum_{i=1 \rightarrow N} ER_{TC_i}(TC_i) \quad (1)$$

$$0.9(\sum_{i=1 \rightarrow N} 1.8(TC_i) + 1.9(SE_i) + 9.0(WC_i) + 1.2(BC_i) + 0.79I(ST_i)) \geq \sum_{i=1 \rightarrow N} ER_{TC_i}(TC_i) + ER_{SE_i}(SE_i) + ER_{WC_i}(WC_i) + ER_{BC_i}(BC_i) + ER_{ST_i}(ST_i) \quad (2)$$

where:

N = number of finishing materials participating in averaging;

TC<sub>i</sub> = kilograms of solids of topcoat "i" used;

SE<sub>i</sub> = kilograms of solids of sealer "i" used;

WC<sub>i</sub> = kilograms of solids of washcoat "i" used;

BC<sub>i</sub> = kilograms of solids of basecoat "i" used;

ST<sub>i</sub> = liters of stain "i" used;

ER<sub>TC<sub>i</sub></sub> = VOC content of topcoat "i" in kg VOC/kg solids, as applied;

ER<sub>SE<sub>i</sub></sub> = VOC content of sealer "i" in kg VOC/kg solids, as applied;

ER<sub>WC<sub>i</sub></sub> = VOC content of washcoat "i" in kg VOC/kg solids, as applied;

ER<sub>BC<sub>i</sub></sub> = VOC content of basecoat "i" in kg VOC/kg solids, as applied; and

ER<sub>ST<sub>i</sub></sub> = VOC content of stain "i" in kg VOC/liter (kg/l), as applied.

5. Using a control system that will achieve an equivalent reduction in emissions as the requirements of Part (a)1. or 2. of this Paragraph, as calculated using the compliance provisions in Part (6)(a)2. of this Rule, as appropriate; or
6. Using a combination of the methods presented in Parts (4)(a)1., 2., 3., 4., and 5. of this Rule.

- (b) Each owner or operator of an affected source subject to this Rule shall limit VOC emissions from cleaning operations when using a strippable booth coating. A strippable booth coating shall contain no more than 0.8 kg VOC/kg solids, as applied (0.8 lb VOC/lb solids).

(5) Work Practice Standards

- (a) Work practice implementation plan.

1. Each owner or operator of an affected source subject to this Rule shall prepare and maintain a written work practice implementation plan that defines environmentally desirable work practices for each wood furniture manufacturing



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operation and addresses each of the topics specified in Subparagraphs (b) through (j) of this paragraph. The plan shall be developed no more than 60 days after the compliance date. The written work practice implementation plan shall be available for inspection by the Technical Secretary, upon request. If the Technical Secretary determines that the work practice implementation plan does not adequately address each of the topics specified in Subparagraphs (b) through (j) of this Paragraph, the Technical Secretary shall require the affected source to modify the plan.

(b) Operator training course.

Each owner or operator of an affected source shall train all new and existing personnel, including contract personnel, who are involved in finishing or cleaning operations or implementation of the requirements of this Rule. All personnel shall be given refresher training annually. The affected source shall maintain a copy of the training program with the work practice implementation plan. The training program shall include, at a minimum, the following:

1. A list of all personnel by name and job description that are required to be trained;
2. An outline of the subjects to be covered in the initial and refresher training for each person, or group of personnel;
3. Lesson plans for courses to be given at the initial and the annual refresher training that include, at a minimum, appropriate application techniques, appropriate cleaning procedures, appropriate equipment setup and adjustment to minimize finishing material usage and overspray, and appropriate management of cleanup wastes; and
4. A description of the methods to be used at the completion of initial or refresher training to demonstrate and document successful completion.

(c) Leak inspection and maintenance plan.

Each owner or operator of an affected source shall prepare and maintain with the work practice implementation plan a written leak inspection and maintenance plan that specifies:

1. A minimum visual inspection frequency of once per month for all equipment used to transfer or apply finishing materials or organic solvents;
2. An inspection schedule;
3. Methods for documenting the date and results of each inspection and any repairs that were made;
4. The time frame between identifying a leak and making the repair, which adheres to the following schedule:
  - (i) A first attempt at repair (e.g., tightening of packing glands) shall be made no later than 5 working days after the leak is detected; and
  - (ii) Final repairs shall be made within 15 working days, unless the leaking equipment is to be replaced by a new purchase, in which case repairs shall be completed within 3 months.

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(d) Cleaning solvent accounting system.

Each owner or operator of an affected source shall develop an organic solvent accounting form to record:

1. The quantity and type of organic solvent used each month for washoff and cleaning;
2. The number of pieces washed off, and the reason for the washoff; and
3. The quantity of spent organic solvent generated from each activity, and the quantity that is recycled onsite or disposed offsite each month.

(e) Each owner or operator of an affected source shall not use organic solvents containing more than 8.0 percent by weight of VOC for cleaning spray booth components other than conveyors, continuous coaters and their enclosures, and/or metal filters, unless the spray booth is being refurbished. If the spray booth is being refurbished, that is, the spray booth coating or other material used to cover the booth is being replaced, the affected source shall use no more than 1.0 gallon of organic solvent to clean the booth.

(f) Each owner or operator of an affected source shall use normally closed containers for storing finishing and cleaning materials.

(g) Each owner or operator of an affected source shall not use conventional air spray guns for applying finishing materials except under the following circumstances:

1. To apply finishing materials that have a VOC content no greater than 1.0 kg VOC/kg solids (1.0 lb VOC/lb solids), as applied;
2. For final touch-up and repair;
3. If spray is automated, that is, the spray gun is aimed and triggered automatically, not manually;
4. If emissions from the finishing application station are directed to a control device;
5. The conventional air gun is used to apply finishing materials and the cumulative total usage of that finishing material is less than 5 percent of the total gallons of finishing material used during that semiannual reporting period; or
6. The conventional air gun is used to apply coating on a part for which it is technically or economically infeasible to use any other spray application technology. The affected source shall demonstrate technical or economic infeasibility by submitting to the Technical Secretary a videotape, a technical report, or other documentation that supports the affected source's claim of technical or economic infeasibility. The following criteria shall be used, either independently or in combination, to support the affected source's claim of technical or economic infeasibility:
  - (i) The production speed is too high or the part shape is too complex for one operator to coat the part and the application station is not large enough to accommodate an additional operator; or
  - (ii) The excessively large vertical spray area of the part makes it difficult to avoid sagging or runs in the stain.

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- (h) Each owner or operator of an affected source shall pump or drain all organic solvent used for line cleaning into a normally closed container.
  - (i) Each owner or operator of an affected source shall collect all organic solvent used to clean spray guns into a normally closed container.
  - (j) Each owner or operator of an affected source shall control emissions from washoff operations by:
    - 1. Using normally closed tanks for washoff; and
    - 2. Minimizing dripping by tilting or rotating the part to drain as much organic solvent as possible.
- (6) Compliance Procedures and Monitoring Requirements
- (a) The owner or operator of an affected source subject to the emission standards in Paragraph (4) of this Rule shall demonstrate compliance with those provisions and with the initial compliance certification requirements of Paragraph .03(1) of this chapter, except that the date for submittal of the initial compliance certification for each existing source as of August 15, 1995 is November 15, 1996, and for each new sources (after August 15, 1995) is within 180 days after the start-up of that source; and by using any of the following methods:
    - 1. To support that each sealer, topcoat, and strippable booth coating meets the requirements of Parts (4)(a)1., 2., or 3. or Subparagraph (4)(b) of this Rule, maintain documentation in accordance with Rule .81 of this chapter, or data from an alternative or equivalent method, to determine the VOC and solids content of the as supplied finishing material. If solvent or other VOC is added to the finishing material before application, the affected source shall maintain documentation showing the VOC content of the finishing material as applied, in kg VOC/kg solids.
    - 2. To comply through the use of a control system as discussed in (4)(a)5.:
      - (i) Determine the overall control efficiency needed to demonstrate compliance using Equation 3;
 
$$R = ((C - E)/C)(100) \quad (3)$$
      - (ii) Document that the value of C in Equation 3 is obtained from the VOC and solids content of the as-applied finishing material;
      - (iii) Calculate the overall efficiency of the control device, using the procedures in Subparagraphs (7)(d) or (e), and demonstrate that the value of R calculated by Equation 6 is equal to or greater than the value of R calculated by Equation 3.
  - (b) Initial compliance.
    - 1. Owners or operators of an affected source subject to the provisions of Parts (4)(a)1., 2., or 3. or Subparagraph (4)(b) that are complying through the procedures established in Part (6)(a)1. shall submit an initial compliance status report, as required by Subparagraph (9)(b), stating that compliant sealers and/or topcoats and strippable booth coatings are being used by the affected source.

(Rule 1200-03-18-.42, continued)

2. Owners or operators of an affected source subject to the provisions of Parts (4)(a)1., 2., or 3. that are complying through the procedures established in Part (6)(a)1. and are applying sealers and/or topcoats using continuous coaters shall demonstrate initial compliance by:
  - (i) Submitting an initial compliance status report stating that compliant sealers and/or topcoats, as determined by the VOC content of the finishing material in the reservoir and the VOC content as calculated from records, are being used; or
  - (ii) Submitting an initial compliance status report stating that compliant sealers and/or topcoats, as determined by the VOC content of the finishing material in the reservoir, are being used and the viscosity of the finishing material in the reservoir is being monitored. The affected source shall also provide data that demonstrates the correlation between the viscosity of the finishing material and the VOC content of the finishing material in the reservoir.
  
3. Owners or operators of an affected source using a control system (capture device/control device) to comply with the requirements of this Rule, as allowed by Parts (4)(a)5. and (6)(a)2. shall demonstrate initial compliance by:
  - (i) Submitting a monitoring plan that identifies the operating parameter to be monitored for the capture device and discusses why the parameter is appropriate for demonstrating ongoing compliance;
  - (ii) Conducting an initial performance test using the procedures and test methods listed in Subparagraphs (7)(c) and (d) or (e);
  - (iii) Calculating the overall control efficiency (R) using Equation 6; and
  - (iv) Determining those operating conditions critical to determining compliance and establishing operating parameters that will ensure compliance with the standard.
    - (I) For compliance with a thermal incinerator, minimum combustion temperature shall be the operating parameter.
    - (II) For compliance with a catalytic incinerator equipped with a fixed catalyst bed, the minimum gas temperature both upstream and downstream of the catalyst bed shall be the operating parameter.
    - (III) For compliance with a catalytic incinerator equipped with a fluidized catalyst bed, the minimum gas temperature upstream of the catalyst bed and the pressure drop across the catalyst bed shall be the operating parameters.
    - (IV) For compliance with a carbon adsorber, the operating parameters shall be either the total regeneration mass stream flow for each regeneration cycle and the carbon bed temperature after each regeneration, or the concentration level of organic compounds exiting the adsorber, unless the owner or operator requests and receives approval from the Technical Secretary and the Administrator to establish other operating parameters.

(Rule 1200-03-18-.42, continued)

- (V) For compliance with a control device not listed in this section, the operating parameter shall be established using the procedures identified in Sub-part (6)(c)3.(vi).
- (v) Owners or operators complying with Part (b)3. of this Paragraph shall calculate the site-specific operating parameter value as the arithmetic average of the maximum or minimum operating parameter values, as appropriate, that demonstrate compliance with the standards, during the test runs required by Rule .84 of this chapter
- 4. Owners or operators of an affected source subject to the work practice standards in Paragraph (5) shall submit an initial compliance status report, as required by (9)(b), stating that the work practice implementation plan has been developed and procedures have been established for implementing the provisions of the plan.
- (c) Continuous compliance demonstrations.
  - 1. Owners or operators of an affected source subject to the provisions of paragraph (4) that are complying through the procedures established in Part (6)(a)(1) shall demonstrate continuous compliance by using compliant materials, maintaining records that demonstrate the finishing materials are compliant materials.
    - (i) The compliance certification shall state that compliant sealers and/or topcoats and strippable booth coatings have been used each day, or should otherwise identify the days of noncompliance and the reasons for noncompliance. An affected source is in violation of the standard whenever a noncompliant material, as determined by records or by a sample of the finishing material, is used. Use of a noncompliant material is a separate violation for each day the noncompliant material is used.
    - (ii) The compliance certification shall be signed by a responsible official of the company that owns or operates the affected source.
  - 2. Owners or operators of an affected source subject to the provisions of Paragraph (4) that are complying through the procedures established in Part (6)(a)(1) and are applying sealers and/or topcoats using continuous coaters shall demonstrate continuous compliance by following the procedures in (i) or (ii) of this Part.
    - (i) Using compliant materials, as determined by the VOC content of the finishing material in the reservoir and the VOC content as calculated from records.
      - (I) The compliance certification shall state that compliant sealers and/or topcoats have been used each day, or should otherwise identify the days of noncompliance and the reasons for noncompliance. An affected source is in violation of the standard whenever a noncompliant material, as determined by records or by a sample of the finishing material, is used. Use of a noncompliant material is a separate violation for each day the noncompliant material is used.
      - (II) The compliance certification shall be signed by a responsible official of the company that owns or operates the affected source.

(Rule 1200-03-18-.42, continued)

- (ii) Using compliant materials, as determined by the VOC content of the finishing material in the reservoir, maintaining a viscosity of the finishing material in the reservoir that is no less than the viscosity of the initial finishing material by monitoring the viscosity with a viscosity meter or by testing the viscosity of the initial finishing material and retesting the material in the reservoir each time solvent is added, and maintaining records of solvent additions.
  - (I) The compliance certification shall state that compliant sealers and/or topcoats, as determined by the VOC content of the finishing material in the reservoir, have been used each day. Additionally, the certification shall state that the viscosity of the finishing material in the reservoir has not been less than the viscosity of the initial finishing material, that is, the material that is initially mixed and placed in the reservoir.
  - (II) The compliance certification shall be signed by a responsible official of the company that owns or operates the affected source.
  - (III) An affected source is in violation of the standard when a sample of the as-applied finishing material exceeds the applicable limit established in 4(a)(1), (2), or (3), as determined according to and as provided for in Rule .81 of this chapter, or an alternative or equivalent method, or the viscosity of the finishing material in the reservoir is less than the viscosity of the initial finishing material.
- 3. Owners or operators of an affected source subject to the provisions of Paragraph (4) that are complying through the use of a control system (capture/ control device) shall demonstrate continuous compliance by installing, calibrating, maintaining, and operating the appropriate monitoring equipment according to manufacturers specifications.
  - (i) Where a capture/control device is used, a device to monitor the site-specific operating parameter established in accordance with 6(b)3.(iv) is required.
  - (ii) Where an incinerator is used, a temperature monitoring device equipped with a continuous recorder is required.
    - (I) Where a thermal incinerator is used, a temperature monitoring device shall be installed in the firebox or in the ductwork immediately downstream of the firebox in a position before any substantial heat exchange occurs.
    - (II) Where a catalytic incinerator equipped with a fixed catalyst bed is used, temperature monitoring devices shall be installed in the gas stream immediately before and after the catalyst bed.
    - (III) Where a catalytic incinerator equipped with a fluidized catalyst bed is used, a temperature monitoring device shall be installed in the gas stream immediately before the bed. In addition, a pressure monitoring device shall be installed to determine the pressure drop across the catalyst bed. The pressure drop shall be measured monthly at a constant flow rate.
  - (iii) Where a carbon adsorber is used:

(Rule 1200-03-18-.42, continued)

- (I) An integrating regeneration stream flow monitoring device having an accuracy of  $\pm 10$  percent, capable of recording the total regeneration stream mass flow for each regeneration cycle; and a carbon bed temperature monitoring device having an accuracy of  $\pm 1$  percent of the temperature being monitored expressed in degrees Celsius or  $\pm 0.5^{\circ}\text{C}$ , whichever is greater, capable of recording the carbon bed temperature after each regeneration and within 15 minutes of completing any cooling cycle;
    - (II) An organic monitoring device, equipped with a continuous recorder, to indicate the concentration level of organic compounds exiting the carbon adsorber; or
    - (III) Any other monitoring device that has been approved by the Technical Secretary and the Administrator as allowed under (6)(c)3.(iv).
  - (iv) Owners or operators of an affected source shall not operate the capture or control device at a daily average value greater than or less than (as appropriate) the operating parameter value. The daily average value shall be calculated as the average of all values for a monitored parameter recorded during the operating day.
  - (v) Owners or operators of an affected source that are complying through the use of a catalytic incinerator equipped with a fixed catalyst bed shall maintain a constant pressure drop, measured monthly, across the catalyst bed.
  - (vi) An owner or operator using a control device not listed in this Paragraph shall submit to the Technical Secretary and the Administrator a description of the device, test data verifying the performance of the device, and appropriate operating parameter values that will be monitored to demonstrate continuous compliance with the standard. Compliance using this device is subject to both the Technical Secretary and the Administrator's approval.
4. Owners or operators of an affected source subject to the work practice standards in Paragraph (5) shall demonstrate continuous compliance by following the work practice implementation plan and submitting a compliance certification required by Rule .03 of this chapter.
    - (i) The compliance certification shall state that the work practice implementation plan is being followed, or should otherwise identify the periods of noncompliance with the work practice standards. Each failure to implement an obligation under the plan during any particular day is a separate violation.
    - (ii) The compliance certification shall be signed by a responsible official of the company that owns or operates the affected source.
  5. The owner or operator of an existing source or of a source having a state or local agency's construction permit before August 15, 1995 (instead of April 22, 1993) and subject to this Rule may petition for a source-specific compliance schedule according to and as provided for in Rule .07 of this chapter. The petition for the

(Rule 1200-03-18-.42, continued)

source-specific compliance schedule must be received by Technical Secretary by February 11, 1996 (instead of October 22, 1993).

(7) Performance Test Methods

- (a) The VOC content and the solids content by weight of the as supplied finishing materials shall be determined according to and as provided for in Rule .81 of this chapter. The owner or operator of the affected source may request approval from the Technical Secretary and the Administrator to use an alternative or equivalent method for determining the VOC content of the finishing material. If it is demonstrated to the satisfaction of the Technical Secretary and the Administrator that a finishing material does not release VOC byproducts during the cure, for example, all VOC is organic solvent, then batch formulation information shall be accepted. In the event of any inconsistency between the procedures described in Rule .81 of this chapter and a facility's formulation data, that is, if the procedures described in Rule .81 of this chapter result in higher values, these procedures (Rule .81) shall govern.
- (b) Owners or operators demonstrating compliance with the provisions of this Rule via a control system shall determine the overall control efficiency of the control system (R) as the product of the capture and control device efficiencies, using the test methods cited in Subparagraph (7)(c) and the procedures in Subparagraphs (7)(d) or (e).
- (c) Owners or operators using a control system shall demonstrate initial compliance using the procedures in Rule .84 of this chapter.
- (d) Owners or operators using a control system to demonstrate compliance with this Rule shall use the following procedures:
  1. Construct the overall VOC control system so that volumetric flow rates and VOC concentrations can be determined by the test methods specified in Rule .84 of this chapter;
  2. Measure the capture efficiency from the affected emission point(s) by capturing, venting, and measuring all VOC emissions from the affected emission point(s). To measure the capture efficiency of a capture device located in an area with non-affected VOC emission point(s), the affected emission point(s) shall be isolated from all other VOC sources by one of the following methods:
    - (i) Build a temporary total enclosure (see Subparagraph (2)(dd) of this Rule) around the affected emission point(s);
    - (ii) Shut down all non-affected VOC emission point(s) and continue to exhaust fugitive emissions from the affected emission point(s) through any building ventilation system and other room exhausts such as drying ovens. All exhaust air must be vented through stacks suitable for testing; or
    - (iii) Use another methodology approved by the Technical Secretary and the Administrator provided that it is constructed and operated in accordance with the guidelines of the latest edition of the *Industrial Ventilation Manual*, of the American Conference of Governmental Industrial Hygienists.
  3. Operate the control system with all affected emission point(s) connected and operating at maximum production rate;
  4. Determine the efficiency (F) of the control device using Equation 4; and



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$$F = \frac{\sum_{i=1}^n Q_{bi} C_{bi} - \sum_{j=1}^P Q_{aj} C_{aj}}{\sum_{i=1}^n Q_{bi} C_{bi}}$$

5. Determine the efficiency (N) of the capture system using Equation 5;

$$N = \frac{\sum_{i=1}^n Q_{di} C_{di}}{\sum_{i=1}^n Q_{di} C_{di} + \sum_{k=1}^P Q_{fk} C_{fk}} \quad (5)$$

6. Compliance is demonstrated if the value of (R) in Equation 6 is greater than or equal to the value of R calculated by Equation 3 in accordance with Subpart (6)(a)2.(i).

$$R = (F \times N)(100) \quad (6)$$

- (e) An alternative to the compliance method presented in Subparagraph (7)(d) is the installation of a permanent total enclosure. A permanent total enclosure presents prima facie evidence that all VOC emissions from the affected emission point(s) are directed to the control device. Each affected source that complies using a permanent total enclosure shall:

1. Demonstrate that the total enclosure meets the following requirements:
  - (i) The total area of all natural draft openings shall not exceed 5 percent of the total surface area of the total enclosure's walls, floor, and ceiling;
  - (ii) All sources of emissions within the enclosure shall be a minimum of four equivalent diameters away from each natural draft opening;
  - (iii) Average inward face velocity (FV) across all natural draft openings shall be a minimum of 3,600 meters per hour as determined by the following procedures:
    - (I) All forced makeup air ducts and all exhaust ducts are constructed so that the volumetric flow rate in each can be accurately determined by the test methods and procedures specified in Rule .83 of this chapter. Volumetric flow rates shall be calculated without the adjustment normally made for moisture content; and
    - (II) Determine FV by the following equation:

$$FV = \frac{\sum_{j=1}^n Q_{outj} - \sum_{i=1}^P Q_{\epsilon i}}{\sum_{k=1}^q A_k}$$

- (iv) All access doors and windows whose areas are not included as natural draft openings and are not included in the calculation of FV shall be closed during routine operation of the process.
2. Determine the control device efficiency using Equation 4, and the test methods and procedures specified in Subparagraph (7)(c).

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3. If the permanent enclosure is demonstrated to be total, the value of N in Equation 5 is equal to 1.
  4. For owners or operators using a control system to comply with the provisions of this Rule, compliance is demonstrated if:
    - (i) The installation of a permanent total enclosure is demonstrated ( $N=1$ ); and
    - (ii) The value of (R) calculated by Equation 6 in accordance with paragraph (7)(d) is greater than or equal to the value of R calculated by Equation 3 in accordance with Part (6)(a)2.
- (8) Recordkeeping Requirements
- (a) The owner or operator of an affected source subject to the emission limits in Paragraph (4) of this Rule shall maintain records of the following:
    1. A list of each finishing material and strippable booth coating subject to the emission limits in Paragraph (4);
    2. The VOC and solids content, as applied, of each finishing material and strippable booth coating subject to the emission limits in Paragraph (4), and copies of data sheets documenting how the as applied values were determined.
  - (b) The owner or operator of an affected source following the compliance procedures of paragraph (6)(c)2. shall maintain the records required by paragraph (8)(a) and records of the following:
    1. Solvent and finishing material additions to the continuous coater reservoir; and
    2. Viscosity measurements.
  - (c) The owner or operator of an affected source following the compliance method of paragraph (6)(a)2. shall maintain the following records:
    1. Copies of the calculations to support the equivalency of using a control system, as well as the data that are necessary to support the calculation of E in Equation 3 and the calculation of R in Equation 6;
    2. Records of the daily average value of each continuously monitored parameter for each operating day. If all recorded values for a monitored parameter are within the range established during the initial performance test, the owner or operator may record that all values were within the range rather than calculating and recording an average for that day; and
    3. Records of the pressure drop across the catalyst bed for facilities complying with the emission limitations using a catalytic incinerator with a fluidized catalyst bed.
  - (d) The owner or operator of an affected source subject to the work practice standards in Paragraph (5) of this Rule shall maintain onsite the work practice implementation plan and all records associated with fulfilling the requirements of that plan, including, but not limited to:
    1. Records demonstrating that the operator training program is in place;
    2. Records maintained in accordance with the inspection and maintenance plan;

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3. Records associated with the cleaning solvent accounting system;
  4. Records associated with the limitation on the use of conventional air spray guns showing total finishing material usage and the percentage of finishing materials applied with conventional air spray guns; and;
  5. Records showing the VOC content of solvent used for cleaning booth components, except for solvent used to clean conveyors, continuous coaters and their enclosures, and/or metal filters; and
  6. Copies of logs and other documentation developed to demonstrate that the other provisions of the work practice implementation plan are followed.
- (e) The owner or operator of an affected source shall maintain a copy of all other information submitted with the initial status report required by Subparagraph (9)(b).
- (f) The owner or operator of an affected source shall maintain all records for a minimum of 5 years.
- (g) Failure to maintain the records required by (a) through (f) of this Paragraph shall constitute a violation of the Rule for each day records are not maintained.
- (9) Reporting Requirements
- (a) The owner or operator of an affected source using a control system to fulfill the requirements of this Rule are subject to the following reporting requirements:
1. The owner or operator of an affected source subject to this Rule shall submit an initial compliance report by the compliance date. The report shall include the items required by Subparagraph (6)(b) of this Rule.
  2. The owner or operator of an affected source subject to this Rule and demonstrating compliance in accordance with Parts (6)(a)1. or 2. shall comply with Rule .03 of this chapter, except that the date for compliance for an existing source as of August 15, 1995 is November 15, 1996, and for each new source (after August 15, 1995) is within 180 days after the start-up of that source.
- (10) Special Provisions for Sources Using an Averaging Approach

The owner or operator of an affected source complying with the emission limitations established in Paragraph (4) through the procedures established in (4)(a)4. shall also meet the provisions established in (a) through (i) of this Paragraph.

- (a) Program goals and rationale. The owner or operator of the affected source shall provide a summary of the reasons why the affected source would like to comply with the emission limitations through the procedures established in (4)(a)4. and a summary of how averaging can be used to meet the emission limitations. The affected source shall also document that the additional environmental benefit requirement is being met through the use of the equations in (4)(a)4. These equations ensure that the affected source is achieving an additional 10 percent reduction in emissions when compared to affected sources using a compliant coatings approach to meet the requirements of the Rule.
- (b) Program scope. The owner or operator of the affected source shall describe the types of finishing materials that will be included in the affected source's averaging program.

(Rule 1200-03-18-.42, continued)

Stains, basecoats, washcoats, sealers, and topcoats may all be used in the averaging program. Finishing materials that are applied using continuous coaters may only be used in an averaging program if the affected source can determine the amount of finishing material used each day.

- (c) Program baseline. The baseline for each finishing material included in the averaging program shall be the lower of the actual or allowable emission rate as of the effective date of this rule, August 15, 1995. In no case shall the facility baseline emission rate be higher than what was presumed in the 1990 emissions inventory for the facility unless the State has accounted for the increase in emissions as growth.
- (d) Quantification procedures. The owner or operator of the affected source shall describe how emissions and changes in emissions will be quantified, including methods for quantifying usage of each finishing material. Quantification procedures for VOC content are included in Paragraph (7). The quantification methods used shall be accurate enough to ensure that the affected source's actual emissions are less than the allowable emissions, as calculated using Equation 1 or 2 in Part (4)(a)4., on a daily basis.
- (e) Monitoring, recordkeeping, and reporting. The owner or operator of an affected source shall provide a summary of the monitoring, recordkeeping, and reporting procedures that will be used to demonstrate daily compliance with the equations presented in (4)(a)4. The monitoring, recordkeeping, and reporting procedures shall be structured in such a way that inspectors and facility owners can determine an affected source's compliance status for any day.
- (f) Implementation schedule. The owner or operator of an affected source shall submit an averaging proposal for Technical Secretary and the Administrator's approval for each existing source as of 180 days after August 15, 1995, and for each new source (after August 15, 1995) which is within 180 days after the start-up of that source. This must ensure that all sources are in compliance with the State's Rule by the November 15, 1996. Submittal of the averaging proposal does not provide an exemption from this Rule. The source must submit the averaging proposal by a date that allows sufficient time for the Administrator's approval.

**Authority:** T.C.A. §§ 4-5-201, et. seq. and 68-201-105. **Administrative History:** Original rule filed June 2, 1995; effective August 15, 1995. Amendment filed March 13, 1997; effective May 27, 1997. Amendment filed June 13, 1997; effective August 28, 1997.

#### **1200-03-18-.43 OFFSET LITHOGRAPHIC PRINTING OPERATIONS.**

- (1) Applicability of this rule is as follows:
  - (a) This rule applies to offset lithographic printing operations in Davidson, Rutherford, Shelby, Sumner, Williamson, and Wilson Counties.
  - (b) The emission limits of this rule do not apply to offset lithographic printing operations within any facility whose potential VOC emissions from all offset lithographic printing operations within the facility are less than 100 tons of volatile organic compounds (VOC's) per year.
- (2) For the purpose of this rule, the following definitions apply:
  - (a) "Alcohol substitute" means nonalcohol additives that contain VOC's and are used in the fountain solution. Some additives are used to reduce the surface tension of water; others (especially in the newspaper industry) are added to prevent piling (ink build up).

(Rule 1200-03-18-.43, continued)

- (b) "Batch" means a supply of fountain solution that is prepared and used without alteration until completely used or removed from the printing process.
  - (c) "Cleaning Solution" means liquids to remove ink and debris from the operating surfaces of the printing press and its parts.
  - (d) "Fountain Solution" means a mixture of water, nonvolatile printing chemicals, and an additive (liquid) that reduces the surface tension of the water so that it spreads easily across the printing plate surface. The fountain solution wets the nonimage areas so that the ink is maintained within the image area. Isopropyl alcohol, a VOC, is the most common additive used to reduce the surface tension of the fountain solution.
  - (e) "Heatset" means any operation where heat is required to evaporate ink oil from the printing ink. Hot air dryers are used to deliver the heat.
  - (f) "Lithography" means a printing process where the image and nonimage area are chemically differentiated; the image area is oil receptive and the nonimage area is water receptive. This method differs from other printing methods, where the image is a raised or recessed surface.
  - (g) "Non-heatset" means any operation where the printing inks are set without the use of heat.
  - (h) "Offset" means a printing process that transfers the ink film from the lithographic plate to an intermediary surface (blanket), which, in turn, transfer the ink film to the substrate.
  - (i) "Press" means a printing production assembly composed of one or many units to produce a printed sheet or web.
  - (j) "Sheet-fed" means a printing operation where individual sheets of substrate are fed to the press.
  - (k) "Unit" means the smallest complete printing component of a printing press.
  - (l) "Web" means a continuous roll of paper used as the printing substrate.
- (3) Standard as follow apply:
- (a) No owner or operator of a heatset web offset lithographic printing press subject to this rule shall apply any fountain solution unless the VOC content is equal to or less than one of the following:
    1. 1.6 percent VOC by volume of the fountain solution containing alcohol, as applied;
    2. 3 percent VOC by volume of the fountain solution containing alcohol, as applied, if the fountain solution is refrigerated to less than 60°F.
    3. 4.6 percent VOC by volume of the fountain solution, as applied, and use no alcohol in the fountain solution .
    4. 6 percent VOC by volume of the fountain solution, as applied, if the fountain solution is refrigerated to less than 60°F and use no alcohol in the fountain solution.

(Rule 1200-03-18-.43, continued)

- (b) No owner or operator of a non-heatset web offset printing press subject to this rule shall apply any fountain solution that contains alcohol, nor shall any fountain solution be applied unless the VOC content is equal to or less than 5 percent by weight of the fountain solution, as applied.
  - (c) Reserved.
  - (d) No owner or operator of a sheet-fed offset lithographic printing press subject to this rule shall apply any fountain solution unless the VOC content is equal to or less than one of the following:
    - 1. 5 percent VOC by volume of the fountain solution, as applied;
    - 2. 8.5 percent VOC by volume of the fountain solution, as applied, if the fountain solution is refrigerated to less than 60°F.
  - (e) No owner or operator of an offset lithographic printing press subject to this rule shall apply any cleaning solutions unless:
    - 1. The VOC composite partial vapor pressure of the cleaning solutions is less than 10mm Hg at 20°C, as applied; or
    - 2. The VOC content of the cleaning solutions are less than or equal to 30 percent by weight, as applied.
  - (f) Reserved.
  - (g) Any person who owns or operates a heatset offset lithographic printing press subject to this rule shall reduce VOC emissions from the press dryer exhaust vent by 90 percent by weight of total organic (minus methane and ethane), or maintain a maximum control device outlet concentration of 50 ppmv whichever is less stringent when the press is in operation.
  - (h) As an alternative to compliance with the limits in Subparagraphs (3)(a), (d), (e), or (f) of this paragraph, an owner or operator of an offset lithographic printing press may comply with the requirements of Paragraph (4) of this rule.
  - (i) As an alternative to compliance with the limits in Subparagraphs (3)(g) of this paragraph, an owner or operator of an offset lithographic printing press may comply with the requirements of Paragraph (5) of this rule.
- (4) Weighted average limitations as follow apply:
- (a) No owner or operator of an offset lithographic printing press subject to this rule shall apply fountain solutions on the printing press unless the weighted average, by volume, VOC content of all fountain solutions, as applied, each day on the printing press is equal to or less than the limitation specified in either Part (3)(a) or (3)(d) [as determined by Subparagraph (4)(d)]; or, in the case of nonalcohol additives or alcohol substitute addition to fountain solution, (3)(c) [as determined by Subparagraph (4)(e)].
  - (b) Reserved.
  - (c) No owner or operator of an offset lithographic printing press subject to this rule shall apply cleaning solutions on the printing press unless VOC composite vapor pressure, as applied, each day on the printing press is equal to or less than the limitation specified in Subparagraph (3)(e)1 [as determined by Subparagraph (4)(f)] of this rule.

(Rule 1200-03-18-.43, continued)

- (d) The following equation shall be used to determine if the weighted average VOC content, by volume, of all fountain solutions, as applied, on the subject printing press exceeds the limitation specified in Part (3)(a) or (3)(d) of this rule:

$$VOC_{(i)(A)} = \frac{\sum_{i=1}^n L_i V_{VOCi}}{\sum_{i=1}^n L_i V_{VOCi}} \times 100$$

where:

- $VOC_{(i)(A)}$  = The weighted average VOC content in units of percent VOC by volume of the volatile content of all fountain solutions used each day;
- $i$  = Subscript denoting a specific fountain solution, as applied;
- $n$  = The number of different fountain solutions, as applied, each day on a printing press;
- $L_i$  = The liquid volume of each fountain solution, as applied, used that day in units of liters (L) (gallons [gal]);
- $V_{VOCi}$  = The volume fraction of VOC in each fountain solution, as applied; and
- $V_{Vci}$  = The volume fraction of volatile matter in each fountain solution, as applied.

- (e) The following equation shall be used to determine if the weighted average VOC content, by weight, of all fountain solutions, as applied, on the subject printing press exceeds the limitations specified in Part (4)(a) in case of fountain solution :

$$VOC_{(i)(B)} = \frac{\sum_{i=1}^n L_i D_i W_{VOCi}}{\sum_{i=1}^n L_i D_i W_{ni}} \times 100$$

where:

- $VOC_{(i)(B)}$  = The weighted average VOC content in units of percent VOC by weight of the volatile content of all fountain solutions used each day;
- $i$  = Subscript denoting a specific fountain solution as applied;
- $n$  = The number of different fountain solutions, as applied, each day on a printing press;

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|            |   |  |
|------------|---|--|
| $L_i$      | = | The liquid volume of each fountain solution, as applied, used on the day in units of L (gal);                                  |
| $D_i$      | = | The density of each fountain solution, as applied, in units of mass of fountain solution per unit volume of fountain solution; |
| $W_{VOCi}$ | = | The weight fraction of VOC in each fountain solution, as applied; and  |
| $W_{si}$   | = | The weight fraction of solids in each fountain solution, as applied.   |

- (f) The following equation shall be used to determine if the VOC composite partial pressure of cleaning solutions, as applied, exceeds the limitation specified in Part (3)(e) of this rule:

$$PP_c = \frac{\sum_{i=1}^n \frac{(W_i) (VP_i) / MW_i}{\frac{W_w}{MW_w} + \frac{W_e}{MW_e} + \sum_{i=1}^n \frac{W_i}{MW_i}}$$

where:

|        |   |   |
|--------|---|---|
| $PP_c$ | = | VOC composite partial pressure at 20°C, in mm Hg.                                     |
| $VP_i$ | = | Vapor pressure of the "i"th VOC compound at 20°, in mm Hg.                            |
| $W_i$  | = | Weight of the "i"th cleaning solution, in grams;                                      |
| $W_w$  | = | Weight of the water, in grams;  |
| $W_e$  | = | Weight of exempt compound, in grams;  |
| $MW_i$ | = | Molecular weight of the "i"th cleaning solution, in grams;                            |
| $MW_w$ | = | Molecular weight of the water, in grams;  |
| $MW_e$ | = | Molecular weight of exempt compound, in grams;  |
| $i$    | = | Subscript denoting a specific cleaning solution, as applied;                          |
| $n$    | = | The number of different cleaning solutions, as applied, each day on a printing press. |

(5) Reserved.

(6) Test methods and procedures as follow apply:



(Rule 1200-03-18-.43, continued)

- (a) The affected facility shall be run at typical operating conditions and flow rates during any emission testing.
  - (b) Emission tests shall include an initial test, within 90 days of initial startup, when the control device is installed and operating that demonstrates compliance with either the 90 percent (by weight) reduction or the 50 ppmv emission limit.
  - (c) In conducting the tests required to comply with Paragraph (3)(a), (b), (d), or (e)(2) of this rule, the owner or operator shall use the test methods specified in rule 1200-03-18-.81 of this chapter.
  - (d) In conducting the tests required to comply with Subparagraph (3)(g) of this rule, the owner or operator shall use the test methods specified in rule 1200-03-18-.84 of this chapter.
  - (e) To be in compliance with the fountain solution refrigeration requirements of this rule, the affected facility shall use a thermometer or other temperature detection device capable of reading to 0.5°F to ensure that a refrigerated fountain solution containing alcohol is below 60°F at all times.
  - (f) To be in compliance with the Subparagraph (3)(e)1 of this rule, if applicable, each owner or operator of an offset lithographic printing press subject to this rule shall determine VOC composite partial pressure as given in Subparagraph (4)(f).
- (7) Monitoring requirement apply as follow:
- (a) To be in compliance with the emission control requirements of this rule, the affected facility shall monitor any add-on dryer exhaust control device as follow:
    - 1. The owner or operator of a subject heatset offset lithographic printing press shall install, calibrate, maintain, and operate a temperature monitoring device, according to the manufacturer's instructions, at the inlet or outlet of the control device. The monitoring temperature shall be set during testing required to demonstrate compliance with the emission standard. Monitoring shall be required only when the unit is operational.
    - 2. The temperature monitoring device shall be equipped with a continuous recorder and shall have an accuracy of 0.5°F.
    - 3. The dryer pressure shall be maintained lower than the press room air pressure such that air flows into the dryer at all times when the press is operating. A 100 percent emissions capture efficiency for the dryer shall be established using an air flow direction indicator, such as a smoke stick or aluminum ribbons.
  - (b) To be in compliance with the Subparagraph (3)(a), (b), or (d) of this rule, each owner or operator of an offset lithographic printing facility subject to this rule shall monitor the fountain solution as follow:
    - 1. The purpose of monitoring the VOC concentration in the fountain solution is to provide data that can be correlated to the amount of material used when the fountain solution contains alcohol and complies with the limits listed in Subparagraph (3)(a) or (d). The following methods may be used to determine the concentration of alcohol in the fountain solution frequently. Alternatively, calculation of the alcohol concentration using the protocol of Subparagraph (7)(c) or (d) may be used to demonstrate compliance with Subparagraph (3)(a) or (d).

(Rule 1200-03-18-.43, continued)

The monitoring requirements of Subparagraph (7)(b) shall only be required if noncompliance is suspected.

- (i) The owner or operator of any subject offset lithographic printing press shall monitor the alcohol concentration of the fountain solution with a refractometer, that is corrected for temperature, at least once per 8-hour shift or once per batch, whichever is longer. The refractometer shall have a visual, analog, or digital readout with an accuracy of 0.5 percent. A standard solution shall be used to calibrate the refractometer for the type of alcohol used in the fountain. Alternatively, the refractometer shall be standardized against measurements or calculations performed to determine compliance, according to the procedures described in Subparagraph 7(c) or (d).
  - (ii) Alternatively, the owner or operator of any subject offset lithographic printing press shall monitor the alcohol concentration of the fountain solution with a hydrometer, that is corrected for temperature, at least once per 8-hour shift or once per batch, whichever is longer. The hydrometer shall have a visual, analog, or digital readout with an accuracy of 0.5 percent. A standard solution shall be used to calibrate the refractometer for the type of alcohol used in the fountain. Alternatively, the refractometer shall be standardized against measurements or calculations performed to determine compliance, according to the procedures described in Subparagraph 7(c) or (d).
  - (iii) The VOC content of the fountain solution may be monitored with a conductivity meter if it is determined that a refractometer or hydrometer cannot be used for monitoring the type of VOC's in the fountain solution. The conductivity meter reading for the fountain solution shall be referenced to the conductivity of the incoming water. A standard solution shall be used to calibrate the conductivity meter for the type of alcohol used in the fountain. Alternatively, the conductivity shall be standardized against measurements or calculations performed to determine compliance, according to the procedures described in Subparagraph (7)(c) or (d).
2. If, through recordkeeping for a period of 6 months or more, the printing process is shown to consistently meet the requirements in (3)(a) or (d), the monitoring requirement may be waived or extended by the Technical Secretary to a longer period of time.
  3. The owner or operator of any subject offset lithographic printing press using refrigeration equipment on the fountain to comply with the requirements of Subparagraph (3)(a)2. Or (d)2., shall maintain, and operate a temperature monitor of the fountain solution reservoir.
  4. The temperature monitor shall be read and noted at least once per operation day to verify that the refrigeration system is operating properly.
- (c) The VOC content of fountain solution shall be determined by using the test methods specified in rule 1200-03-18-.81.
  - (d) Alternatively, a sample of the fountain solution (as used) may be taken from the fountain tray or reservoir of fountain solution during use and measured with a hydrometer or refractometer that has been standardized with tests or calculations performed in accordance with Subparagraph (7)(b). The unit shall be considered in

(Rule 1200-03-18-.43, continued)

compliance with Section 6(c) if the refractometer or hydrometer measurement is less than or equal to the value determined according to section 7(c), plus ten percent.

(8) Compliance Certification, recordkeeping and reporting requirements as follow apply:

(a) By November 15, 1996, any owner or operator of an offset lithographic printing press that is exempt from the requirements of this rule because of the criteria in Subparagraph (1)(b) of this rule shall comply with the following:

1. The owner or operator of a facility in Davidson, Rutherford, Sumner, Wilson and Williamson County shall certify to the Technical Secretary that the facility is exempt under the provisions of Subparagraph (1)(b) of this rule. Such certification shall include:

- (i) The name and location of the facility;
- (ii) The address and telephone number of the person responsible for the facility;
- (iii) A declaration that the facility is exempt from emission limitations of this chapter because total VOC emissions from the facility are below 25 tons per year; and
- (iv) Calculations demonstrating the combined VOC emissions from the facility are below 25 tons per year before the application of capture systems and control devices. The following equations shall be used to calculate the VOC emissions:

A. Ink VOC Content and Emissions:  
Ink VOC Content:

$$C_1 = M_1 \times \frac{W_1}{100}$$

or

$$C_1 = L_1 \times G_1$$

Ink VOC Emissions:

$$E_1 = C_1 \times \left(1 - \frac{R}{100}\right)$$

Total Ink VOC emissions;

$$T_1 = E_{11} + E_{12} + \dots + E_{1n}$$

where,

$$C_1 = \text{VOC content in Ink}$$

(Rule 1200-03-18-.43, continued)

$M_1$  = Weight of ink used: (amount purchased - amount discarded or recycled).

$W_1$  = %VOC (by weight) in ink from either supplier (MSDS) or method specified in Subparagraph (2)(a) of rule 1200-03-18-.81.

$G_1$  = Volume (gallons) used; (volume purchased - volume discarded or recycled)

$R$  = % VOC (by weight) retained by paper:  
 Non-heatset - 95% as per Nov. 1993 draft Control Techniques Guideline for Offset Lithography.  
 Heatset - 20% as per Nov. 1993 draft Control Techniques Guideline for Offset Lithography.  
 UV - Amount from method specified in subparagraph (2)(a) of rule 1200-03-18-.81 after curing (assume 100%).

$T_1$  = Total VOC emissions from all inks, 1 + 2 + .. + n.

B. Fountain solution VOC Content and emissions:  
 Fountain solution VOC content:

$$C_F = \left( M_C \times \frac{W_C}{100} \right) + \left( M_A \times \frac{W_A}{100} \right) + \left( M_S \times \frac{W_S}{100} \right)$$

Fountain solution VOC emissions:

$$E_F = C_F - D_F$$

Total fountain solution VOC emissions:

$$T_F = E_{F1} + E_{F2} + \dots + E_{Fn}$$

where,

$C_F$  = VOC content of fountain solution

$D_F$  = VOC content of press-ready fountain solution discarded or recycled.

$M_C$  = Fountain solution concentrate weight.

$W_C$  = % VOC (by weight) in fountain solution from supplier (MSDS) or method specified in subparagraph (2)(a) in rule 1200-03-18-.81.

(Rule 1200-03-18-.43, continued)

- $M_A$  = Isopropanol weight.  
 $W_A$  = % Isopropanol (by weight) from supplier (MSDS).  
 $M_S$  = Weight of alcohol substitute.  
 $W_S$  = % VOC (by weight) in alcohol substitute from supplier (MSDS) or method specified in Subparagraph (2)(a) in rule 1200-03-18-.81.  
 $T_F$  = Total emissions from all fountain solutions, 1 + 2 + ... + n.

weight of material:

- $M$  =  $V \times D$   
 $M$  = Weight of material  
 $V$  = Volume (gallon) of material used: (volume purchased - volume discarded or recycled).  
 $D$  = Density in lb/gal from MSDS or (specific gravity x 8.33 lbs/gal).

C. Cleaning solution VOC content and emissions:

Cleaning solution VOC content:

$$C_L = M_L \times \frac{W_L}{100}$$

or

$$C_L = L_L \times G_L$$

Cleaning solution VOC emissions from Automatic Blanket Wash System:

$$E_L = C_L$$

Cleaning solution VOC emissions from hand washing:

$$E_L = C_L \times \left(1 - \frac{R}{100}\right)$$

Total cleaning solution VOC emissions:

$$T_L = E_{L1} + E_{L2} + \dots + E_{Ln}$$

Key:

(Rule 1200-03-18-.43, continued)

|       |   |   |
|-------|---|---|
| $C_L$ | = | VOC content in cleaning solution  |
| $M_L$ | = | Weight of cleaning solution (see above for calculation).  |
| $W_L$ | = | % VOC (by weight) in cleaners from supplier (MSDS) or method specified in Subparagraph (2)(a) in rule 1200-03-18-.81.   |
| $L_L$ | = | Pounds VOC per gallon from supplier (MSDS) or method specified in Subparagraph(2)(a) in rule 1200-03-18-.81.  |
| $G_L$ | = | volume (gallon) used: (volume purchased - volume discarded or recycled).  |
| $E_L$ | = | Clenaing solution VOC emissions.  |
| $R$   | = | % VOC (by weight) retained by wipes: 50% per June 1994 ACT for Offset lithography and cleaning solutions with VOC partial vapor pressure of 10mm Hg or less at 20 degree C. |
| $T_L$ | = | Total VOC emissions from all cleaners, 1 + 2 + .. +n  |

2. On or after November 15, 1996, the owner or operator shall collect and record all of the following information and maintain the information at the facility for a period of 3 years:
    - (i) The name and identification of each ink, fountain solution and cleaning solvent;
    - (ii) The weight of VOC per unit weight of ink and the weight of ink used;
    - (iii) The weight of VOC per unit weight of cleaning solvent and fountain solution and the weight of cleaning solvent and fountain solution used; and
    - (iv) The average VOC emissions as calculated using the equation in Subparagraph (8)(a)1(iv) of this paragraph.
  3. Any record showing that total emissions of VOC from all offset lithographic printing operations exceeded 25 tons in any calendar year, before the application of capture systems and control devices, shall be reported by sending a copy to the Technical Secretary within 30 calendar days after the exceedences occurs.
- (b) Any owner or operator of a printing press subject to this rule and complying by means of use of complying inks, fountain solution, and cleaning solution, shall comply with the following:
1. By November 15, 1996, or upon initial startup of a new printing press
    - (i) The name and identification number of each ink, fountain solution, and cleaning solution as applied; and
    - (ii) The VOC content of all inks, fountain solutions and cleaning solutions, as applied, expressed in units of the applicable standard.

(Rule 1200-03-18-.43, continued)

- (c) Any owner or operator of a printing press subject to this rule and complying by means of weighted averaging shall comply with the following:
1. By November 15, 1996, or upon initial startup of a new printing press, or change method of compliance, the owner or operator of a subject printing press shall certify to the Technical Secretary that the printing press is in compliance with Paragraph (4) of this rule. Such certification shall include:
    - (i) The name and location of the facility;
    - (ii) The address and telephone number of the person responsible for the facility;
    - (iii) The name and identification of each printing press which will comply by means of Paragraph (4) of this rule;
    - (iv) The name and identification of each ink, fountain solution, or cleaning solution as applied;
    - (v) The VOC content of all inks, fountain solutions or cleaning solutions, as applied, expressed in units of the applicable standard;
    - (vi) The instrument or method by which the owner or operator will accurately measure or calculate the volume of each solution, as applied, each day on each printing press;
    - (vii) The methods by which the owner or operator will create and maintain records each day as required in Part 2 of this subparagraph; and
    - (viii) An example of the format in which the records required in Part 2 of this Subparagraph will be kept.
  2. On or after November 15, 1996, or on and after the initial startup date, or change method of compliance, the owner or operator of a printing press subject to the limitations of this rule and complying by means of weighted averaging shall collect and record all of the following information each day for each printing press and maintain the information for a period of 3 years:
    - (i) The name and identification number of each coating, fountain solution, or cleaning solution, as applied;
    - (ii) The VOC content and the volume of each solution, as applied, expressed in units necessary to determine compliance; and
    - (iii) The weighted average VOC content of all solutions, as applied.
  3. On or after November 15, 1996, the owner or operator of a printing press subject to the limitations of this rule shall notify the Technical Secretary of any instance of noncompliance with Paragraph (4) by sending a copy of the calculation showing such noncompliance to the Technical Secretary within 30 calendar days following the occurrence.
- (d) Any owner or operator of a printing press subject to this rule and complying by means of control devices shall comply with rule 1200-03-18-.03(5) of this chapter, except that the applicable date for certification, recordkeeping and reporting shall be November 15, 1996 rather than April 22, 1994.

(Rule 1200-03-18-.43, continued)

- (9) With respect to petitioning for a source-specific compliance schedule according to and as provided for in rule 1200-03-18-.07 of this chapter, the owner or operator shall insure the petition is received by the Technical Secretary no later than October 1, 1995 rather than October 22 1993.

**Authority:** T.C.A. §§ 4-5-201, et. seq. and 68-201-105. **Administrative History:** Original rule filed August 11, 1995; effective October 26, 1995. Amendment filed March 13, 1997; effective May 27, 1997. Amendment filed January 15, 2009; effective March 31, 2009.

#### **1200-03-18-.44 SURFACE COATING OF PLASTIC PARTS.**

- (1) **APPLICABILITY.** This rule applies as follows:
- (a) This rule applies to any plastic parts coating line within a facility located in Davidson, Rutherford, Sumner, Williamson or Wilson County whose potential VOC emissions from all plastic parts coating lines within the facility are greater than 25 tons of volatile organic compounds (VOC's) per year and coats plastic components for any of the following uses:
1. Automotive or other transportation equipment including interior and/or exterior parts for automobiles, trucks, tractors, lawn mowers, and other mobile equipment;
  2. Business machines and office machines, including computers, copy machines, and typewriters;
  3. Medical equipment housing;
  4. Entertainment equipment housing;
  5. Miscellaneous plastic parts, including toys, musical equipment housing, sporting goods, outdoor signs, and architectural structures such as doors, floors, and window frames.
- (b) This rule does not apply to topcoating of automotive exterior panels, which must comply with Rule 1200-03-18-.11 of this chapter.
- (2) **DEFINITIONS.** For the purpose of this rule, the following definitions apply:
- (a) **Basecoat/clear coat:** a two step topcoat system in which a highly pigmented, often metallic, basecoat is followed by a clearcoat. It results in a finished with high-gloss characteristics and often used on automotive parts.
- (b) **Clearcoat:** a transparent coating usually applied over a colored, opaque coat to improve gloss and protection to the basecoat below.
- (c) **Colorcoat:** a coating that contains pigment and provides color to a part; may constitute the topcoat or serve as the base coat portion of the basecoat//clearcoat system.
- (d) **Electromagnetic interference/radio frequency interference (EMI/RFI) coatings:** coating used in plastic business machine housing to attenuate electromagnetic and radio frequency interference signals that would otherwise pass through the plastic housings. The EMI/RFI shielding substance used in coating include copper or nickel. Zinc-arc spraying, electroless plating, conductive plastics, metal inserts, and vacuum-metallizing and sputtering are other mean of EMI/RFI shielding.



(Rule 1200-03-18-.44, continued)

- (e) Flexible coating: a coating with ability to withstand dimensional changes; flexible substrates utilizing flexible coatings include thermoplastic olefin (TPO), vinyl, acrylonitrile-butadiene (ABS) alloy, reaction injection molded (RIM) and thermoplastic urethane (TPU).
- (f) Non-flexible coating: a coating which lacks the ability to withstand dimensional changes; non-flexible substrates utilizing non-flexible coatings include sheet molding compound (SMC), nylon, polyester, ABS, Xenoy polycarbonate, and acrylic.
- (g) Plastic part: a piece made from a substance that has been formed from a resin through the application of pressure or heat or both.
- (h) Waterborne coating: a coating which contains more than fifty percent by weight water in its volatile fraction.
- (3) EMISSION STANDARDS. Each owner or operator of a source subject to this rule shall limit VOC emissions from finishing operations by one of the following methods:
- (a) Each owner or operator of a source subject to this rule shall not cause or allow the application of any coating with VOC content in excess of these amounts:

1. Business machines, Medical equipment housing, Entertainment equipment housing and Miscellaneous plastic parts:

| <u>COATING</u> | <u>VOC (lb/gal)</u> |
|----------------|---------------------|
| Primer         | 1.20                |
| Color          | 2.30                |
| Color/texture  | 2.30                |
| EMI/RFI        | 2.50                |

2. Automotive Coating:

| <u>COATING</u>           | <u>VOC (lb/gal)</u> |
|--------------------------|---------------------|
| (i) Auto Interior:       |                     |
| High Bake Colorcoat      | 4.1                 |
| High Bake Primer         | 3.8                 |
| Low Bake Colorcoat       | 3.2                 |
| Low Bake Primer          | 3.5                 |
| (ii) Auto Exterior       |                     |
| Flexible/Nonflexible     |                     |
| (unless otherwise noted) |                     |
| High Bake Colorcoat      | 4.7                 |
| High Bake Clearcoat      | 4.3                 |
| High Bake Primer         | 5.0                 |
| (Flexible)               |                     |
| High Bake Primer         | 4.5                 |
| (Nonflexible)            |                     |
| Low Bake Colorcoat       | 5.6                 |
| (Red & Black)            |                     |
| Low Bake Colorcoat       | 5.1                 |
| Low Bake Primer          | 5.5                 |
| Low Bake Clear           | 4.5                 |

3. Automotive Specialty

(Rule 1200-03-18-.44, continued)

|       | <u>COATINGS</u>   | <u>VOC (lb/gal)</u> |
|-------|---|---------------------|
| (i)   | Group A-1 Coatings:<br>Vacuum Metallizing<br>Basecoats<br>Texture Basecoats                         | 5.5                 |
| (ii)  | Group A-2 Coatings:<br>Black and Reflective<br>Argent<br>Air Bag Cover<br>Coatings<br>Soft Coatings | 5.9                 |
| (iii) | Group B Coatings:<br>Gloss Reducers<br>Vacuum Metallizing<br>Topcoats<br>Texture Topcoats           | 6.4                 |
| (iv)  | Group C Coatings:<br>Stencil<br>Adhesion Primer/Promoter<br>Ink Pad<br>Electrostatic Prep<br>Resist | 6.8                 |
| (v)   | Headlight Lens Coating  | 7.4                 |

(b) Each owner or operator of a plastic parts coating line subject to this rule shall not:

1. Apply coatings on that line, during any one day, whose weighted average VOC content for any category exceeds the emission limits in Subparagraph (3)(a) of this rule.
2. Apply coatings on that line, during any one day, whose weighted average VOC content exceeds the emission limits in Subparagraph (3)(a) of this rule by performing the calculation in paragraph .82(1) of this chapter. The calculation shall be for the daily total of all coatings of the appropriate coating category in Subparagraph (3)(a) above used in all lines subject to this rule, if such calculation is consistent with all approved lowest achievable emission rate determinations for the lines involved.

(c) Each owner or operator shall apply control device requirements as follows:

1. An owner or operator of a plastic coating line subject to this rule may comply with this rule by:
  - (i) Installing and operating a capture system and a control device on that line;
  - (ii) Determining for each day the overall emission reduction efficiency needed to demonstrate compliance. The overall emission reduction needed is the lesser of the value calculated according to the procedure in this chapter or 95 percent; and

(Rule 1200-03-18-.44, continued)

- (iii) Demonstrating each day that the overall emission reduction efficiency achieved is greater than or equal to the overall emission reduction efficiency required.
  - 2. An owner or operator of a plastic coating line subject to this rule electing to comply with the requirements of part 1. of this subparagraph shall ensure that:
    - (i) A capture system and control device are operated at all times that the line is in operation, and the owner or operator demonstrates compliance with this rule through the applicable coating analysis and capture system and control device efficiency test methods in this chapter, and
    - (ii) The control device is equipped with the applicable monitoring equipment specified in this chapter, and the monitoring equipment is installed, calibrated, operated, and maintained according to the vendor's specifications at all times the control device is in use.
- (3) **COMPLIANCE CERTIFICATION, RECORDKEEPING AND REPORTING REQUIREMENTS.** The owner or operator of an affected source subject to this rule shall:
  - (a) Demonstrate compliance with this rule by using the applicable test methods specified in this chapter;
  - (b) Except the for waterborne coatings the methods for determining VOC content may be batch formulation data certified as accurate by the coating supplier.

With respect to compliance certification, initiation of recordkeeping and reporting, and completion of control system compliance testing of a source, the owner or operator of that source shall comply with the requirements of rule .03 of this chapter, except that the applicable date for initial compliance and certification and performance testing shall be November 15, 1996, rather than April 22, 1994.

With respect to petitioning for a source-specific compliance schedule according to and as provided for in rule .07 of this chapter, the owner or operator shall insure the petition is reviewed by the Technical Secretary no later than October 1, 1995, rather than October 22, 1993.

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-201-105. **Administrative History:** Original rule filed May 30, 1996; effective August 10, 1996.

#### **1200-03-18-.45 STANDARDS OF PERFORMANCE FOR COMMERCIAL MOTOR VEHICLE AND MOBILE EQUIPMENT REFINISHING OPERATIONS.**

- (1) **APPLICABILITY:** This regulations is applicable to those commercial facilities making spot repairs, panel repairs, refinishing of parts and/or the refinishing of the entire motor vehicle or mobile equipment. This rule applies to any facility located in Davidson, Rutherford, Sumner, Williamson or Wilson County whose potential emissions fro the facility is greater than 15 pounds of volatile organic compounds (VOC 's) per day.
- (2) **DEFINITIONS:** Terms used in this regulations not defined herein shall have the meaning given then in Regulations .01 of this chapter.
  - (a) "Adhesion promoter" means a coating used to promote adhesion of a topcoat on surfaces such as trim moldings, door locks, door spills, or any coating which provides adhesion to plastic substrates, where sanding is not practical.

(Rule 1200-03-18-.45, continued)

- (b) "Aerosol coating products" means a mixture of resins, pigments, liquid solvents and gaseous propellants, packaged in a disposable can for small, hand-held spraying applications. or change method of compliance, the owner or operator of a subject printing press shall certify to the Technical Secretary that the printing press is in compliance with Paragraph (3)(a) through (f) of this rule. Such certification shall include:
1. (i) The name and location of the facility;
  - (ii) The address and telephone number of the person responsible for the facility;
  - (iii) Identification of subject sources;
  - (iv) The name and identification of each ink, fountain solution, and cleaning solution as applied; and
  - (v) The VOC content of all inks, fountain solutions and cleaning solutions, as applied, expressed in units of the applicable standard.
2. By November 15, 1996, or on and after the initial startup date, or after changing method of compliance, the owner or operator of a printing press subject to this rule and complying with Subparagraph (3)(a) through (f) shall collect and record all of the following information for each printing press and maintain the information for a period of 3 years:
- (c) "Basecoat" means a pigmented topcoat which is the first topcoat applied as part of a multiple stage topcoat system.
- (d) "Basecoat/clearcoat system" means a topcoat system composed of a pigmented basecoat portion and a transparent and clear overcoat portion.
- (e) "Capture system" means the equipment including, but not limited to, booths, ducts, dryers or ovens, fans, and hoods that contains, collects, and transports an air pollutant to a control device.
- (f) "Catalyst" means a substance whose presence enhances the reaction between chemical compounds.
- (g) "Chemical Abstract Service (CAS) registration number" means that unique identification number, usually three parts, given to each chemical product or component by the Chemical Abstract Service.
- (h) "Clearcoat" means a topcoat which contains no pigments or only transparent pigments and which is the final topcoat applied as a part of a multiple stage topcoat system.
- (i) "Coating" means coating or surface cleaning.
- (j) "Color match" means the ability of a repair coating to blend into an existing coating so that color difference is not visible.
- (k) "Exempt VOC" means any of the compounds expressly excluded from the definition of volatile organic compound in Rule .01 of this chapter.
- (l) "Elastomeric materials" means topcoats and primers that are specifically formulated for application over flexible parts such as filler panels and elastomeric bumpers.

(Rule 1200-03-18-.45, continued)

- (m) "Electrostatic application" means the application of charged atomized paint droplets which are deposited by electrostatic attraction.
- (n) "Extreme performance coating" means any coating used on the surface of a motor vehicle, mobile equipment or their parts or components which, during intended use, is exposed to either of the following conditions:
  - 1. Industrial grade detergents, cleaners or abrasive scouring agents, or
  - 2. Extreme environmental conditions during the vehicle's principle use, which is use in extremely hot or cold, extremely high or low humidity and etc.
- (o) "Graphic design application" means the application of logos, letters lines, stripes numbers and/or other graphics to a painted surface, with or without the use of a template.
- (p) "Ground support vehicles" means vehicles used in support of aircraft activities at airports.
- (q) "Group I vehicles and equipment" means passenger cars, large-sized trucks cabs and chassis, light and medium duty trucks and vans, motor homes, recreational vehicles and motorcycles.
- (r) "Group II vehicles" means buses and mobile equipment.
- (s) "High-volume, low pressure (HVLP) spray" means equipment used to apply coatings by means of a spray gun which typically operates at less than 10 psig applied air pressure.
- (t) "Material Safety Data Sheet" (MSDS) means the documentation required by the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard for a solvent, cleaning material, finishing material, or other material that identifies select reportable hazardous ingredients of the material, safety and health considerations, and handling procedures.
- (u) "Metallic/iridescent topcoat" means any coating which contains more than 5 g/l (0.042 lb/gal) of metal or iridescent particles, as applied, where such particles are visible in the dried coating.
- (v) "Midcoat" means a semi-transparent topcoat which is a middle topcoat applied as part of a multiple topcoat system.
- (w) "Mobile equipment" means any equipment which may be drawn or is capable of being driven on a roadway, including but not limited to: trucks bodies, truck trailers, cargo vaults, utility bodies, camper shells, construction equipment (mobile cranes, bulldozers, concrete mixers), farming equipment (tractor, plows, pesticide sprayers), and miscellaneous equipment (street cleaners, golf carts, ground support vehicles, tow motors, fork lifts).
- (x) "Multiple stage topcoat system" means any basecoat/clearcoat topcoat system or any three-stage or more topcoat system manufactured as a system, and used as specified by the manufacturer.
- (y) "Panel" means a complete section (e.g., hood, door), which typically is approximately 9 square feet.

(Rule 1200-03-18-.45, continued)

- (z) "Precoat" means any coating which is applied to bare metal primarily to deactivate the metal surface for corrosion resistance to a subsequent water-base primer.
- (aa) "Pretreatment wash primer" means any coating which contains a minimum of 0.5% acid by weight, as necessary to provide surface etching and is applied directly to bare metal surfaces to provide etching and is applied directly to bare, metal surfaces to provide corrosion resistance and adhesion.
- (bb) "Primer" means any coating applied prior to the application of a topcoat for the purpose of corrosion resistance and adhesion of the topcoat
- (cc) "Primer sealer" means any coating applied prior to the application of a topcoat for the purpose of corrosion resistance, adhesion of the topcoat, color uniformity and to promote the ability of an undercoat to resist penetration by the topcoat.
- (dd) "Primer surface" means any coating applied prior to the application of a topcoat for the purpose of corrosion resistance, adhesion of the topcoat, and which promotes a uniform surface by filling in surface imperfections.
- (ee) "Reducer" means the solvent used to thin enamel.
- (ff) "Refinishing" means any coating of vehicles, their parts and components, or mobile equipment, including partial body collision repairs, for the purpose of protection or beautification and which is subsequent to the original coating applied at a manufacturing plant coating line.
- (gg) "Specialty coating" means any coating which is necessary due to unusual job performance requirements. The coating includes, but is not limited to: weld-through primer, adhesion promoter, uniform finish blender, elastomeric material, gloss flattener, bright metal trim repair, antiglare coating, and safety related coating.
- (hh) "Spot/panel repair" means the non assembly line process of repairing and restoring a portion of a motor vehicle or mobile equipment to predamaged condition.
- (ii) "Three-stages coating system" means a topcoat system composed of a pigmented basecoat portion, a semi-transparent midcoat portion, and a transparent clearcoat portion.
- (jj) "Topcoat" means any coating applied over a primer or an original finish for the purpose of protection or appearance. For the purpose of this regulation, basecoat/clearcoat and multiple-stage coating systems shall be considered topcoats.
- (kk) "Touch-up coating" means any coating applied by brush and, in some limited cases, by aerosol spray to repair minor surface damage or imperfections.
- (ll) "Transfer efficiency" means the ratio of the amount of coating solids adhering to the object being coated to the total amount of coating solids used in the application process, expressed as a percentage.
- (mm) "Trucks" means a motor vehicle designed, used, or maintained primarily for the transportation of property.
- (nn) "Large-sized truck" means a truck having a manufacturer's gross vehicle weight rating of more than 8500 pounds.

(Rule 1200-03-18-.45, continued)

- (oo) "Small-sized truck" means any motor vehicle having a manufacturer's gross vehicle weight rating at 8500 pounds or less and which is designed primarily for the purposes of transportation of property or is a derivative of such vehicle, or is available with special features enabling on-street or off-highway operation and use.
  - (pp) "Van" means a closed truck for carrying property or persons.
  - (qq) "Waterborne primer" means any primer using waste as the primary solids suspension agent, usually containing 5% or more water in its volatile fraction.
- (3) EXEMPTIONS: The following activities are exempted from this regulation:
- (a) Application of aerosol coating products;
  - (b) Graphic designs such as the application of letter, lines, logos, numbers, striping, etc. covering less than 10% of the total painted surface of the vehicle;
  - (c) Original Equipment Manufacturer (OEM) coatings applied at manufacturing or assembly plants.
  - (d) Touch-up operations involving the application of very small quantities of coatings, usually by brush;
  - (e) Application of waterborne coatings of less than 2 lbs VOC/gal of coating as applied; and
  - (f) Small facilities that perform minimal coating operations and meet all of the following limitations. These limitations must be met on a weekly basis, where a time period is shown:
    - 1. Not more than one complete motor vehicle or mobile equipment per week shall be refinished;
    - 2. Not more than five panel or spot repair jobs per week shall be performed; and
    - 3. No visible emissions shall leave the applicator's property.
  - (g) An exemption under this Paragraph does not constitute an exemption from any other regulations.
- (4) STANDARDS AS FOLLOW APPLY: Effective on the dates specified, a person applying coatings to Group I or Group II vehicles and equipment, including parts and components, repairing of partial collision damage or refinishing entire motor vehicles or mobile equipment, shall not apply materials that have a VOC content which exceeds the limits in Subparagraphs (4)(a) and(4)(b). Compliance with the VOC limits shall be based on VOC content, including any VOC material added to the original coating supplied by the manufacturer, less water and exempt solvent, as applied to the coated surface.
- (a) Group I Vehicles: Group I vehicles, their parts and components, whether existing or replacement parts, shall not be refinished with a coating which has a VOC content in excess of the limits in Part (4)(a)1.;
    - 1. After November 15, 1996, no coatings shall be used which have a VOC content in excess of the following limits, expressed as pounds of VOC per gallon of coating, as applied, less water and exempt compounds unless the condition of Subparagraph (4)(c) are met.

(Rule 1200-03-18-.45, continued)

| <u>Coating</u>              | <u>VOC lb/gal</u> |
|-----------------------------|-------------------|
| Surface cleaner             | 1.7               |
| Pretreatment wash primer    | 6.5               |
| Precoat                     | 5.5               |
| Prime sealer                | 4.6               |
| Primer/primer surface       | 4.8               |
| Topcoat                     | 5.2               |
| Metallic/iridescent topcoat | 5.2               |
| Extreme performance         | 6.2               |

- (b) Group II Vehicles: Group II vehicles, or their existing parts and components, or replacement parts or components, shall not be refinished with a coating which has a VOC content in excess of the limits in part (4)(b)1.;

1. After November 15, 1996, no coatings shall be used which have a VOC content in excess of the following limits, expressed as pounds of VOC per gallon of coating, as applied, less water and exempt compounds unless the conditions of paragraph (4)(c) are met:

| <u>Coating</u>              | <u>VOC lb/gal</u> |
|-----------------------------|-------------------|
| Surface cleaner             | 1.7               |
| Pretreatment wash primer    | 6.5               |
| Precoat                     | 5.5               |
| Primer/primer surface       | 2.8               |
| Primer sealer               | 3.5               |
| Topcoat                     | 3.5               |
| Metallic/iridescent topcoat | 3.5               |
| Extreme performance         | 6.2               |

- (c) The limitations of VOC content in Subparagraph (4)(a) and (4)(b) shall not exceed unless:

1. Emissions are controlled to an equivalent level by air pollutant control equipment.
2. The efficiency of the control equipment is a minimum of 85%, and



(Rule 1200-03-18-.45, continued)

3. The control equipment has been approved by the Technical Secretary.
  4. A determination is made of the overall emission reduction efficiency needed to demonstrate compliance.
  5. A determination is made each day that the overall emission reduction efficiency achieved is greater than or equal to the overall emission reduction efficiency required.
  6. A capture system and control device are operated at all times that the line is in operation, and the owner or operator demonstrates compliance with this rule through the applicable coating analysis and capture system and control device efficiency test methods specified in this chapter, and;
  7. The control device is equipped with the applicable monitoring equipment specified in this chapter, and the monitoring equipment is installed, calibrated,, operated, and maintained according to the vendor's specifications at all times the control device is in use.
- (d) In lieu of satisfying the standards above for specialty coating, specialty coatings shall not be applied unless;
1. The VOC content is equal to or less than 7 pounds of VOC per gallon of coating, as applied, less water and exempt compounds and;
  2. The application of all such coatings, except safety related coatings, shall not exceed 10% of all coatings applied, on a weekly basis.
- (e) VOC content shall be given and/or calculated in lbs/gal as follows.

Calculation 1:

The VOC content of a basecoat/topcoat system shall be calculated according to the following equation:

$$VOC_{ms} = \frac{VOC_{bc} + 2VOC_{ee}}{3}$$

where

$VOC_{ms}$  = the composite VOC content, less water and less exempt compounds, to be used for compliance determination under the multistage topcoat system coating category.

$VOC_{bc}$  = the VOC content, less water and less exempt compounds as applied, of any given basecoat.

$VOC_{cc}$  = the VOC content, less water and less exempt compounds as applied, of any given clearcoat.

Calculation 2:

The VOC content per gallon of any coating, less water and less exempt compounds, shall be calculated by the following equation:

(Rule 1200-03-18-.45, continued)

$$\text{Content} = \frac{W_s - W_w - W_{es}}{V_m - V_w - V_{es}}$$

where

Pounds of VOC per gallon of coating, less water and less exempt compounds is the weight of VOC per combined volume of VOC and coating solids.

$W_s$  = weight of volatile compounds in pounds.

$W_w$  = weight of water in pounds.

$W_{es}$  = weight of exempt compounds in pounds.

$V_m$  = volume of material in gallons.

$V_w$  = volume of water in gallons.

$V_{es}$  = volume of exempt compounds in gallons.

Calculation 3:

The VOC content of any coating shall be calculated by the following equation:

$$\text{Content} = \frac{W_s - W_w - W_{es}}{V_m}$$

where

$W_s$  = weight of volatile compounds in pounds.

$W_w$  = weight of water in pounds.

$W_{es}$  = weight of exempt compounds in pounds.

$V_m$  = volume of material in gallons.

Calculation 4:

The VOC content of a three-stage topcoat system shall be calculated according to the equation:

$$\text{VOC}_{ms} = \frac{\text{VOC}_{bc} + \text{VOC}_{mc} + 2\text{VOC}_{cc}}{4}$$

where

A three-stage topcoat system is a topcoat system composed of a basecoat portion, a midcoat portion, and a transparent clearcoat portion.

$\text{VOC}_{ms}$  = the composite VOC content, less water and less exempt compounds, to be used for compliance determination under the multistage topcoat system coating category.

(Rule 1200-03-18-.45, continued)

VOC<sub>bc</sub> = the VOC content, less water and less exempt compounds as applied, of any give basecoat.

VOC<sub>mc</sub> = the VOC content, less water and less exempt compounds as applied, of any give midcoat.

VOC<sub>cc</sub> = the VOC content, less water and less exempt compounds as applied, of any given clearcoat.

- (5) EQUIPMENT STANDARDS: All spray coating operators that coat more than one complete motor vehicle or mobile equipment per week or perform more than five panel or spot repairs per week shall perform those operations using the following equipment:
- (a) Spraying operations shall be performed in a totally enclosed spray booth or a totally enclosed spray area which provides, at a minimum, proper maintenance of the equipment in accordance with the manufacturer's recommendations.
  - (b) Effective November 15, 1996, spraying equipment shall have a minimum transfer efficiency of 65% at 8 inches from the work surface. Compliance may be achieved by any of the following:
    - 1. Electrostatic application equipment operated and maintained in accordance with the manufacturer's recommendations;
    - 2. High Volume Low Pressure (HVLP) spray equipment operated and maintained in accordance with the manufacturer's recommendations; or
    - 3. Any other coating application equipment which has been satisfactorily demonstrated to be capable of achieving a minimum of 65% efficiency and approved by the Technical Secretary.
  - (c) VOC pollution control equipment, if required for compliance with Section (4), shall be appropriately installed, maintained and operated in accordance with the manufacturer's recommendations. The minimum efficiency of the control device shall be 85%.
  - (d) Spray and other equipment cleanup shall be accomplished in a totally enclosed apparatus specifically designed to minimize evaporation of VOC materials to the atmosphere. Non-enclosed gun cleaners, etc. may be used provided that the vapor pressure of the cleaning solvent is less than 100 mmHg at 68 degrees F and the used solvent is contained for subsequent disposal by means which minimize emission of the used solvent
- (6) Prohibitions:
- (a) No person shall specify or require for use the application of any coating if such use results in a violation of this regulations. This prohibition is applicable to all contracts wherein a coating is to be applied at any location within Davidson, Rutherford, Sumner, Wilson and Williamson counties. This prohibition shall not apply if the coating is to be utilized at surface coating facilities where control equipment has been installed to meet the requirements of paragraph (5)(c).
  - (b) Cleaning of equipment by spraying solvent through the spray gun without measures being employed to collect the sprayed solvent and minimize emissions of the solvent is prohibited.

(Rule 1200-03-18-.45, continued)

- (7) **OPERATING REQUIREMENTS:** The owner/operator shall implement good housekeeping practices which include, but are not limited to, the following:
- (a) All equipment shall be maintained in accordance with the manufacturer's recommendations;
  - (b) All fresh or used solvents shall be stored in closed containers;
  - (c) All waste coatings, and surface cleaners, waste solvents, and uncured spray booth filters, etc. shall be stored in closed containers prior to disposal by means which minimize emissions of volatile organic compounds; and
  - (d) Storage of cloth or paper products used for solvents surface preparation and cleanup shall be stored in closed containers prior to disposal by means which minimize emissions of volatile organic compounds.
  - (e) A person using pressure pots shall use either;
    - 1. Bag-type liners to aid cleanup and minimize cleaning solvent use;
    - 2. Insert containers to aid cleanup and minimize cleaning solvent use; or
    - 3. Other reasonable practices to reduce the amount of cleaning solvent used.
  - (f) Equipment cleanup shall be performed with appropriate methods to minimize the use of solvents. Reasonable effort must be made to reclaim the bulk of the used solvents. Absolutely no cleaning shall be effected by the direct spraying of solvent such that it is emitted to the atmosphere.
  - (g) Personnel performing spraying operations must be trained to properly position a spray gun to minimize overspray.
  - (h) Reasonable effort shall be employed to schedule operations of a similar nature to significantly reduce overall VOC material consumption.
- (8) **REPORTING AND RECORDKEEPING REQUIREMENTS:** Any person subject to this regulation shall comply with the following requirements as a minimum:
- (a) A current list of all coatings, solvents, reducers, additives, and any other VOC containing material in use at the facility shall be maintained and readily available upon request. This list shall include, but is not limited to, the following information:
    - 1. Name and appropriate identification of coating, catalyst, hardener, reducer, etc. used;
    - 2. Mix ratio of components used; and
    - 3. VOC content of coatings, as applied, less water and exempt solvents, in pounds per gallon.
  - (b) Daily records shall be maintained which shall include:
    - 1. Identification of applied coatings pursuant to Part (8)(a)1. and
    - 2. Quantity of each coating applied.

(Rule 1200-03-18-.45, continued)

- (c) Monthly records shall be maintained which shall include:
  - 1. Type of solvent used for cleanup and/or surface preparation, and
  - 2. Quantity of each solvent, cleaner, etc. used.
- (d) MSDS or other data sheets provided by the material manufacturer and/or its agent shall be maintained and readily retrievable for each item listed pursuant to Part (8)(a)1. and shall include as a minimum the designation of VOC content as supplied, expressed in lbs/gal, less water and exempt compounds;
- (e) Records specified in this section shall be retained and readily available for inspection by EPA; Tennessee Department of Environment and Conservation, Division of Air Pollution Control; Nashville and Davidson County Metropolitan Health Department, Air Pollution Division; and each record shall be maintained for 5 years.

**Authority:** T.C.A. §§ 4-5-201, et. seq. and 68-201-105. **Administrative History:** Original rule filed November 3, 1995; effective January 17, 1996.

**1200-03-18-.46 AND 1200-03-18-.47 RESERVED.**

**1200-03-18-.48 VOLATILE ORGANIC LIQUID STORAGE TANKS.**

- (1) Applicability of this rule is as follows:
  - (a) This rule applies to Volatile Organic Liquid Storage Tanks at:
    - 1. Any facility in Davidson, Rutherford, Sumner, Williamson, or Wilson County having potential Volatile Organic Compounds (VOC) emission of 100 tons per year or greater from Volatile Organic Liquid Storage Tanks. In calculation to determine whether this applicability threshold is exceeded, potential VOC emissions are not included from any storage vessel subject to standards in rules 1200-03-18-.22 through 1200-18-.24, 1200-03-18-.28 and 1200-03-18-.29, or;
    - 2. This rule applies to any facility subject to rules 1200-03-18-.78 or .79.
  - (b) Any storage vessel with a capacity of 37.9 m<sup>3</sup> (10,000 gal.) or less shall comply with the standard as prescribed in Subparagraph (3)(d) of this rule.
  - (c) Any storage vessel subject to rules 1200-03-18-.22 through 1200-18-.24, 1200-03-18-.28 and 1200-03-18-.29 shall not be subject to the standards of this rule.
- (2) For the purpose of this rule, the following definitions, with precedence as listed below, apply:
  - (a) Any applicable definition in Subparagraph 1200-03-18-.01 of this chapter.
  - (b) Any applicable definition in rules 1200-03-18-.28 and 1200-03-18-.29, 1200-03-18-.22 through 1200-03-18-.24 of this chapter.
  - (c) Any definition in Rules .10, .11 and .61 of rule 1200-03-16.
- (3) Standards for Volatile Organic Compounds:
  - (a) Each fixed roof tank with a design capacity greater than 37.9 m<sup>3</sup> (10,000 gal.) shall be equipped with an internal floating roof meeting the following specifications or a vapor control system meeting the specification of Part 9 of this Subparagraph:

(Rule 1200-03-18-.48, continued)

1. The internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel that has a fixed roof, except during initial fill and during those intervals when the storage vessel is emptied or subsequently emptied and refilled.
2. Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof:
  - (i) A foam-or liquid-filled seal mounted in contact with the liquid (liquid-mounted seal). A liquid-mounted seal means a foam-or liquid-filled seal mounted in contact with the liquid between the wall of the storage vessel and the floating roof continuously around the circumference of the tank.
  - (ii) Two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal may be vapor-mounted, but both must be continuous.
  - (iii) A mechanical shoe seal. A mechanical shoe seal is a metal sheet held vertically against the wall of the storage vessel by springs or weighted levers and is connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.
3. Each opening in a noncontact interval floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface.
4. Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use.
5. Automatic bleeder vents shall be equipped with a gasket and are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports.
6. Rim space vents shall be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting.
7. Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The sample well shall have a slit fabric cover that covers at least 90 percent of the opening.
8. Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.
9. A closed vent system and control device meeting the following specifications:

(Rule 1200-03-18-.48, continued)

- (i) The closed vent system shall be designed to collect all VOC vapors and gases discharged from the storage vessel and operated with no detectable emission as indicated by an instrument reading of less than 500 ppm above background, and;
    - (ii) The control device shall be designed and operated to reduce inlet VOC emissions by 95 percent or greater.
  - (b) Each external floating roof tank shall meet the following specifications:
    - 1. Each external floating roof shall be equipped with a closure device between the wall of the storage vessel and the roof edge. The closure device is to consist of two seals, one above the other. The lower seal is referred to as the primary seal, and the upper seal is referred to as the secondary seal.
    - 2. The primary seal shall completely cover the annular space between the edge of the floating roof and tank wall and shall be either a liquid mounted seal or a shoe seal.
    - 3. The secondary seal shall completely cover the annular space between the external floating roof and the wall of the storage vessel in a continuous fashion.
    - 4. The tank shall be equipped with the closure device after the effective date of this rule.
    - 5. Except for automatic bleeder vents and rim space vents, each opening in a noncontact external floating roof shall provide a projection below the liquid surface. Except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof is to be equipped with a gasketed cover, seal, or lid that is to be maintained in a closed position at all times (i.e., no visible gap) except with the device is in actual use. Automatic bleeder vents are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports. Rim vents are to be set to open when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting. Automatic bleeder vents and rim space vents are to be gasketed. Each emergency roof drain is to be provided with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening.
    - 6. The roof shall be floating on the liquid at all times (i.e., off the roof leg supports) except when the tank is completely emptied and subsequently refilled. The process of filling, emptying, or refilling when the roof is resting on the leg supports shall be continuous and shall be accomplished as rapidly as possible.
  - (c) The owner or operator of each storage vessel subject to the Parts (1)(a)1., and 2. of this rule shall equip each storage vessel with a closed vent system and control device as specified in part 9. of Subparagraph (3)(a) of this rule.
  - (d) The owner or operator of each storage vessel subject to the Parts (1)(a)1., and 2. and Subparagraph (b) of this rule shall equip each storage vessel port with a cap which is consistent with the vessels manufacturer's requirements, unless the port is used for pressure relief valve.
- (4) The owner or operator of an affected source is subject to the following reporting and recordkeeping requirements:

(Rule 1200-03-18-.48, continued)

- (a) The owner or operator of an affected source subject to the emission standards in Paragraph (3) of this rule shall demonstrate compliance with those provisions and with the initial compliance certification requirements of rule 1200-03-18-.04, except that the date for submittal of the initial compliance certification for each existing source as of August 2, 1996, is November 15, 1996, and for each new sources after August 2, 1996, is within 180 days after the start-up of that source.
  - (b) If a storage vessel has a potential VOC emissions of less than 100 tons per year , the owner or operator of such vessel shall maintain records which document that the potential VOC emissions from those vessels are less than the applicability threshold as specified in Subparagraph (1)(a) of this rule. An owner or operator of such vessel shall submit, upon request by the Technical Secretary, records that document that the vessel is exempt from these requirements. These records shall be submitted to the Technical Secretary within 30 calendar days from the date of request.
  - (c) The owner or operator of the subject VOC vessel shall perform all testing and maintain the results of all tests and calculations required under Paragraphs (1) and (3) of this rule to demonstrate that the subject source is in compliance and shall maintain these records for a minimum of 5 years, and shall make these records available to the Technical Secretary upon request.
- (5) With respect to petitioning for a source-specific compliance schedule according to and as provided for in Rule .07 of this chapter, insure the petition is received by the Technical Secretary no later than February 2, 1997, or October 1, 1996, whichever is earlier, rather than October 22, 1993. Under this paragraph, the applicable date on which a source must be an existing source or before which a state or local agency's construction permit must have been issued for the source to be eligible to petition for a source-specific compliance schedule is August 2, 1996, rather than April 22, 1993, as specified in the first sentence of Paragraph .07(1) of this chapter.

**Authority:** T.C.A. §§ 4-5-201 et seq. and 68-201-105. **Administrative History:** Original rule filed May 22, 1996; effective August 2, 1996.

**1200-03-18-.49 THROUGH 1200-03-18-.77 RESERVED.**

**1200-03-18-.78 OTHER FACILITIES THAT EMIT VOLATILE ORGANIC COMPOUNDS (VOC'S) OF FIFTY TONS PER YEAR.**

- (1) Applicability of this rule is as follows:
  - (a) This rule applies to the sources at any facility in Davidson, Rutherford, Sumner, Williamson, or Wilson County for which the aggregate potential VOC emissions from the sources at the facility total 45.4 megagrams (Mg) (50 tons) or more per calendar year on or after November 15, 1996. In calculation to determine whether this applicability threshold is exceeded, potential VOC emissions from the following sources are not included:
    1. Any sources subject to standards in Rules .11 through .77 of this chapter;
    2. Any sources subject to source-specific standards (Division Rule 1200-03-18-.02(7) approved in lieu of standards in Rules .11 through .77 of this chapter; and
    3. Any sources which are within the source categories listed in Subparagraph (c) of this paragraph.



(Rule 1200-03-18-.78, continued)

- (b) After publication of the notice specified in Paragraph (7) of this rule, the owner or operator of a facility which has potential VOC emissions which are below the applicability threshold of Subparagraph (a) of this paragraph, but which otherwise would be subject to this rule, shall comply with the certification, recordkeeping, and reporting requirements of Paragraph (4) of this rule.
  
  - (c) This rule will not apply to:
    - Barge loading facilities;
    - Coke ovens (including by-product recovery plants);
    - Fuel combustion sources;
    - Iron and steel production;
    - Jet engine test cells;
    - Vegetable oil processing facilities; and
    - Wastewater treatment facilities;
  
  - (d) (Reserved)
  
  - (e) The standards and requirements of this rule shall not apply to the following sources:
    - 1. Sources subject to standards in Rules .11 through .77 and in Rule .79 of this chapter;
    - 2. Sources subject to source-specific standards approved in lieu of standards in Rules .11 through .77 and in Rule .79 of this chapter; and
    - 3. Sources which are within the source categories listed in Subparagraph (c) of this paragraph.”
- (2) After publication of the notice specified in Paragraph (7) of this rule, the owner or operator of any source subject to this rule shall:
- (a) Install and operate:
    - 1. An emission capture system which:
      - (i) Achieves 90 percent capture, or
      - (ii) Is constructed and operated in accordance with the guidelines of the Industrial Ventilation Manual, 20th Edition, of the American Conference of Governmental Industrial Hygienists, and
    - 2. An emission control device which achieves 90 percent destruction or removal.
  
  - (b) For any coating or printing line, limit the weighted average VOC content to 0.40 kilograms VOC per liter (kg VOC/L) 3.5 pounds VOC per gallon (lbvoc/gal) or less of coating or ink, as applied, (excluding water and/or exempt compounds) as calculated in this chapter; or
  
  - (c) Comply with a control plan that employs reasonably available control technology and has been approved as a state implementation plan revision. The control plan shall:
    - 1. Be submitted by May 15, 1997; and
    - 2. Be accompanied by a demonstration of the technical or economic infeasibility of complying with the requirements in Subparagraph (a) or (b) of this paragraph.

(Rule 1200-03-18-.78, continued)

- (3) After publication of the notice specified in Paragraph (7) of this rule, the owner or operator of any source subject to this rule shall demonstrate compliance with this paragraph by using the applicable test methods specified in this chapter.
- (4) After publication of the notice specified in Paragraph (7) of this rule, reporting and recordkeeping requirements for sources referenced in Subparagraph (1)(b) of this rule apply as follow:
  - (a) An owner or operator shall maintain records which document potential VOC emissions are less than the applicability threshold specified in Subparagraph (1)(a) of this rule.
  - (b) An owner or operator shall submit, upon request by the Technical Secretary, records that document that the source is exempt from these requirements. These records shall be submitted to the Technical Secretary within 30 calendar days from the date of request.
- (5) After publication of the notice specified in Paragraph (7) of this rule, compliance certification, reporting and recordkeeping, and testing requirements for sources other than those referenced in Subparagraph (1)(b) of this rule apply as follows:
  - (a) The owner or operator of the subject VOC source shall perform all testing and maintain the results of all test and calculations required under Paragraphs (2) and (3) of this rule to demonstrate that the subject source is in compliance.
  - (b) This owner or operator of the subject VOC source shall maintain these records for a minimum of 3 years, and shall make these records available to the Technical Secretary upon request.
  - (c) The owner or operator of any subject source shall comply with the requirements in Rule .03 or .04 of this chapter, as appropriate for such source, except that the date for compliance certification, initiation of recordkeeping and reporting, and completion of control system compliance testing shall be by November 15, 1997, rather than by April 22, 1994, as specified in Rules .03 and .04.
- (6) After publication of the notice specified in Paragraph (7) of this rule, the owner or operator of a source which is an existing source as of November 15, 1996, or of a source which has a state or local agency's construction permit before November 15, 1996, and is subject to this rule may petition for a source-specific compliance schedule according to and as provided for in Rule .07 of this chapter. The April 22, 1993, date of Rule .07 shall not be pertinent for sources subject to Rule .78 of this chapter. For sources subject to Rule .78 of this chapter, the petition for the source-specific schedule must be received by the Technical Secretary no later than May 15, 1997.
- (7) The standards and requirements of this rule shall apply only after the failure to attain by November 15, 1996, the ambient air quality standard for ozone in the counties listed in Subparagraph (1)(a) of this rule and after the Technical Secretary publishes legal notice of this failure in a major Nashville newspaper which has distribution throughout the five counties listed in Subparagraph (1)(a) of this rule.

**Authority:** T.C.A. §§ 4-5-201, et. seq. and 68-201-105. **Administrative History:** Original rule filed August 11, 1995; effective October 25, 1995.

**1200-03-18-.79 OTHER FACILITIES THAT EMIT VOLATILE ORGANIC COMPOUNDS (VOC'S) OF ONE HUNDRED TONS PER YEAR.**

- (1) Applicability of this rule is as follows:
- (a) This rule applies to any facility in Davidson, Rutherford, Shelby, Sumner, Williamson, or Wilson County having sources that in the aggregate have potential VOC emissions of 90.7 megagrams (Mg) (100 tons) or more per calendar year. In calculation to determine whether this applicability threshold is exceeded, potential VOC emissions are not included from handling, storage, use and disposal of VOC's subject to the requirements of Rule .06 of this chapter and from the sources as follow:
    - 1. Any sources subject to standards in Rules .11 through .77 of this chapter;
    - 2. Any sources subject to source-specific standards approved in lieu of standards in Rules .11 through .77 of this chapter; and
    - 3. Any sources which are within the sources categories listed in Subparagraph (c) of this paragraph.
  - (b) The owner or operator of a facility which has potential VOC emissions which are below the applicability threshold of Subparagraph (a) of this paragraph, but which otherwise would be subject to this rule, shall comply with the certification, recordkeeping, and reporting requirements of Paragraph (4) of this rule.
  - (c) This rule will not apply to:
    - Barge loading facilities;
    - Coke ovens (including by-product recovery plants);
    - Fuel combustion sources;
    - Iron and steel production;
    - Jet engine test cells;
    - Vegetable oil processing facilities;
    - Wastewater treatment facilities; and
  - (d) (Reserved)
  - (e) The standards and requirements of this rule shall not apply to handling, storage, use, and disposal of VOC's subject to the requirements of Rule .06 of this chapter and to sources as follows:
    - 1. Sources subject to standards in Rules 1200-03-18-.11 through 1200-03-18-.77 of this chapter;
    - 2. Sources subject to source-specific standards approved in lieu of standards in Rules 1200-03-18-.11 through 1200-03-18-.77 of this chapter; and
    - 3. Sources which are within the source categories listed in Subparagraph (c) of this paragraph."
- (2) The owner or operator of any source subject to this rule shall:
- (a) Install and operate:
    - 1. An emission capture system which:

(Rule 1200-03-18-.79, continued)

- (i) Achieves 90 percent capture, or
  - (ii) Is constructed and operated in accordance with the guidelines of the Industrial Ventilation Manual, 20th Edition, of the American Conference of Governmental Industrial Hygienists, and
2. An emission control device which achieves 90 percent destruction or removal.
- (b) For any coating or printing line, limit the weighted average VOC content to 0.40 kilograms VOC per liter (kg VOC/L) (3.5 pounds VOC per gallon [lb VOC/gal]) or less of coating or ink, as applied, (excluding water and/or exempt compounds) as calculated in this chapter; or
- (c) Comply with a control plan that employs reasonably available control technology and has been approved as a State Implementation Plan revision. The control plan shall:
  1. Be submitted by October 22, 1993, and
  2. Be accompanied by a demonstration of the technical or economic infeasibility of complying with the requirements in Subparagraph (a) or (b) of this paragraph.
  3. “The standards and requirements of Rule .06 and Rules .11 through .77 for source categories and types of operations shall be accepted, if proposed for the control plan by the owner or operator, as reasonably available control technology for any operation which fulfills the source category or type operation criteria specified in those rules. For example, the standards and requirements specified in Rule .35 for flexographic printing presses may be proposed for a control plan by the owner or operator of a flexographic printing press subject to this Rule .79, and these standards and requirements shall be accepted as reasonably available control technology for that press even if the facility’s printing presses do not have total potential VOC emissions of 100 tons per year. In addition, if the control plan includes only standards and requirements of Rule .06 and Rules .11 through .77 as proposed reasonably available control technology, the requirement for approval of this plan as a state implementation plan revision shall not apply. Also, for those operations for which reasonably available control technology is as specified in Rule .06 and Rules .11 through .77, the requirement in Part 2 of this subparagraph for demonstration of infeasibility shall not apply. However, the control plan shall be submitted as specified in Part 1 of this subparagraph, and the compliance certification, reporting, and recordkeeping, and testing requirements of this Rule .79 shall be satisfied”.
- (3) The owner or operator of any source subject to this rule shall demonstrate compliance with this paragraph by using the applicable test methods specified in this chapter.
- (4) Reporting and recordkeeping requirements for sources referenced in Subparagraph (1)(b) of this rule apply as follow:
  - (a) An owner or operator shall maintain records which document potential VOC emissions are less than the applicability threshold specified in Subparagraph (1)(a) of this rule.
  - (b) An owner or operator shall submit, upon request by the Technical Secretary, records that document that the source is exempt from these requirements. These records shall be submitted to the Technical Secretary within 30 calendar days from the date of request.

(Rule 1200-03-18-.79, continued)

- (5) Reporting and recordkeeping requirements for subject non-coating and non-printing sources apply as follow:
  - (a) The owner or operator of the subject VOC sources shall perform all testing and maintain the results of all tests and calculations required under Paragraphs (2) and (3) of this rule to demonstrate that the subject source is in compliance.
  - (b) This owner or operator of the subject VOC source shall maintain these records for a minimum of 3 years, and shall make these records available to the Technical Secretary upon request.
  - (c) The owner or operator of any facility containing subject sources shall comply with the requirements in Rule 1200-03-18-.04 of this chapter.
- (6) The owner or operator of any source which on October 25, 1995, became, but before this date was not subject to the standards and requirements of Paragraph (2) of this rule shall:
  - (a) With respect to compliance certification, initiation of recordkeeping and reporting, and completion of control system compliance testing for that source, comply with the requirements of Rule .03 or .04 of this chapter, as appropriate for such source, except the applicable date for compliance is October 25, 1996, rather than April 22, 1994;
  - (b) With respect to submitting a control plan for the source, as provided for in Subparagraph (2)(c) of this rule, submit the plan by April 25, 1996, rather than October 22, 1993; and
  - (c) With respect to petitioning for a source-specific compliance schedule according to and as provided for in Rule .07 of this chapter, insure the petition is received by the Technical Secretary no later than April 25, 1996, rather than October 22, 1993. The applicable date on which a source must be an existing source or before which a state or local agency's construction permit must have been issued for the source to be eligible to petition for a source specific compliance schedule is October 25, 1995, rather than April 22, 1993, as specified in the first sentence of Paragraph .07(1) of this chapter.

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-201-105. **Administrative History:** Original rule filed March 8, 1993; effective April 22, 1993. Amendment filed August 11, 1995; effective October 25, 1995. Amendment filed May 16, 1997; effective July 30, 1997. Amendment filed May 21, 1997; effective August 4, 1997.

#### **1200-03-18-.80 TEST METHODS AND COMPLIANCE PROCEDURES: GENERAL PROVISIONS.**

- (1) The owner or operator of any volatile organic compound (VOC) source required to comply with Rules 1200-03-18-.11 through 1200-03-18-.79 of this chapter shall demonstrate or have demonstrated compliance by using the applicable methods of Rules 1200-03-18-.80 through 1200-03-18-.85 of this chapter, applicable methods specified within the rule (Rules 1200-03-18-.11 through 1200-03-18-.79) for the source category of the source, or alternative methods approved by the Technical Secretary and the EPA.
- (2) At least 30 days before the initiation of a required test under Rule 1200-03-18-.83 of this chapter, the owner or operator shall submit a test plan to the Technical Secretary. This test plan shall include the following minimum information:
  - (a) The purpose of the proposed test and the applicable provision of Rule 1200-03-18-.11 through 1200-03-18-.79 of this chapter;

(Rule 1200-03-18-.80, continued)

- (b) A detailed description of the facility to be tested, including a line diagram of the facility, locations of test sites, and facility operation conditions for the test;
  - (c) A detailed description of the test methods and procedures, equipment, and sampling sites, i.e., a test plan;
  - (d) A time table for the following:
    - 1. Date for the compliance test;
    - 2. Date of submittal of final test report (not later than 60 days after completion of on-site sampling); and
  - (e) (Reserved)
  - (f) An internal QA program that shall include, at a minimum, the activities planned by routine operators and analysts to provide an assessment of test data precision. An example of internal QA is the sampling and analysis of replicable samples.
  - (g) External QA program as follows:
    - 1. The external QA program shall include, at a minimum, application of plans for a test method performance audit (PA) during the compliance test.
    - 2. The external QA program may also include systems audits, which include the opportunity for on-site evaluation by the Technical Secretary of instrument calibration, data validation, sample logging, and documentation of quality control data and field maintenance activities.
    - 3. The PA's shall consist of blind audit samples provided by the Technical Secretary and analyzed during the compliance test to provide a measure of test data bias as follows:
      - (i) The Technical Secretary shall require the owner or operator to analyze PA samples during each compliance test when audit samples are available.
      - (ii) Information concerning the availability of audit materials for a specific compliance test may be obtained from the Technical Secretary.
      - (iii) The evaluation criteria applied to the interpretation of the PA results and the subsequent remedial actions required of the owner or operator are the sole responsibility of the Technical Secretary.
- (3) The owner or operator shall be responsible for providing:
- (a) Sampling ports, pipes, lines, or appurtenances for the collection of samples and data required by the test methods and procedures;
  - (b) Safe access to the sample and data collection locations; and
  - (c) Light, electricity, and the utilities required for sample and data collection.
- (4) (Reserved)

(Rule 1200-03-18-.80, continued)

- (5) No later than 60 days after completion of the on-site sampling, the owner or operator shall submit a test report to the Technical Secretary. The test report shall include the following minimum information:
  - (a) Process description;
  - (b) Air pollution capture system and control device description;
  - (c) Process conditions during testing;
  - (d) Test results and example calculations;
  - (e) Description of sampling locations and test methods;
  - (f) Quality assurance measures; and
  - (g) Field and analytical data.

**Authority:** T.C.A. §§ 4-5-202 and 68-201-105. **Administrative History:** Original rule filed March 8, 1993; effective April 22, 1993.

**1200-03-18-.81 TEST METHODS AND COMPLIANCE PROCEDURES: DETERMINING THE VOLATILE ORGANIC COMPOUND (VOC) CONTENT OF COATINGS AND INKS.**

- (1) Sampling procedures shall follow the guidelines presented in:
  - (a) ASTM D3925: Standard practice for sampling liquid paints and related pigment coatings; or
  - (b) ASTM E300: Standard practice for sampling industrial chemicals.
- (2) The analytical methods and procedures specified as follow shall be used to determine VOC content:
  - (a) For coatings and for inks other than solvent - borne (solvent reducible) publication rotogravure inks (See Subparagraph (b) of this paragraph for explanation of solvent - borne (solvent reducible) publication rotogravure inks.):
    1. Reference Method 24 shall be used in the determination of total volatile organic content, water content, and density.
    2. To determine the total volatile organic content, water content, and density of multicomponent coatings, the following procedures shall be used in addition to Reference Method 24:
      - (i) The components shall be mixed in a storage container in proportions the same as those in the coating, as applied. The mixing shall be accomplished by weighing the components in the proper proportion into a container which is closed between additions and during mixing. About 100 ml of coating shall be prepared in a container just large enough to hold the mixture prior to withdrawing a sample.
      - (ii) For determination of volatile content, a sample shall be withdrawn from the mixed coating, and then transferred to a dish where the sample shall stand for at least 1 hour, but no more than 24 hours prior to being oven dried.

(Rule 1200-03-18-.81, continued)

- (iii) For determination of the water content and density of multicomponent coatings, samples shall be taken from the same 100 ml mixture of coating and shall be analyzed by the appropriate ASTM methods referenced in Reference Method 24.
  - (b) Reference Method 24A shall be used in the determination of total volatile organic compound (VOC) content and density of solvent - borne (solvent reducible) publication rotogravure inks. A solvent - borne publication rotogravure ink is an ink used in publication rotogravure printing, as defined in Paragraph .35(2) of this chapter, whose volatile portion consists essentially of VOC solvent with not more than five weight percent water, as applied to the gravure cylinder.
  - (c) The following ASTM method may be used as an additional procedure related to determining VOC:
    - 1. ASTM D4457-85: Standard test method for determination of dichloromethane and 1,1,1 trichloroethane in paints and coatings by direct injection into a gas chromatograph (the procedure delineated above may be used to develop protocols for any compounds specifically exempted from the definition of VOC).
- (3) Use of an adaptation or alternative to any of the analytical methods and procedures specified in Paragraph (2) of this rule shall be approved by the Technical Secretary and the EPA on a case-by-case basis. An owner or operator shall submit sufficient documentation to verify that the analytical methods specified in Subparagraphs (2)(a), (2)(b), and (2)(c) will yield inaccurate results and that the proposed adaptation is appropriate, or that the proposed adaptation will yield results as accurate as will the specified analytical methods.
- (4) Each sample collected for analysis shall meet the following criteria:
  - (a) Each sample shall be at least 1 pint taken into a 1 pint container at a location and time such that the sample will be representative of the coating or ink, as applied (i.e., the sample shall include any dilution solvent or VOC added during the manufacturing process);
  - (b) If a sample larger than 1 pint is obtained, the sample container shall be of a size such that the sample completely fills the container;
  - (c) The container shall be tightly sealed immediately after the sample is taken;
  - (d) Any solvent or other VOC added after the sample is taken shall be measured and accounted for in the calculations in Paragraph (3) of this rule; and
  - (e) For multiple-component coatings, separate samples of each component shall be obtained.
- (5) Calculations for determining the VOC content of coatings and inks from data as determined by Reference Method 24 or 24A shall follow the guidance provided in the following documents:
  - (a) "A Guideline for Surface Coating Calculations" EPA-340/1-86-016; and
  - (b) "Procedures for Certifying Quantity of Volatile Organic Compounds Emitted by Paint, Ink and Other Coatings." (Revised June 1986) EPA-450/3-84-019.



(Rule 1200-03-18-.81, continued)

- (6) In lieu of determining VOC content by the methods and procedures specified in the other paragraphs of this rule, formulation data shall be used if approved by the EPA and the Technical Secretary.

**Authority:** T.C.A. §§ 4-5-202, et seq. and 68-201-105. **Administrative History:** Original rule filed March 8, 1993 effective April 22, 1993. Amendment filed January 31, 1997; effective April 16, 1997.

**1200-03-18-.82 TEST METHODS AND COMPLIANCE PROCEDURES: ALTERNATIVE COMPLIANCE METHODS FOR SURFACE COATING.**

- (1) The weighted average VOC content, in units of mass of VOC per volume of coating and/or ink, excluding water and/or exempt compounds, as applied, of the coatings and/or inks used on a day on a coating line or operation shall be calculated using the following equation:

$$\text{VOC}_w = \frac{\sum_{i=1}^n V_i C_i}{VT}$$

where:

$\text{VOC}_w$  = The weighted average VOC content of the coatings and/or inks, as applied, used on a line or operation in units of kilograms of VOC per liter of coating and/or ink (kg VOC/L) (pounds of VOC per gallon of coating and/or ink [lb VOC/gal]), excluding water and/or exempt compounds;

$n$  = The number of different coatings and/or inks, as applied, each day on a line or operation;

$V_i$  = The volume of each coating or ink, as applied, each day on a line or operation in units of L (gal), excluding water and/or exempt compounds; and

$C_i$  = The VOC content of each coating or ink, as applied, each day on a line or operation in units of kg VOC/L of coating or ink (lb VOC/gal), excluding water and/or exempt compounds; and

$VT$  = The total volume of all coating and/or ink, as applied, each day on a line or operation in units of L (gal), excluding water and/or exempt compounds.

- (2) [Reserved]

- (3) The overall emission reduction efficiency needed to demonstrate compliance is determined each day as follows:

(a) Obtain the emission limitation from the applicable rule of this chapter.

(b) Calculate the emission limitation on a solids basis according to the following equation:

$$S = \frac{C}{1 - C_d}$$

where:

(Rule 1200-03-18-.82, continued)

- S = The VOC emission limitation in terms of kg VOC/L of coating or ink solids (lb VOC/gal);
- C = The VOC emissions limitation in terms of kg VOC/L of coating or ink (lb/gal), excluding water and/or exempt compounds; and
- d = The density of VOC for converting emission limitation to a solids basis. The density equals 0.882 kg/L (7.36 lb/gal).

- (c) Calculate the required overall emission reduction efficiency of the control system for the day according to the following equation:

$$E = \frac{(VOCa - S)}{VOCa} \times 100$$

where:

- E = The required overall emission reduction efficiency of the control system;
- VOCa = 1. The maximum VOC content of the coatings and/or inks, as applied, used each day on the subject line or operation, in units of kg VOC/L of solids (lb/gal), as determined by the applicable test methods and procedures specified in this chapter; or
2. The weighted average VOC content, as applied, of the coatings and/or inks used each day on the subject line or operation, in units of kg VOC/L of solids (lb/gal), as determined by the applicable test methods and procedures specified in this chapter and the procedure in Subparagraph (d) of this paragraph; and
- S = VOC emission limitation in terms of kg VOC/L of solids (lb VOC/gal).

- (d) The weighted average VOC content, as applied, of the coatings and/or inks used on a coating line or operation in units of mass of VOC per unit volume of coating and/or ink solids shall be calculated by the following equation:

$$VOCws = \frac{\sum_{i=1}^n Wvoci Di Vi}{\sum_{i=1}^n Vi VS1}$$

where:

- VOCws = The weighted average VOC content, as applied, of the coatings and/or inks used on the line or operation in units of mass of VOC per unit volume of coating and/or ink solids;
- n = The number of different coatings and/or inks, as applied, used in a day on the line or operation;

(Rule 1200-03-18-.82, continued)

- $V_i$  = The volume of each coating or ink (i), as applied, used in a day on the line or operation in units of liters (L) (gallons[gal]);
- $W_{voci}$  = The weight fraction of VOC in each coating or ink (i), as applied, used in a day on the line or operation in units of kg VOC/kg coating or ink (lb/lb);
- $D_i$  = The density of each coating or ink (i) as applied, used in a day on the line or operation in units of kg/L of coating or ink (lb/gal);
- $V_{Si}$  = The volume fraction solids content of each coating or ink (i), as applied, used in a day on the line or operation in units of L solids/L coating or ink (gal/gal).

**Authority:** T.C.A. §§ 4-5-202 and 68-201-105. **Administrative History:** Original rule filed March 8, 1993; effective April 22, 1993. Amendment filed January 20, 1997; effective April 15, 1997.

### 1200-03-18-.83 TEST METHODS AND COMPLIANCE PROCEDURES: EMISSION CAPTURE AND DESTRUCTION OR REMOVAL EFFICIENCY AND MONITORING REQUIREMENTS.

- (1) The methods and procedures for determining the efficiency of volatile organic compound (VOC) capture systems shall be as specified in the EPA's Capture Efficiency Testing Guidance, dated January 9, 1995, unless an alternate method or procedure has been approved by the EPA and the Technical Secretary. This EPA guidance document can be obtained from the Technology Transfer Network (TTN) bulletin board, located in the Emission Measurement Technical Information (EMTIC) section, document number GD - 035.
- (2) The methods and procedures for determining the destruction or removal efficiency and monitoring parameters of incinerators and carbon adsorbers shall be according to the following, unless an alternate method or procedure has been approved by the EPA and the Technical Secretary:
  - (a) Testing shall be as follows:
    1. The control device destruction or removal efficiency shall be determined from data obtained by simultaneously measuring the inlet and outlet gas-phase VOC concentrations and gas volumetric flow rates in accordance with the gas-phase test methods specified in this chapter. The control device destruction or removal efficiency shall be calculated using the following equation:

$$E = \frac{\sum_{i=1}^n Q_i C_i - \sum_{j=1}^m Q_j C_j}{N \sum_{i=1}^n Q_i C_i}$$

where:

$E$  = VOC destruction efficiency of the control device;

$Q_i$  = Volumetric flow rate of the effluent gas flowing through stack i entering the control device, dry standard cubic meters per hour (dscmh);

(Rule 1200-03-18-.83, continued)

- $C_i$  = Concentration of VOC (as carbon) in the effluent gas flowing through stack  $i$  entering the control device, ppmv;
- $Q_j$  = Volumetric flow rate of the effluent gas flowing through stack  $j$  leaving the control device, dscmh;
- $C_j$  = Concentration of VOC (as carbon) in the effluent gas flowing through stack  $j$  leaving the control device, ppmv;
- $n$  = The number of vents to the control device; and
- $m$  = The number of vents after the control device.

2. and 3. (Reserved)

(b) Monitoring shall be as follows:

1. Any owner or operator who uses an incinerator or carbon adsorber for which stack emission testing is required to demonstrate compliance with any standard of this chapter shall install, calibrate, certify to the Technical Secretary, operate, and maintain continuous monitoring equipment. The continuous monitoring equipment shall monitor the following parameters:
    - (i) Combustion chamber temperature of each thermal incinerator or afterburner;
    - (ii) Temperature immediately before the catalytic incinerator and temperature rise across each catalytic incinerator bed; and
    - (iii) The VOC concentration of the outlet from each carbon adsorption bed.
  2. The continuous temperature monitoring equipment must be equipped with a continuous recorder and have an accuracy of  $\pm 1$  percent of the combustion temperature being measured expressed in degrees Celsius ( $^{\circ}\text{C}$ ) or  $\pm 0.5^{\circ}\text{C}$ , whichever is greater.
- (3) The overall emission reduction efficiency of the emission control system shall be determined as the product of the capture efficiency and the control device destruction or removal efficiency; or for each emission control system in which solvent is recovered, by a method approved by the EPA and Technical Secretary. The results of a capture efficiency test and control device destruction or removal efficiency test remain valid until a subsequent test is performed. The results of any valid test may be used until superseded by the results of a valid test subsequently performed.

**Authority:** T.C.A. §§ 4-5-202 and 68-201-105. **Administrative History:** Original rule filed March 8, 1993; effective April 22, 1993.

#### **1200-03-18-.84 TEST METHODS AND COMPLIANCE PROCEDURES: DETERMINING THE DESTRUCTION OR REMOVAL EFFICIENCY OF A CONTROL DEVICE.**

- (1) One of the following test methods must be used to determine volatile organic compound (VOC) concentrations of a gas stream:
  - (a) Reference Method 18;

(Rule 1200-03-18-.84, continued)

- (b) Reference Method 25; or
  - (c) Reference Method 25A.
- (2) Reference Method 25 or 25A shall be used for determining destruction efficiency of incinerators and catalytic incinerators, unless an alternate method is approved by the Technical Secretary and the EPA.
- (3) Except as indicated in Subparagraphs (a) and (b) of this paragraph, a test shall consist of three separate runs, each lasting a minimum of 60 minutes (min):
- (a) When the method is to be used to determine the efficiency of a fixed-bed carbon adsorption system with a common exhaust stack for all of the individual adsorber vessels, the test shall consist of three separate runs, each coinciding with one or more complete sequences through the adsorption cycles of all the individual adsorber vessels.
  - (b) When the method is to be used to determine the efficiency of a fixed-bed carbon adsorption system with individual exhaust stacks for each adsorber vessel, each adsorber vessel shall be tested individually. The test for each adsorber vessel shall consist of three separate runs. Each run shall coincide with one or more complete adsorption cycles.
- (4) Reference Method 1 or 1A shall be used for velocity traverses.
- (5) Reference Method 2, 2A, 2C, or 2D shall be used for velocity and volumetric flow rates.
- (6) Reference Method 3 or 3A shall be used for O<sub>2</sub> or CO<sub>2</sub> analysis.
- (7) Reference Method 4 shall be used for stack gas moisture.
- (8) Reference Methods 2, 2A, 2C, 2D, 3, 3A, and 4 shall be performed, as applicable, at least twice during each test run.
- (9) Use of an adaptation or alternative to any of the methods specified in this rule shall be approved by the Technical Secretary and EPA on a case-by-case basis. An owner or operator shall submit sufficient documentation for the Technical Secretary and EPA to find that the analytical methods specified will yield inaccurate results and that the proposed adaptation or alternative is appropriate, or that the proposed adaptation or alternative will yield results as accurate as will the specified analytical methods.

**Authority:** T.C.A. §§ 4-5-202 and 68-201-105. **Administrative History:** Original rule filed March 8, 1993; effective April 22, 1993.

**1200-03-18-.85 TEST METHODS AND COMPLIANCE PROCEDURES: LEAK DETECTION METHODS FOR VOLATILE ORGANIC COMPOUNDS (VOC'S).**

- (1) Owners or operators required to carry out a leak detection monitoring program shall comply with the following requirements:
- (a) Monitoring shall be performed in accordance with Reference Method 21.
  - (b) The detection instrument shall meet the performance criteria of Reference Method 21.
  - (c) The detection instrument shall be calibrated before and after use on each day of its use by the methods specified in Reference Method 21. Failure to achieve a post-use

(Rule 1200-03-18-.85, continued)

calibration precision of less than 10 percent shall constitute grounds for rejecting all tests performed since the last pre-use calibration. In such cases, required leak tests must be reperformed.

- (d) Calibration gases shall be:
    - 1. Zero air (less than 10 parts per million [ppm] of hydrocarbon in air); and
    - 2. A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane.
  - (e) The detection instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Reference Method 21.
- (2) When equipment is tested for compliance with the requirement that there be no detectable emissions, the test shall comply with the following:
- (a) The requirements of Paragraph (1) of this rule shall apply and shall be met, and
  - (b) The background level shall be determined as set forth in Reference Method 21.
- (3) Leak detection tests shall be performed consistent with:
- (a) "APTI Course SI 417-Controlling Volatile Organic Compound Emissions from Leaking Process Equipment," EPA-450/2-82-015;
  - (b) "Portable Instrument User's Manual for Monitoring VOC Sources," EPA-340/1-86-015;
  - (c) "Protocols for Generating Unit--Specific Emission Estimates for Equipment Leaks of VOC and VHAP," EPA-450/3-88-010; and
  - (d) "Petroleum Refinery Enforcement Manual," EPA-340/1-90-008.
- (4) Use of an adaptation to any of the analytical methods specified in this rule shall be approved by the Technical Secretary and EPA on a case-by-case basis. An owner or operator shall submit sufficient documentation for the Technical Secretary and EPA to find that the analytical methods specified will yield inaccurate results and that the proposed adaptation is appropriate, or that the proposed adaptation will yield results as accurate as will the specified analytical methods.

**Authority:** T.C.A. §§ 4-5-202 and 68-201-105. **Administrative History:** Original rule filed March 8, 1993; effective April 22, 1993.

#### **1200-03-18-.86 PERFORMANCE SPECIFICATIONS FOR CONTINUOUS EMISSIONS MONITORING OF TOTAL HYDROCARBONS.**

- (1) Applicability of this rule is as follows:
- (a) This method applies to the measurement of total hydrocarbons as a surrogate measure for the total gaseous organic concentration of the combustion gas stream. The concentration is expressed in terms of propane.
  - (b) The use of gas conditioning, including cooling to between 4.4 and 18°C (40 and 64°F), and condensate traps to reduce the moisture content of the sample gas may be approved if the owner/operator:

(Rule 1200-03-18-.86, continued)

1. Successfully demonstrates to the Technical Secretary and the EPA that the use of such system is necessary for the specific application; and
  2. Includes in the demonstration a quantification of the total hydrocarbon concentration (THC) lost to the gas conditioning system.
- (2) Monitoring is by the principle that a gas sample is extracted from the source through a heated sample line and heated glass fiber filter to a flame ionization detector (FID). Results are reported as volume concentration equivalents of the propane.
- (3) For the purpose of this rule, the following definitions apply:
- (a) "Calibration drift" means the difference in the measurement system response to a mid-level calibration gas before and after a stated period of operation during which no unscheduled maintenance, repair, or adjustment took place.
  - (b) "Calibration error" means the difference between the gas concentration indicated by the measurement system and the known concentration of the calibration system.
  - (c) "Calibration gas" means a known concentration of a gas in an appropriate diluent gas.
  - (d) "Measurement system" means the total equipment required for the determination of the inlet and outlet gas concentrations, percent capture efficiency, and gas outlet emission rate. The system consists of the following major subsystems:
    1. Sample interface--the portion of the system that is used for one or more of the following:
      - (i) Sample acquisition;
      - (ii) Sample transportation;
      - (iii) Sample conditioning; or
      - (iv) Protection of the analyzer from the effects of the stack effluent;
    2. Organic analyzer--the portion of the system that senses organic concentration and generates an output proportional to the gas concentration;
    3. Data recorder--the portion of the system that records a permanent record of the measurement values; and
    4. Flow rate system--a gas volume meter meeting the requirements of Reference Method 2A, Section 2.1.
  - (e) "Response time" means the time interval from a step change in pollutant concentration at the inlet to the emission measurement system to the time at which 95 percent of the corresponding final value is reached as displayed on the recorder.
  - (f) "Span value" means, for most incinerators, a 50 parts per million (ppm) propane span. Higher span values may be necessary if propane emissions are significant. For convenience, the span value should correspond to 100 percent of the recorder scale.
  - (g) "Zero drift" means the difference in the measurement system response to a zero level calibration gas before and after a stated period of operation during which no unscheduled maintenance, repair, or adjustment took place.

(Rule 1200-03-18-.86, continued)

- (4) An acceptable measurement system includes a sample interface system, a calibration valve, gas filter and a pump preceding the analyzer. THC measurement systems are designated HOT or COLD systems based on the operating temperatures of the system. In HOT systems, all components in contact with the sample gas (probe, calibration valve, filter, and sample lines) as well as all parts of the flame ionization analyzer between the sample inlet and the FID must be maintained between 1500 to 1750C. This includes the sample pump if it is located on the inlet side of the FID. A condensate trap may be installed, if necessary, to prevent any condensate entering the FID. The essential components of the measurement system are as follows:
- (a) An FID capable of meeting or exceeding the specifications in this method.
  - (b) A sample probe as follows:
    - 1. Stainless steel, or equivalent, three-hole rake type. Sample holes shall be 4 millimeters (mm) (0.2 inches [in.] in diameter or smaller and located at 16.7, 50, and 83.3 percent of the equivalent stack diameter; or
    - 2. A single opening probe so that a gas sample is collected from the centrally located 10 percent area of the stack cross section.
  - (c) Stainless steel or Teflon tubing to transport the sample gas to the analyzer. The sample line from the heated probe shall be heated to between 150° and 175° C (302° and 347° F).
  - (d) A calibration valve assembly as follows:
    - 1. A heated three-way valve assembly to direct the zero and calibration gases to the analyzers; or
    - 2. Other methods, such as quick-connect lines, to route calibration gas to the analyzers.
  - (e) An in-stack or an out-of-stack glass fiber filter if exhaust gas particulate loading is significant. An out-of-stack filter must be heated.
  - (f) A strip-chart recorder, analog computer, or digital recorder for recording measurement data. The minimum data recording shall be one measurement value per minute.
- (5) Calibration gases and other gases shall be as follows:
- (a) Gases used for calibration, fuel, and combustion air shall be contained in compressed gas cylinders.
  - (b) Preparation of calibration gases shall be done according to the procedure in Protocol No. 1, listed in the reference in Subparagraph (12)(b) of this rule.
  - (c) The recommended shelf life for each calibration gas cylinder over which the concentration does not change more than  $\pm 2$  percent from the certified value shall be obtained from the cylinder manufacturer.
  - (d) The following calibration and other gases shall be used:



(Rule 1200-03-18-.86, continued)

1. As fuel, a 40 percent hydrogen and 60 percent helium or 40 percent hydrogen and 60 percent nitrogen gas mixture to avoid an oxygen synergism effect that reportedly occurs when oxygen concentration varies significantly from a mean value.
  2. As zero gas, high purity air with less than 0.1 parts per million by volume (ppmv) of organic material methane or carbon equivalent or less than 0.1 percent of the span value, whichever is greater.
  3. As low-level calibration gas, propane calibration gas (in air or nitrogen) with a concentration equivalent to 20 to 30 percent of the applicable span value.
  4. As mid-level calibration gas, propane calibration gas with a concentration equivalent to 45 to 55 percent of the applicable span value.
  5. As high-level calibration gas, propane calibration gas with a concentration equivalent to 80 to 90 percent of the applicable span value.
- (6) Measurement system performance specifications as follow apply:
- (a) Zero drift shall be less than  $\pm 3$  percent of the span value.
  - (b) Calibration drift shall be less than  $\pm 3$  percent of the span value.
  - (c) Calibration error shall be less than  $\pm 5$  percent of the calibration gas value.
- (7) Pretest preparations include the following:
- (a) Sampling site selection as follows:
    1. The location of the sampling site shall be determined from the applicable regulation or purpose of the test (i.e., exhaust stack, inlet line, etc).
    2. The sample port shall be located at least 1.5 meters (4.9 feet) or 2 equivalent diameters upstream of the gas discharge to the atmosphere.
  - (b) The sample probe must be installed so that the probe is centrally located in the stack, pipe or duct and is sealed tightly at the stack port connection.
  - (c) Prior to the emission test, the measurement system must be assembled following the manufacturer's written instructions in preparing the sample interface and the organic analyzer. The system must be operable.
  - (d) Calibration error test as follows:
    1. Immediately prior to the test series (within 2 hours of the start of the test), zero gas and high-level calibration gas shall be introduced at the calibration valve assembly.
    2. The analyzer output shall be adjusted to the appropriate levels, if necessary.
    3. The predicted response for the low-level and mid-level gases shall be calculated based on a linear response line between the zero and high-level responses.
    4. Low-level and mid-level calibration gases shall be introduced successively to the measurement system.

(Rule 1200-03-18-.86, continued)

5. The analyzer responses for low-level and mid-level calibration gases shall be recorded, and the differences between the measurement system responses and the predicted responses shall be determined. These differences must be less than  $\pm 5$  percent of the respective calibration gas value. If not, the measurement system shall be deemed not acceptable and must be replaced or repaired prior to testing. No adjustments to the measurement system shall be conducted after the calibration and before the drift determination found in Paragraph (8)(b) of this section.
  6. If adjustments are necessary before the completion of the test series, the drift checks shall be performed prior to the required adjustments, and the calibration following the adjustments shall be repeated.
  7. If multiple electronic ranges are to be used, each additional range must be checked with a mid-level calibration gas to verify the multiplication factor.
- (e) Response time test as follows:
1. Zero gas shall be introduced into the measurement system at the calibration valve assembly.
  2. When the system output has stabilized, the owner or operator shall switch quickly to the high-level calibration gas.
  3. The time shall be recorded from the concentration change to the measurement system response equivalent to 95 percent of the step change.
  4. The test shall be repeated three times and the results averaged.
- (8) Emission measurement test procedure includes the following:
- (a) Organic measurement as follows:
1. Sampling shall begin at the start of the test period.
  2. Time and any required process information shall be recorded, as appropriate.
  3. Periods of process interruption or cyclic operation shall be noted on the recording chart.
- (b) Drift determination as follows:
1. Immediately following the completion of the test period and hourly during the test period, the zero and mid-level calibration gases shall be introduced, one at a time, to the measurement system at the calibration valve assembly. No adjustments to the measurement system shall be made until after both the zero and calibration drift checks are made.
  2. The analyzer response shall be recorded.
  3. If the drift values exceed the specified limits, the test results shall be invalidated preceding the check, and the test shall be repeated following corrections to the measurement system.

(Rule 1200-03-18-.86, continued)

4. Alternatively, the test measurement system may be recalibrated as in Subparagraph (7)(d) of this rule and the results reported using both sets of calibration data (i.e., data determined prior to the test period and data determined following the test period).
- (9) The average organic concentration shall be determined in terms of ppmv propane by the integration of the output recording over the period specified in the applicable regulation.
  - (10) Quality assurance includes the following:
    - (a) The owner or operator shall assure proper calibration, maintenance, and operation of the continuous emissions monitoring system on a continual basis.
    - (b) The owner or operator shall establish a quality assurance program to evaluate and monitor performance on a continual basis. The following checks shall routinely be done:
      1. A daily calibration check for each monitor. The calibration shall be adjusted if the check indicates the instrument's calibration drift exceeds the specification established in Paragraph (6) of this rule;
      2. A daily system audit which includes the following:
        - (i) A review of the calibration check data;
        - (ii) An inspection of the recording system;
        - (iii) An inspection of the control panel warning lights; and
        - (iv) An inspection of the sample transport/interface system (e.g., flowmeters, filters), as appropriate.
      3. A quarterly calibration error test at the span midpoint; and
      4. The entire performance specification test repeated every second year.
  - (11) Reporting of total hydrocarbon levels shall be as follows:
    - (a) The total hydrocarbon concentration (THC) levels from the initial compliance certification test shall be reported as ppm propane for inlet and outlet concentrations and as a percent reduction across the control device.
    - (b) THC levels shall be expressed in milligrams per second (mg/sec) (pounds per second [lb/sec]).
    - (c) This conversion shall be accomplished using the following equation:
 
$$\text{THC, mg/sec} = (\text{THC ppm propane}) \times (\text{stack gas flow}) \times 5.183 \times 10^{-2}$$
 where:
 

THC ppm propane = The total hydrocarbon concentration as actually measured by this method in ppm propane at the inlet or outlet.

Stack gas flow = Measured in dry standard cubic feet per second as determined by the flowmeter system or Reference Methods 2 and 4.

(Rule 1200-03-18-.86, continued)

$5.183 \times 10^{-2}$  = Constant to account for the conversion of units.

- (12) References as follow are applicable for this rule:
- (a) Measurement of Volatile Organic Compounds--Guideline Series. U.S. Environmental Protection Agency, Research Triangle Park, North Carolina. Publication No. EPA-450/2-78-041. June 1978. p. 46-54.
  - (b) Traceability Protocol for Establishing True Concentrations of Gases Used for Calibration and Audits of Continuous Source Emission Monitors (Protocol No. 1). U.S. Environmental Protection Agency, Environmental Monitoring and Support Laboratory. Research Triangle Park, North Carolina. June 1973.
  - (c) Gasoline Vapor Emission Laboratory Evaluation--Part 2. U.S. Environmental Protection Agency. Office of Air Quality Planning and Standards. Research Triangle Park, North Carolina. EMB Report No. 75-GAS-6. August 1975.
  - (d) Appendix D: Performance Specifications for Continuous Emissions Monitoring of Total Hydrocarbons in Hazardous Waste Incinerators, Boilers and Industrial Furnaces. Federal Register. 54:206 pp. 43743-43745. October 26, 1989.
- (13) Use of an adaptation to any of the requirements specified in this rule shall be approved by the Technical Secretary and EPA case-by-case. An owner or operator shall submit sufficient documentation for the Technical Secretary and EPA to find that the specified requirements will yield inaccurate results and that the proposed adaptation is appropriate, or that the proposed adaptation will yield results as accurate as will the specified requirements.

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-201-105. **Administrative History:** Original rule filed March 8, 1993; effective April 22, 1993. Amendment filed May 30, 1996; effective August 10, 1996.

#### **1200-03-18-.87 QUALITY CONTROL PROCEDURES FOR CONTINUOUS EMISSION MONITORING SYSTEMS (CEMS).**

- (1) Each owner or operator of a CEMS shall develop and implement a CEMS QC program. At a minimum, each QC program shall include written procedures that describe in detail step-by-step procedures and operations for each of the following:
- (a) Initial and routine periodic calibration of the CEMS.
  - (b) Calibration drift (CD) determination and adjustment of the CEMS.
  - (c) Preventative maintenance of the CEMS (including spare parts inventory).
  - (d) Data recording, calculations, and reporting.
  - (e) Accuracy audit procedures including sampling and analysis methods.
  - (f) Program of corrective action for malfunctioning CEMS.
- (2) Out-of-control conditions are as follows:
- (a) If either the zero (or low-level) or high-level CD exceeds twice the applicable drift specification in 40 C.F.R. Part 60, Appendix B, as of July 1, 1991, for five consecutive daily periods, the CEMS is out-of-control.

(Rule 1200-03-18-.87, continued)

- (b) If either the zero (or low-level) or high-level CD exceeds four times the applicable drift specification in 40 C.F.R. Part 60, Appendix B, as of July 1, 1991, during any CD check, the CEMS is out-of-control.
  - (c) If the CEMS fails a performance audit (PA), the CEMS is out-of-control, and the owner or operator shall take necessary corrective action to eliminate the problem. Following the corrective action, the source owner or operator shall reconduct the appropriate failed portion of the audit and other applicable portions to determine whether the monitoring system is operating properly and within specifications. Monitoring data obtained during any out-of-control period may not be used for compliance determination or to meet any data capture requirements; however, the data can be used for identifying periods when there has been a failure to meet quality assurance/quality control criteria.
- (3) Out-of-control time periods determination shall be as follows:
- (a) The beginning of the out-of-control period is:
    - 1. The time corresponding to the completion of the fifth consecutive daily CD check with CD in excess of two times the allowable limit, or
    - 2. The time corresponding to completion of the daily CD check preceding the daily CD check that results in a CD in excess of four times the allowable limit.
  - (b) The end of the out-of-control period is the time corresponding to the completion of the CD check following corrective action that results in the CD's at both the zero (or low-level) and high-level measurement points being within the corresponding allowable CD limit (i.e., either two times or four times the allowable limit in 40 C.F.R. Part 60, Appendix B, as of July 1, 1991).
  - (c) If the CEMS failed a PA, the beginning of the out-of-control period is the time corresponding to the completion of the failed audit test. The end of the out-of-control period is the time corresponding to a successful retest of the PA sample.
- (4) The owner or operator shall keep the QC procedure described in Paragraph (1) of this rule in a readily accessible location for at least 3 years and shall make the procedure available to the Technical Secretary upon request.
- (5) Upon request, the owner or operator shall submit to the Technical Secretary a copy of all information and records documenting out-of-control periods including beginning and end dates and descriptions of corrective actions taken.
- (6) Use of an adaptation to any of the requirements specified in this rule shall be approved by the Technical Secretary and EPA case-by-case. An owner or operator shall submit sufficient documentation for the Technical Secretary and EPA to find that the specified requirements are inappropriate and that the proposed adaptation is appropriate.

**Authority:** T.C.A. §§ 4-5-202 and 68-201-105. **Administrative History:** Original rule filed March 8, 1993; effective April 22, 1993.

**1200-03-18-.88 THROUGH 1200-03-18-.99 RESERVED.**

**RULES  
OF  
THE TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
DIVISION OF AIR POLLUTION CONTROL**

**CHAPTER 1200-03-19**

**EMISSION STANDARDS AND MONITORING REQUIREMENTS  
FOR ADDITIONAL CONTROL AREAS**

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**1200-03-19-.01 PURPOSE.**

It is the purpose of this chapter to establish specific emission standards for existing air contaminant sources located in or significantly impacting upon an additional control area with the state of Tennessee. The emissions standards established in this chapter will apply to those air contaminant sources specifically identified in addition to the standards contained in other chapters of division 1200-03 of the Tennessee Air Pollution Control Regulations and any local regulations. An additional control area as used in this chapter is an area which was identified at sometime by the Tennessee Air Pollution Control Board as not meeting an ambient air quality standard. This area by design will eventually meet the ambient air quality standards because of the additional controls required in this chapter.

**Authority:** T.C.A. §§ 4-5-202, et seq. and 68-25-105. **Administrative History:** Original rule filed March 8, 1979; effective April 23, 1979. Amendment filed September 22, 1988; effective November 6, 1988.

**1200-03-19-.02 GENERAL REQUIREMENTS.**

No person shall cause, suffer, allow or permit emissions in excess of the standards set for each company, emission point, and/or source specified in the remaining rules of this chapter 1200-03-19.

**Authority:** T.C.A. §§ 4-5-202, et seq. and 68-25-105. **Administrative History:** Original rule filed March 8, 1979; effective April 23, 1979. Amendment filed September 22, 1988; effective November 6, 1988.

**1200-03-19-.03 PARTICULATE AND SULFUR DIOXIDE ADDITIONAL CONTROL AREAS WITHIN TENNESSEE.**

- (1) Particulate Additional Control Areas

(Rule 1200-03-19-.03, continued)

- (a) Bristol Additional Control Areas - (Sullivan County) bounded by Virginia Avenue on the west, Lakeview on the north, Georgia Avenue on the east and Beachwood on the south.
- (b) La Follette Additional Control Area - (Campbell County) - Area bounded on the north by Prospect Street, on the south by Elm Street, the west by West Street and South Avenue and on the east by Cumberland Avenue.
- (c) (RESERVED).
- (d) (RESERVED).
- (e) Jacksboro Additional Control Area - (Campbell County) - Area bounded by the fence along the property line of the Carborundum Company.
- (f) Kingsport Additional Control Area - (Sullivan County) - Area bounded by the South Fork of the Holston River on the south side, Wilcox Drive on the eastern side, East Sullivan Street on the northeast and West Sullivan Street on the northwest.
- (g) (RESERVED).
- (h) Nashville Additional Control Areas - (Davidson County)
  - 1. Area bounded by I-65 on the north, I-40 on the west and I-40/I-65 on the south.
  - 2. Area bounded by 44th Avenue North extended to the Cumberland River on the east, I-40 on the south, Morrow Road to 63rd Avenue extended to the Cumberland River on the west, and the Cumberland River on the north.
- (i) (RESERVED).
- (j) Chattanooga Additional Control Area - (Hamilton County) - Area beginning at a point, said point being the original beginning point of the composite description of the corporate limits of the City of Chattanooga, Hamilton County, Tennessee, as of September 28, 1967, described thus; proceed from a point on the line between Townships 2 and 3, Range 4, west of the Basis Line, Ocoee District, where said line crosses the low water mark on the east side of the Tennessee River at this point, thence proceed down the said river on said low water mark to a point one hundred feet (100') westwardly from the low water mark of Chattanooga Creek. This last designated point in the low water mark of the existing south side of the Tennessee River, being designated as the point of beginning of the above-name corporate limits description and the beginning point of the additional control area. Thence, proceed south following the corporate city limits of Chattanooga as defined in the composite description of September 28, 1967, to the State Line between Tennessee and Georgia; thence eastwardly with said State Line to a point of intersection with the center line of Waheela Street, from said point in a generally north direction to South Crest Road, thence in a generally north, northeast direction to North Crest Road, thence in a generally north, northeast direction to a point of intersection, said point of intersection being North Crest Road and Campbell Street, thence in a generally northwest direction to Glass Street, thence in a generally west, and then southwest direction to the intersection of Glass Street with Roanoke Avenue, thence in a generally south direction along Roanoke Avenue to the intersection of Roanoke Avenue with the intersection of Sherman Street, thence in a generally west direction to the intersection of Sherman Street with Hawthorne, thence in a generally north direction along Hawthorne to its intersection with Sholar Avenue, thence follow the Sholar Avenue loop north and then west through

(Rule 1200-03-19-.03, continued)

the Boone Hysinger Homes subdivision, proceed along the center line of Sholar Avenue to its nearest point to the southernmost corner of the apartment at 2001 Sholar Avenue, Boone Hysinger Homes subdivision (near the railroad tracks); from said point at 2001 Sholar Avenue, Boone Hysinger Homes subdivision, proceed generally in a northwest direction as if a line were extended from said point across the Southern Railroad tracks to a point, said point being the intersection of the center lines of Riverside Drive and Elena Drive, thence proceed in a generally northwest and then north direction along the center line of Elena Drive to Queen's Drive, thence in a generally west and then north direction along Queen's Drive to its intersection with Crutchfield Street, thence in a generally west direction continue along Crutchfield Street to its intersection with Amnicola Highway, thence in a generally west direction as if a line were extended from said point across the Tennessee River to the intersection of the center lines of Hillcrest Road and Lexington Street, thence in a generally northwest direction along Lexington Street to Falmouth Street, thence in a generally south, southwest direction along Falmouth Street to Hixson Pike, thence in a generally south direction along Hixson Pike to Tremont Street, thence in a generally northwest direction and then a southwest direction along Tremont street to Mississippi Avenue, thence in a generally northwest and then southwest direction along Mississippi Avenue to Forrest Street, thence in a generally south direction along Forrest Street to Sylvan Street, thence in a generally northwest direction along Sylvan Street to Dallas Road, thence in a generally southwest direction along Dallas Road to North Market Street, thence in a southward direction along North Market Street to Chambliss Street, thence in a generally west direction along Chambliss Street to Pine Ridge Trail, thence in a generally west direction along Pine Ridge Trail to Gurley Street, thence in a generally southward direction along Gurley Street to Cherokee Boulevard, thence in a generally northwest direction to East Elmwood Drive with Beason Drive crossing the railroad tracks to West Elmwood Drive, thence in a generally south direction along West Elmwood Drive to Pineville Road, thence in a generally south direction along West Elmwood Drive to Pineville Road, thence in a generally south direction along Pineville Road to Moccasin Bend Road to its end at the Hospital Loop, thence in a generally south direction as if a line were extended across the Hospital property and the Tennessee River to the original point of beginning, which is at the low water mark of the existing south side of the Tennessee River as described above.

(k) Memphis Additional Control Areas - (Shelby County)

1. Area bounded by I-55 on the north, eastern boundary proceeding south along I-55 where the axis of I-55 (if extended) would intersect Nonconnah Creek. The southern boundary being Nonconnah Creek to where Nonconnah Creek enters McKellar Lake then west to where the axis of Wharf Street would intersect Harbor Channel, west on Wharf Street to Harbor Avenue. The western boundary being Harbor Avenue north to Jack Carley Causeway then due north to the Mississippi River, then along the Mississippi River to I-55.
2. (RESERVED).

(2) Sulfur Dioxide - Additional Control Area

- (a) Copper Basin Additional Control Areas - (Polk County) - Area is bounded on the south by the Georgia state line and on the east by the North Carolina state line. The northern boundary consists of Brush Creek and a line extending between the origin of Brush Creek and the North Carolina state line. The western boundary consists of the portion of Brush Creek which runs southward into the Ocoee River, a portion of the Ocoee River between the mouths of Brush and Grassy Creeks, and Grassy Creek southward to the Georgia state line.



(Rule 1200-03-19-.03, continued)

- (b) New Johnsonville Additional Control Area - (Humphreys and Benton Counties) - Area bounded by I-40 on the south, from I-40 north on Highway 69 bounding the west to the intersection with Highway 69A to the town of Big Sandy where 69A becomes Main Street, north on Main Street until it intersects the L & N Railroad, the railroad on the north to the Tennessee River, south on the river to Richland Creek, east on Richland Creek to Highway 13 which bounds the east and then south back to I-40.

**Authority:** T.C.A. §§ 4-5-202, et seq. and 68-25-105. **Administrative History:** Original rule filed March 8, 1979; effective April 23, 1979. Amendment filed July 13, 1979; effective October 10, 1979. Amendment filed July 21, 1980; effective September 4, 1980. Amendment filed June 9, 1981; effective July 24, 1981. Amendment filed December 8, 1981; effective January 22, 1982. Amendment filed May 25, 1982; effective July 9, 1982. Amendment filed January 19, 1983; effective February 18, 1983. Amendment filed January 31, 1983; effective March 2, 1983. Amendment filed September 22, 1988; effective November 6, 1988.

#### **1200-03-19-.04 (RESERVED).**

#### **1200-03-19-.05 OPERATING PERMITS AND EMISSION LIMITING CONDITIONS.**

- (1) All operating permits for sources in or significantly impacting on particulate matter additional control areas except Bristol, Bull Run, Odom's Bend, Jacksboro, LaFollette, and Columbia shall expire three months after February 14, 1980. For sources within local government jurisdictions presently regulating the sources under a certificate of exemption any operating permit of the local government shall be deemed to have expired three months after the suspension of the certificate of exemption.
- (2) The Technical Secretary shall specify on the operating permits for all sources whose permits are affected by paragraph (1) above as permit conditions the emission level that is reasonably available control technology (RACT) and reasonable limitations on operating hours as necessary to achieve and maintain ambient air quality standards as specified in Chapter 1200-03-03. It is for purposes of this rule to be considered necessary that there be some room for growth. The RACT specifications will include specific emissions limits (one hour average basis or shorter time interval basis if so specified).
- (3) Any source may operate more than the hours that would be specified under paragraph (2) above or any other rule of this chapter by agreeing to reduce emissions proportionally from the RACT allowable emission rate such that no increase in emissions occur on either a twenty-four hour basis or an annual basis. This may only be done after the owner or operator has applied for and obtained a new operating permit with revised operating hour specifications and emission rates for each emission point.
- (4) To increase the operating hours or make other modifications without a proportional decrease in emissions, a source which has enforceable limitations on a RACT permit must apply for a construction permit. Upon issuance of said construction permit the RACT permit will be deleted from the State Implementation Plan.

**Authority:** T.C.A. §§ 4-5-202, et seq. and 68-25-105. **Administrative History:** Original rule filed December 31, 1979; effective February 14, 1980. Amendment filed April 30, 1987; effective June 4, 1987. Amendment filed September 22, 1988; effective November 6, 1988.

#### **1200-03-19-.06 LOGS FOR OPERATING HOURS.**

The owner or operator of any air contaminant sources with operative hours limited by a rule of this chapter must keep a running log, showing the hours of operation of each such source with time of each

(Rule 1200-03-19-.06, continued)

startup and shutdown indicated. This log must be available for inspection by the Technical Secretary or his representative at all times and a copy must be maintained for at least two full calendar years. The total operating hours for each such source for each calendar year must be reported to the Technical Secretary on or before January 31 of the following year. This report shall also include most hours operated in any one day during the calendar year if there is an hours per day restriction.

**Authority:** T.C.A. §§ 4-5-202, et seq. and 68-25-105. **Administrative History:** Original rule filed December 31, 1979; effective February 14, 1980. Amendment filed September 22, 1988; effective November 6, 1988.

**1200-03-19-.07 THROUGH 1200-03-19-.10 (RESERVED).**

**1200-03-19-.11 PARTICULATE MATTER EMISSION REGULATIONS FOR THE BRISTOL ADDITIONAL CONTROL AREA.**

- (1) Visible Emission Standards for Air Contaminants Sources in Operation Prior to January 1, 1978
  - (a) No person shall cause, suffer, allow or permit discharge of a visible emission from any stack with an opacity in excess of ten (10) percent for an aggregate of more than five (5) minutes in any one (1) hour or more than twenty (20) minutes in any twenty-four (24) hour period.
  - (b) No person shall cause, suffer, allow or permit discharge of a visible emission from any fugitive dust source with an opacity in excess of ten (10) percent on a 15 minute average except as provided in 1200-03-19-.11(3).
  - (c) Specific Visible Emission Standards for Air Contaminant Sources in Operation Prior to January 1, 1978.
    1. Wood Fired Boilers
      - (i) This part applies to units with a heat input greater than one (1) million Btu per hour.
      - (ii) The units shall not discharge visible emissions with an opacity in excess of twenty (20) percent for an aggregate of more than five (5) minutes in any one (1) hour or more than twenty (20) minutes in any twenty-four (24) hour period.
    2. Wood Working Cyclones

Cyclone exhausts shall not discharge any gases with an opacity in excess of fifteen (15) percent for an aggregate of more than five (5) minutes in any one (1) hour or more than twenty (20) minutes in any twenty-four (24) hour period.
    3. Traffic and Wind Emissions from Roadways and General Grounds of Plants

No person shall cause, suffer, allow or permit discharge of a visible emission with an opacity in excess of five (5) percent on a fifteen (15) minute average except as provided in 1200-03-19-.11(3).
- (2) Particulate Emission Standards for Air Contaminant Sources in Operation Prior to January 1, 1978.

(Rule 1200-03-19-.11, continued)

(a) Wood Fired Boilers

1. This subparagraph applies to units with a heat input greater than one (1) million Btu per hour.
2. No owner or operator subject to the provisions of this subparagraph shall discharge or cause the discharge into the atmosphere from any affected facility particulate matter in excess of 0.55 pounds per million Btu of heat input not to exceed 7.7 pounds per hour.

(b) Cyclones on Wood Working Operations

No owner or operator shall discharge or cause the discharge into the atmosphere from cyclone exhausts any gases which contain particulate matter in excess of 0.02 gr/dscf not to exceed 5.0 pounds per hour.

(c) Fabric Filter Collectors (Baghouses) on Wood Working Operations

No owner or operator shall discharge or cause the discharge into the atmosphere from baghouse exhausts particulate emissions in excess of 0.1 pounds per hour.

(3) Compliance Schedules for Particulate Matter Air Contaminant Sources in or Significantly Impacting the Bristol Additional Control Area

- (a) The owner or operator of an air contaminant source of particulate fugitive dust emissions subject to the standards in this rule proposing utilization of new and/or additional control techniques shall achieve final compliance by December 31, 1979. Final compliance shall be determined in accordance with the method(s) specified by the Technical Secretary.
- (b) (RESERVED).

**Authority:** T.C.A. §§ 4-5-202, et seq. and 68-25-105. **Administrative History:** Original rule filed October 26, 1979; effective December 10, 1979. Amendment filed April 15, 1987; effective May 30, 1987. Amendment filed September 22, 1988; effective November 6, 1988.

**1200-03-19-.12 PARTICULATE MATTER EMISSION REGULATIONS FOR AIR CONTAMINANT SOURCES IN OR SIGNIFICANTLY IMPACTING THE PARTICULATE ADDITIONAL CONTROL AREAS IN CAMPBELL COUNTY.**

- (1) Visible Emission Standards for Air Contaminant Sources in Operation Prior to January 1, 1978.
  - (a) No person shall cause, suffer, allow or permit discharge of a visible emission from any stack with an opacity in excess of ten (10) percent for an aggregate of more than five (5) minutes in any one (1) hour or more than twenty (20) minutes in any twenty-four (24) hour period except as provided in 1200-03-19-.12(4).
  - (b) No person shall cause, suffer, allow or permit discharge of a visible emission from any fugitive dust source with an opacity in excess of ten (10) percent on an 15 minute average except as provided in 1200-03-19-.12(4).
  - (c) Specific Visible Emission Standards for Air Contaminant Sources in Operation Prior to January 1, 1978.

(Rule 1200-03-19-.12, continued)

1. Limestone Aggregate Plants.

Primary and secondary crushing, screening, and conveying of limestone shall not exceed 15% on a 15 minute average.

2. Coal Fired Boiler Units.

(i) This part applies to units with a heat input greater than one (1) million Btu per hour.

(ii) The units shall not discharge visible emissions with an opacity in excess of twenty (20) percent for an aggregate of more than five (5) minutes in any one (1) hour or more than twenty (20) minutes in any twenty-four (24) hour period.

3. Hot Mix Asphalt Plants.

These plants shall not discharge visible emissions with an opacity in excess of twenty (20) percent for an aggregate of more than five (5) minutes in any one (1) hour or more than twenty (20) minutes in any twenty-four (24) hour period.

4. Traffic and Wind Emissions from Roadways and General Ground of Plants.

No person shall cause, suffer, allow or permit discharge of a visible emission with an opacity in excess of five (5) percent on a fifteen (15) minute average except as provided in 1200-03-19-.12(4).

(2) Particulate Emission Standards for Air Contaminant Sources in Operation Prior to January 1, 1978.

(a) Hot Mix Asphalt Plant

No owner or operator shall discharge or cause the discharge into the atmosphere from any affected plant any gases which contain particulate matter in excess of 0.06 gr/dscf except as provided in 1200-03-19-.12(4).

(b) Limestone Aggregate Plants

No owner or operator shall discharge or cause the discharge into the atmosphere from limestone rock tertiary crushing and screening, and agriculture lime crushing and screening any gases which contain particulate matter in excess of 0.16 gr/dscf.

(c) Feed and Grain Mills

No owner or operator shall discharge or cause the discharge from any stack any gases which contain particulate matter in excess of 0.02 gr/dscf.

(d) Concrete Block Plants

No owner or operator shall discharge into the atmosphere from any stack any gases which contain particulate matter in excess of 0.03 gr/dscf except as provided in 1200-03-19-.12(4).

(e) Coal Fired Boiler Units

(Rule 1200-03-19-.12, continued)

1. No owner or operator subject to the provisions of this subparagraph shall discharge or cause the discharge into the atmosphere from any affected facility particulate matter in excess of 0.4 pounds per million Btu of heat input.
2. This subparagraph applies to units with a heat input greater than one (1) million Btu per hour.

(f) Oil Fired Boiler Units

1. No owner or operator subject to the provisions of this subparagraph shall discharge or cause the discharge into the atmosphere from any affected facility particulate matter in excess of 0.015 pounds per million Btu of heat input.
2. This subparagraph applies to units with a heat input greater than one (1) million Btu per hour.

(g) (RESERVED).

(3) Limitation of Operating Hours

- (a) No owner or operators shall operate any particulate matter air contaminant source subject to the regulations set forth in paragraph 1200-03-19-.12(1) and (2) in excess of the specified limit on operating hours contained in Table I.

Table I  
Limitation of Operating Hours

| <u>Air Contaminant Source</u>  | <u>Operating Schedule</u>    |
|--|------------------------------|
| Grain Crushing and Feed Mixing   | 3000 HRS./YR.                |
| Boilers at Dry Cleaners and Laundries  | 3000 HRS./YR.                |
| Boilers at Schools   | 2000 HRS./YR.                |
| Boilers at Churches  | 7000 HRS./YR.                |
| Hot Mix Asphalt Plants   | 2500 HRS./YR.                |
| Concrete Block Plants  | 3000 HRS./YR.                |
| Limestone crushing, screening, conveying and handling facilities with a design capacity greater than 750 tons per hour   | 2500 HRS./YR.<br>16 HRS./DAY |
| Limestone crushing, screening, conveying, and handling facilities with a design capacity less than 250 tons per hour.  | 2100 HRS./YR.                |
| Limestone crushing, screening, conveying and handling facilities with a design capacity less than or equal to 750 tons per hour and greater than or equal to 250 tons per hour | 10 HRS./DAY<br>3210 HRS./YR. |

- (b) The owner or operator of an air contaminant source with restricted operating hours must maintain a daily log of operating hours and keep it available for inspection by Division personnel on request for at least one year after the end of any calendar year included in the log. The owner or operator shall submit by letter on or before January

(Rule 1200-03-19-.12, continued)

31 of each year the total hours of operation for the previous calendar year and/or the maximum daily operation for said calendar year.

- (4) Compliance Schedules for Particulate Matter Air Contaminant Sources in or Significantly Impacting the Particulate Additional Control Area in Campbell County
  - (a) The owner or operator of an air contaminant source of particulate fugitive dust emissions subject to the standards in this rule proposing utilization of new and/or additional control techniques shall achieve final compliance by December 31, 1979. Final compliance shall be determined in accordance with the method(s) specified by the Technical Secretary.
  - (b) No owner or operator shall cause, suffer, allow, or permit discharge of particulate matter emissions from any stack in excess of the standards in this rule after December 31, 1979. Final compliance shall be determined in accordance with the method(s) specified by the Technical Secretary.
  - (c) Specific Compliance Schedules
    1. Owners or operators of hot mix asphalt plants are required to have air contaminant sources achieve final compliance with the standards in this rule by July 1, 1979.
    2. Owners or operators of concrete block manufacturing plants are required to have air contaminant sources achieve final compliance with the standards in this rule by July 1, 1979.

**Authority:** T.C.A. §§ 4-5-202, et seq. and 68-25-105. **Administrative History:** Original rule filed October 26, 1979; effective December 10, 1979. Amendment filed April 15, 1987; effective May 30, 1987. Amendment filed September 22, 1988; effective November 6, 1988.

**1200-03-19-.13 PARTICULATE MATTER EMISSION REGULATIONS FOR THE BULL RUN ADDITIONAL CONTROL AREA AND ODOMS BEND ADDITIONAL CONTROL AREA.**

- (1) All particulate matter emission sources in operation prior to January 1, 1978 which are in and significantly impact on these additional control areas are subject to the general requirements as found in the Air Pollution Control Rules and Regulations of the State of Tennessee for sources in unclassified and attainment areas.

**Authority:** T.C.A. §§ 4-5-202, et seq. and 68-25-105. **Administrative History:** Original rule filed October 26, 1979; effective December 10, 1979. Amendment filed September 22, 1988; effective November 6, 1988.

**1200-03-19-.14 SULFUR DIOXIDE EMISSION REGULATIONS FOR THE NEW JOHNSONVILLE ADDITIONAL CONTROL AREA.**

- (1) Sulfur Dioxide Emission Standards for Air Contaminant Sources in operation prior to January 1, 1981.
  - (a) Definitions
    1. Titanium dioxide manufacturing plant is a pigment manufacturing plant.
    2. Neutral sulfite semi-chemical corrugating medium mill is a paper plant making a corrugating medium using a pulping process.

(Rule 1200-03-19-.14, continued)

3. Electrolytic manganese production plant is a plant producing manganese by electrolysis.
4. Hot mix asphalt plant is a plant producing a paving material consisting of a combination of aggregate that has been dried, heated, and then evenly coated with hot mix asphalt.
5. Sand or clay dryer is a kiln used to dry sand or clay.
6. Wood refuse boiler means a furnace or a boiler used in the process of burning wood refuse for the purpose of producing steam by heat transfer.

(b) Fuel burning installations

Fuel burning sources located in or significantly impacting on the New Johnsonville additional control area shall be regulated in the following manner.

1. Coal fired fuel burning installations with a heat input less than 1000 million btu per hour, shall not discharge sulfur dioxide in excess of 5.0 pounds per million btu of heat input.
2. Coal fired fuel burning installations with a heat input more than or equal to 1000 million btu per hour, shall not discharge sulfur dioxide in excess of 3.4 pounds per million btu of heat input, 24 hour average as covered in Chapter 1200-03-14-.02(1)(d).
3. Electric generating turbines shall not discharge sulfur dioxide in excess of 0.8 pound per million btu of heat input.
4. The sulfur dioxide emissions from wood refuse boilers shall be 90% controlled and less than 0.8 pounds per million btu of heat input.
5. The fuel burning installations using natural gas or propane or fuel oil as fuel shall not discharge sulfur dioxide in excess of 0.51 pounds per million btu of heat input.

(c) Process emission sources

Process emission sources located in or significantly impacting on the New Johnsonville additional control area shall emit no emission in excess of the following:

- |  |        |
|--|--------|
| 1. Hot Mix Asphalt Plants -              | 800ppm |
| 2. Sand or clay dryers -                 | 300ppm |
| 3. Titanium dioxide manufacturing plants |        |
| (i) Reaction stacks -                    | 800ppm |
| (ii) Spray dryers -                      | 300ppm |
| (iii) Ore roasters -                     | 300ppm |
| (iv) Screen dryers -                     | 300ppm |

(Rule 1200-03-19-.14, continued)

- |        |  |              |
|--------|--|--------------|
| (v)    | Scrubs kiln -  | 300ppm       |
| (vi)   | Gas fired heaters -  | 300ppm       |
| (vii)  | Slurry filter vents -  | 100ppm       |
| (viii) | TiC1 <sub>4</sub> purification process   | 100ppm       |
| (viii) | Wet treatment operation  | 10ppm        |
| 4.     | Pathological incinerators -  | 1 pound/hour |
| 5.     | Gray iron foundries  |              |
|        | Induction furnaces -   | 100ppm       |
|        | Preheaters -   | 100ppm       |
|        | Heat treat ovens -   | 100ppm       |
| 6.     | Electrolytic manganese production plants   |              |
| (i)    | Reduction furnaces -<br>for manganese ores   | 350ppm       |
| (ii)   | All other process -<br>emission sources  | 100ppm       |
| 7.     | Neutral sulfite semi-chemical corrugating<br>medium mills  |              |
| (i)    | Cooking liquor system  | 300ppm       |
| (ii)   | Blowtank exhaust   | 300ppm       |
| (iii)  | Digester vent  | 300ppm       |
| (iv)   | The process emissions sources not given a specific standard above shall<br>emit no emissions in excess of 100ppm.  |              |
| 8.     | Primary aluminum reduction plants  |              |
| (i)    | All operating permits for primary aluminum reduction potlines shall expire<br>on the rule certified date of 1200-03-19-.14(1)(c)8.   |              |
| (ii)   | The Technical Secretary shall specify on the operating permit for the<br>sources affected by subpart 8 (i) above as a permit condition the maximum<br>sulfur content of the carbon electrodes which may be used. This percent by<br>weight of sulfur shall not exceed 6.0 and shall be less than that value<br>necessary to assure compliance with the primary SO <sub>2</sub> ambient standards<br>after December 31, 1982 and the secondary SO <sub>2</sub> ambient standard after<br>December 31, 1987. |              |
| (iii)  | The Technical Secretary shall specify as a condition of the operating<br>permit for the sources affected by subpart 8 (i) above a compliance   |              |



(Rule 1200-03-19-.14, continued)

schedule assuring attainment of the secondary standard by December 31, 1987 and the primary standard by December 31, 1982.

- (iv) The sulfur dioxide emissions from melting and holding furnaces shall not exceed 0.51 pounds per million btu of heat input.

**Authority:** T.C.A. §§ 4-5-202, et seq. and 68-25-105. **Administrative History:** Original rule filed October 26, 1979; effective December 10, 1979. Repealed and new rule filed November 17, 1982; effective December 17, 1982. Amendment filed September 22, 1988; effective November 6, 1988.

**1200-03-19-.15 (RESERVED).**

**Authority:** T.C.A. §§ 4-5-202, et seq. and 68-25-105. **Administrative History:** Original rule filed October 26, 1979; effective December 10, 1979. Repealed and new rule filed November 17, 1982; effective December 17, 1982. Amendment filed September 22, 1988; effective November 6, 1988.

**1200-03-19-.16 THROUGH 1200-03-19.18 (RESERVED).**

**1200-03-19-.19 SULFUR DIOXIDE REGULATIONS FOR THE COPPER BASIN ADDITIONAL CONTROL AREA.**

- (1) Process emission sources located in or significantly impacting on the Copper Basin Additional Control Area shall emit no emissions in excess of the following where each value is a three hour average on a dry basis of parts per million sulfur dioxide by volume:
  - (a) Reserved
  - (b) Liquid Sulfur Dioxide Plants 375 PPM
  - (c) Organic Chemical Plants 50 PPM
  - (d) Reserved
  - (e) Reserved

Where the general test methods specified in other chapters of these regulations cannot physically be applied to determine emissions from a particulate source, then it shall be tested in accordance with the method specified by the Technical Secretary, considering testing cost and achieving a reliable measure of the true emissions.

- (2) (a) During startup and shutdown of process emission sources as indicated in this paragraph, the sources indicated may operate in excess of the standards in paragraph (1). Maximum allowable emissions for these processes at these times are as indicated in Table 1. Where malfunctions occur which are beyond the control of the source operator and the emission levels exceed the allowable standards as stipulated in Table 1 of this paragraph, then these cases will be considered under Chapter 1200-03-20 of these regulations.

(Rule 1200-03-19-.19, continued)

Table 1  
Startup/Shutdown Allowable SO<sub>2</sub> Levels

| Process Emission Source      | Allowable for Startup/Shutdown 24 hour average | Allowable for Concurrent Startup/Shutdown 3 hour average | Allowable for Non-Concurrent Startup/Shutdown 3 hour average |
|------------------------------|--|--|--|
| Sulfuric Acid Plants         | 800 PPM  | 1200 PPM   | 1400 PPM   |
| Liquid Sulfur Dioxide Plants | 600 PPM  | 900 PPM  | 1000 PPM   |

- (b) Reserved
  - (c) All concentrations are parts per million by volume, dry basis.
  - (d) All other sources must meet the general emission standards in other paragraphs of this rule or Chapter 1200-03-14 even during startups and shutdowns.
- (3) All liquid sulfur dioxide plants in existence prior to January 1, 1978, must exhaust any emissions through a stack at least 126 feet in vertical distance above grade directly below the tip of the stack.
- (4) (Reserved)
- (5) (a) No owner or operator shall burn in any non-process fuel burning equipment located in or significantly impacting on the Copper Basin additional control area a #1 or #2 fuel oil with a sulfur weight content exceeding 0.500 percent nor shall such owner or operator burn in any non-process fuel burning equipment a #4, #5, or #6 fuel oil with a sulfur weight content exceeding 1.25 percent.
- (b) For any process emission source or incinerator located in or significantly impacting on the Copper Basin additional control area for which there is no sulfur dioxide stack standard (PPM) contained within Rule 1200-03-19-.19 of these regulations, the owner or operator shall not burn a #1 or #2 fuel oil with a sulfur weight content exceeding 0.500 percent nor shall such owner or operator burn in the process emission source or incinerator a #4, #5, or #6 fuel oil with a sulfur weight content exceeding 1.25 percent.
- (c) A higher sulfur content fuel may be utilized, but only where air pollution controls limit sulfur dioxide emissions to the amount that the specified fuels alone would result in and only after this has been specifically allowed and detailed as conditions on the operating permits. A stack test must be submitted to verify the effectiveness of the controls.
- (d) For any process emission source in which fuel is burned and a standard is presently stipulated in paragraph 1200-03-19-.19(1) of these regulations then such source shall not be limited in the sulfur content of fuel provided such source meets process standards contained in Rule 1200-03-19-.19.
- (e) (Reserved)
- (f) The owner or operator of an air contaminant source with restricted operating hours must maintain a daily log of operating hours and keep it available for inspection by Division personnel on request for at least one year after the end of any calendar year included in the log. The owner or operator shall submit by letter on or before January

(Rule 1200-03-19-.19, continued)

31 of each year the total hours of operation for the previous calendar year and/or the maximum daily operation for said calendar year.

**Authority:** T.C.A. §§ 4-5-202, et seq. and 68-25-105. **Administrative History:** Original rule filed May 7, 1979; effective June 21, 1979. Amendment filed June 16, 1981; effective July 31, 1981. Amendment filed September 22, 1988; effective November 6, 1988. Amendment filed November 30, 1996.

**RULES  
OF  
THE TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
DIVISION OF AIR POLLUTION CONTROL**

**CHAPTER 1200-03-20  
LIMITS ON EMISSIONS DUE TO MALFUNCTIONS, STARTUPS, AND SHUTDOWNS**

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**1200-03-20-.01 PURPOSE.**

- (1) The purpose of this chapter is to place reasonable limits on the amount of emissions an air contaminant source can emit due to a malfunction or during startup or shutdown of said source. Without such limits in many parts of the state and specifically in nonattainment areas, air quality standards will not be met and public health and welfare will be endangered.

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-201-105. **Administrative History:** Original rule filed February 5, 1979; effective March 21, 1979. Repeal and new rule filed July 13, 1994; effective September 26, 1994.

**1200-03-20-.02 REASONABLE MEASURES REQUIRED.**

- (1) Air contaminant sources must take all reasonable measures to keep emissions to a minimum during startups, shutdowns, and malfunctions. These measures may include installation and use of alternate control systems, changes in operating methods or procedures, cessation of operation until the process equipment and/or air pollution control equipment is repaired, maintaining sufficient spare parts, use of overtime labor, use of outside consultants and contractors, and other appropriate means. Failures that are caused by poor maintenance, careless operation or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions.

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-201-105. **Administrative History:** Original rule filed February 5, 1979; effective March 21, 1979. Amendment filed September 22, 1988; effective November 6, 1988. Repeal and new rule filed July 13, 1994; effective September 26, 1994. Amendment filed August 28, 1997; effective November 11, 1997.

**1200-03-20-.03 NOTICE REQUIRED WHEN MALFUNCTION OCCURS.**

- (1) When any air contaminant source malfunctions in such a manner as to cause the emission of air contaminants in excess of the applicable emission standards contained in Division 1200-03, Division 0400-30, or any permit issued thereto, or of sufficient duration to cause damage to property or public health, the owner or operator of the air contaminant source shall promptly notify the Technical Secretary of such malfunction and provide a statement giving all pertinent facts, including the estimated duration of the malfunction. Violations of the visible emission standard (excluding visible emissions caused by hazardous air pollutants named in Chapter 0400-30-38) which occur for less than 20 minutes in one day (midnight to midnight) need not be reported. Prompt notification will be within 24 hours of the malfunction and shall be provided by telephone to the Division's Nashville office. The Technical Secretary shall be notified when the malfunction has been corrected. In attainment and unclassified areas, if emissions other than from sources designated as significantly impacting on a nonattainment

(Rule 1200-03-20-.03, continued)

area in excess of the standards will not and do not occur over more than a 24-hour period (or will not recur over more than a 24-hour period) and no damage to property and or public health is anticipated, notification is not required. Any malfunction that creates an imminent hazard to health must be reported by telephone immediately to the Division's Nashville office and to the State Civil Defense.

**Authority:** T.C.A. §§ 4-5-201, et seq.; 68-201-101, et seq.; and 68-201-105. **Administrative History:** Original rule filed February 5, 1979; effective March 21, 1979. Amendment filed September 4, 1981; effective October 19, 1981. Repeal and new rule filed July 13, 1994; effective September 26, 1994. Amendments filed September 29, 2022; effective December 28, 2022.

#### 1200-03-20-.04 LOGS AND REPORTS.

- (1) (a) A log of all malfunctions, startups, and shutdowns resulting in emissions excess of the standards in Division 1200-03 or any permit issued thereto must be kept at the plant. This log must record at least the following:
    1. Stack or emission point involved.
    2. Time malfunction, startup, or shutdown began and/or when first noticed.
    3. Type of malfunction and/or reason for shutdown.
    4. Time startup or shutdown was complete or time the air contaminant source returned to normal operation.
    5. The company employee making entry on the log must sign, date, and indicate the time of each log entry.
  - (b) The information under parts (a)1. and 2. of this paragraph must be entered into the log by the end of the shift during which the malfunction or startup began.
  - (c) All information shall be entered in the log no later than twenty-four (24) hours after the startup or shutdown is complete, or the malfunction has ceased or has been corrected.
  - (d) Any later discovered corrections can be added in the log as footnotes with the reason given for the change.
- (2) Reserved.

**Authority:** T.C.A. §§ 4-5-201, et seq.; 68-201-101, et seq.; and 68-201-105. **Administrative History:** Original rule filed February 5, 1979; effective March 21, 1979. Amendment filed September 22, 1988; effective November 6, 1988. Repeal and new rule filed July 13, 1994; effective September 26, 1994. Amendment filed March 21, 2013; effective June 19, 2013.

#### 1200-03-20-.05 COPIES OF LOG REQUIRED.

The Technical Secretary may require the owner or operator of any air contaminant source to submit a copy of the upset log required under rule .04 of this chapter to him ten (10) days after the request is received. The Technical Secretary can require submission of copies of the entire log.

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-201-105. **Administrative History:** Original rule filed February 5, 1979; effective March 21, 1979. Repeal and new rule filed July 13, 1994; effective September 26, 1994.

**1200-03-20-.06 REPORT REQUIRED UPON THE ISSUANCE OF A NOTICE OF VIOLATION.**

- (1) In the event excess emissions are emitted from any air contaminant source, a notice of violation shall automatically be issued except for visible emission levels included as a startup and/or shutdown permit condition under Paragraph 1200-03-05-.02(1) or determined to be de minimis under Rule 1200-03-20-.06.
- (2) The owner or operator of the violating air contaminant source shall submit within twenty (20) days after receipt of the notice of violation, the data required in paragraph (3) of this rule. If the data required in paragraph (3) of this rule has previously been available to the Technical Secretary or the Technical Secretary's representative prior to the issuance of the notice of violation no further action is required of the violating source. However, if the owner or operator of the source desires to submit additional information, then the additional information must be submitted within the twenty (20) day time period.
- (3) Each report required in paragraph 1200-03-20-.06(2) shall include as a minimum:
  - (a) The identity of the stack and/or other emission point where the excess emission(s) occurred;
  - (b) The magnitude of the excess emissions expressed in pounds per hour and the units of the applicable emission limitation and the operating data and calculations used in determining the magnitude of the excess emissions;
  - (c) The time and duration of the emissions;
  - (d) The nature and cause of such emissions;
  - (e) For malfunctions. The steps taken to correct the situation and the action taken or planned to prevent the recurrence of such malfunctions;
  - (f) The steps taken to limit the excess emissions during the occurrence reported, and
  - (g) If applicable, documentation that the air pollution control equipment, process equipment, or processes were at all times maintained and operated in a manner consistent with good operating practices for minimizing emissions.
- (4) Failure to submit the report required in paragraph (3) of this rule within the twenty (20) day period specified in paragraph (2) of this rule shall preclude the admissibility of the data for determination of potential enforcement actions.
- (5) Where the violations are determined from properly certified and operated continuous emission monitors, no notice of violation(s) will be automatically issued unless the specified de minimis levels are exceeded:

(Rule 1200-03-20-.06, continued)

| <u>Source Type</u>  | <u>De Minimis<br/>Pollutant<br/>Monitored</u> | <u>De Minimis Level</u>   |
|---|---|---|
| (a) Fuel Burning<br>Installations subject to<br>Rule 1200-03-05-.01<br>or Rule 1200-03-05-<br>.05 and having fuel<br>burning equipment of<br>input capacity greater<br>than 600 x 106 Btu/hr. | Opacity                                       | Two (2) percent of the time during<br>calendar quarter (Excluding periods<br>of permitted startup or shutdown<br>and excused malfunctions) so long<br>as no more than one (1) 24-hour<br>exceedance per calendar year<br>takes place    |
|   | Sulfur Dioxide                                | One (1) 24-hour exceedance per<br>calendar year   |
| (b) Fuel Burning<br>Installations subject to<br>Rule 1200-03-05-.05,<br>Rule 1200-03-05-.10,<br>or Rule 1200-03-06-<br>.05.   | Opacity                                       | One (1) percent of the time during a<br>calendar quarter (Excluding period<br>of permitted startup or shutdown<br>and excused malfunctions) as long<br>as no more than one (1) 24-hour<br>exceedance per calendar year<br>takes place   |
|   |   |   |
| (c) Fuel Burning<br>Equipment subject to<br>Rule 1200-03-16-.02<br>or Rule 1200-03-16-<br>.59.  | Opacity                                       | One (1) percent of the time during a<br>calendar quarter (Excluding periods<br>of permitted startup or shutdown<br>and excused malfunctions) as long<br>as no more than one (1) 24-hour<br>exceedance per calendar year<br>takes place. |
|   | Sulfur Dioxide                                | One (1) 3-hour exceedance per<br>year and/or one 24-hour<br>exceedance per year (applicable to<br>sources having three hour standard<br>only)   |
| (d) Kraft Recovery<br>Furnaces subject to<br>either Rule 1200-03-<br>05-.09 or Rule 1200-<br>03-16-.29.   | Opacity                                       | Six (6) percent of the time<br>(Excluding periods of permitted<br>startup or shutdown and excused<br>malfunctions) so long as no more<br>than one (1) 24-hour exceedance<br>per calendar year takes place.                              |

(Rule 1200-03-20-.06, continued)

|  |                |         |   |
|--|----------------|---------|---|
| (e) Kraft Recovery Furnaces subject to either Rule 1200-03-07-.07 or Rule 1200-03-16-.29.                                | Total Sulfur   | Reduced | One (1) percent of the time during a calendar quarter (Excluding periods of permitted startup or shutdown and excused malfunctions).  |
| (f) Lime Kilns subject to Rule 1200-03-07-.07(4).  | Total Sulfur   | Reduced | Two (2) percent of the time during a calendar quarter (Excluding periods of permitted startup or shutdown and excused malfunctions).  |
| (g) Sulfuric Acid Plants subject to Rule 1200-03-16-.06 and Liquid Sulfur Dioxide Plants subject to Rule 1200-03-19-.19. | Sulfur Dioxide |         | One (1) exceedance greater than 3 hours duration per year (Excluding periods of excused malfunctions).  |
| (h) Primary Zinc Smelters subject to Rule 1200-03-16-.24.  | Sulfur Dioxide |         | One (1) exceedance of greater than 3 hours duration but less than 24-hour duration per calendar year and/or one 24-hour exceedance per year (Excluding periods of startup, shutdown, or excused malfunction). |
| (i) Electric Arc Furnaces subject to Rule 1200-03-16-.26.  | Opacity        |         | One (1) percent of the time during a calendar quarter (Excluding time periods of startup, shutdown, or excused malfunction) so long as no more than one (1) 24-hour exceedance per calendar year takes place. |
| (j) Sulfur Dioxide Abatement System Serving Facilities Producing Organophosphate Compounds.                              | Sulfur Dioxide |         | One (1) exceedance of greater than 3 hours duration per calendar year (Excluding periods of excused malfunctions).  |
| (k) Secondary Lead Furnaces subject to Rule 1200-03-16-.12.  | Opacity        |         | One half (1/2) percent of the time during a calendar quarter (Excluding time periods of startup,  |



(Rule 1200-03-20-.06, continued)

shutdown, or excused  
malfunction).

- |   |                 |  |
|---|-----------------|--|
| (l) Any source type<br>utilizing a thirty day<br>rolling average. | Nitrogen Oxides | None (Excluding periods of<br>startup, shutdown, or excused<br>malfunction.) |
|---|-----------------|--|

For purposes of this Paragraph, the term 24-hour exceedance means a continuous exceedance of an emission standard having a total duration of greater than 24 hours (midnight to midnight).

- (6) No emission during periods of malfunction, start-up, or shutdown that is in excess of the standards in Division 1200-03 or any permit issued thereto shall be allowed which can be proved to cause or contribute to any violations of the Ambient Air Quality Standards contained in Chapter 1200-03-03 or the National Ambient Air Quality Standards.

**Authority:** T.C.A. §§ 4-5-201, et seq.; 68-201-101, et seq.; and 68-201-105. **Administrative History:** Original rule filed February 5, 1979; effective March 21, 1979. Amendment filed October 28, 1981; effective December 14, 1981. Repeal and new rule filed July 13, 1994; effective September 26, 1994. Amendments filed August 18, 2016; effective November 16, 2016.

**1200-03-20-.07 SPECIAL REPORTS REQUIRED.**

- (1) The Technical Secretary may require any air contaminant source to submit a report within thirty (30) days after the end of each calendar quarter in a format he specifies containing as a minimum the following information:
- (a) The dates on which malfunctions, startups, and shutdowns resulted in emissions greater than those allowed by the emission standards in this Division 1200-03.
  - (b) The estimated amount of air contaminants emitted in excess of the emission standards in units of pounds of air contaminant per hour and pounds of air contaminant per day.
  - (c) Other emission characteristics such as stack exit temperature, stack height and diameter, stack exit velocities, and other similar information.
  - (d) Information needed to evaluate the possibility of instituting measures to eliminate or reduce the number of malfunctions and/or the amount of emissions from malfunctions, startups, and shut downs.
  - (e) Information to determine if the excess emissions truly result from a malfunction.
  - (f) Information to evaluate the impact of the emissions on the surrounding area.

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-201-105. **Administrative History:** Original rule filed February 5, 1979; effective March 21, 1979. Amendment filed October 28, 1981; effective December 14, 1981. Amendment filed September 22, 1988; effective November 6, 1988. Repeal and new rule filed July 13, 1994; effective September 26, 1994.

**1200-03-20-.08 RIGHTS RESERVED.**

- (1) Nothing in this chapter shall be construed to limit the obligation of the air contaminant source to attain and maintain the ambient air quality standards nor the authority of the Technical

(Rule 1200-03-20-.08, continued)

Secretary and/or Board to institute actions under other Chapters of these rules and the Tennessee Air Quality Act.

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-201-105. **Administrative History:** Original rule filed February 5, 1979; effective March 21, 1979. Repeal and new rule filed July 13, 1994; effective September 26, 1994.

**1200-03-20-.09 ADDITIONAL SOURCES COVERED.**

- (1) The Technical Secretary may order the owner or operator of other air contaminant sources to report in accordance with the requirement of this chapter for those sources in nonattainment areas or significantly impacting on nonattainment areas when he has reason to believe that an ambient air quality standard may be violated in the general vicinity where the source is located. There is sufficient reason (for purposes of this rule) to believe a standard may be violated if a value not to be exceeded more than once in a year is equalled or exceeded once and/or if individual readings have a mean excess of ninety percent of a standard set for any given averaging interval regardless of the acceptability of the monitoring site, calibration of the monitor, and other similar matters. Even if there are no monitors in an area, if mathematical modelling and/or physical damage in the area indicate the standards may be violated, he may order such reporting.

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-201-105. **Administrative History:** Original rule filed February 5, 1979; effective March 21, 1979. Repeal and new rule filed July 13, 1994; effective September 26, 1994.

**RULES  
OF  
THE TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
DIVISION OF AIR POLLUTION CONTROL**

**CHAPTER 1200-03-21  
GENERAL ALTERNATE EMISSION STANDARDS**

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**1200-03-21-.01 GENERAL ALTERNATE EMISSION STANDARD.**

- (1) In lieu of satisfying the standards and requirements of other chapters of this division, air contaminant sources with a certificate of alternate control shall not emit particulate matter, sulfur dioxide, carbon monoxide, nitrogen dioxide or volatile organic compounds in excess of the respective limits on said certificate. Air contaminant sources applying for a certificate of alternate control shall not be considered a modification under Rule 1200-03-02-.01(aa) provided the rated capacity in terms of heat input, charging rate, or process weight does not change for any fuel burning installation, incinerator, or process emission source respectively.
- (2) The owner or operator of any air contaminant source that discharges particulate matter, sulfur dioxide, carbon monoxide, nitrogen dioxide, or volatile organic compounds regulated by other rules in these regulations can apply to the Technical Secretary for a Certificate of Alternate Control for an air contaminant source(s) or a portion of an air contaminant source(s), and he may grant the request if the following conditions are met:
  - (a) The air contaminant source or portion thereof is reducing or will be after a specific date taking actions to reduce emissions of particulate matter, sulfur dioxide, carbon monoxide, nitrogen dioxide or volatile organic compounds at least as much as required under other rules of these regulations even though affected specific source(s) (i.e. permit unit) at the air contaminant source may not be meeting the mass emission standard(s) specified in the other rules of these regulations. Calculations to determine equivalence to standards limiting the pounds of volatile organic compounds per gallon of material shall be on the basis of equivalent solids applied. Under the conditions of the certificate, the total final emission limits of each given pollutant must be equivalent or less for each pollutant than under otherwise applicable rules. These limits shall include limits applied in pounds per hour, or if hourly emissions cannot be determined, per as short a period over which emissions can be determined, and in tons per year for the entire air contaminant source.
  - (b) If a schedule of compliance is required, it must be included as a condition on the certificate. In no case shall the final compliance data be beyond a date that would cause interference with the attainment of the Reasonable Further Progress line specified for a specific nonattainment area.
  - (c) The air contaminant source shall verify through modeling, consistent with the requirements specified in 40 CFR Part 51 Appendix W, that this alternate emission standard will yield equivalent or improved air quality for the pollutant involved. The provisions of 40 CFR Part 51 Appendix W are hereby adopted by reference as published in the July 1, 2019 edition of the Code of Federal Regulations (CFR). For volatile organic compound emissions, modeling for ozone impacts may be required. Air quality need not improve or stay the same at every location affected by the alternate emission standard, but on balance, the air quality of the affected area must not be

(Rule 1200-03-21-.01, continued)

adversely affected. This will be demonstrated by modeling all included emission points at the proposed alternative levels and at the allowable emission level for sources subject to emissions standards in Chapter 1200-03-19 for the pollutant involved. The lower of either the allowable emission under other chapters in Division 1200-03 or actual emissions shall be used in all other modeling. In addition, the source shall demonstrate that the use of the alternate emission standard will not interfere with the attainment or maintenance of any ambient air quality standard nor violate any applicable ambient air quality standard nor violate any applicable ambient air increment.

- (d) The pollutants involved in the alternate emission standard must be comparable emissions, and no interpollutant trades are allowed. Air contaminant sources subject to the standards in Chapter 0400-30-38 cannot apply the alternate emission standard to hazardous air contaminants. Air contaminant sources subject to emission standards in Chapter 1200-03-16, or paragraph (4) of Rule 1200-03-09-.01 or subparagraph (5)(b) of Rule 1200-03-09-.01 cannot use an alternate emission standard, except for reductions in actual emissions below the level required in these rules. Such reduction may be used as credit for existing source. However, all applicable standards and requirements established under paragraph (4) of Rule 1200-03-09-.01, under Chapters 0400-30-38 and 1200-03-16, and according to a lowest-achievement-emission-rate (LAER) determination under paragraph (5) of Rule 1200-03-09-.01 must be complied with and are not superseded or replaced by the alternate emission standard.
  - (e) A fee of one thousand dollars (\$1,000.00) for each pollutant for each source to be covered by a certificate has been paid to the Department at the time the application is made to cover the cost of review of the request for the certificate of alternate control.
  - (f) Air contaminant sources utilizing the alternate emission standards: (1) must be in compliance with all applicable emission limits; (2) if not in compliance, must be meeting the requirements in an approved compliance schedule; or (3) if not in compliance, must be subject to a court order which includes a compliance schedule and allows for timely modification of the decree without delaying the final compliance date. Under no circumstances can the alternate emission standard delay or defer a specified compliance date nor shall the certificate insulate the source from any penalties or sanctions for noncompliance or affect the source's liability to comply with any regulations, order, or compliance plan.
  - (g) The provisions of the Emission Trading Policy Statement, *Federal Register*, Vol. 51, No. 233, December 4, 1986, are being satisfied.
- (3) The alternate emission standards and certificate conditions must be subjected to a public hearing and submitted to the EPA for approval as a revision to the State Implementation Plan. The owner or operator requesting this alternate emission control emission standard shall be responsible for all costs associated with publishing the required legal notices.
  - (4) Good engineering practice stack heights shall be utilized on all stack changes associated with the alternate control standards for particulate matter, sulfur dioxide, carbon monoxide, and nitrogen dioxide.
  - (5) The owner or operator of the facility must:
    - (a) Post or file on the operating premises a copy of the certificate of alternative control.
    - (b) Keep all pollution control equipment in good operating condition and utilize said equipment at all times.

(Rule 1200-03-21-.01, continued)

- (6) The certificate of alternate control will be revoked after administrative hearing by the Technical Secretary or the Board if it is found that any of the requirements of paragraph (2) have been violated and/or if any of the requirements of paragraph (5) have been frequently and flagrantly violated after the certificate was issued and/or if violation of the requirements of paragraph (4) and/or conditions placed on their certificate under paragraph (9) are not corrected promptly on written notice.
- (7) The certificate of alternate control does not relieve the owner or operator of the duty of meeting all emission requirements in other rules for sources commenced after the effective date of the rule.
- (8) Upon revocation of the certificate of alternative control, the sources at the facility must comply with other rules in these regulations that would have been applicable had the certificate not been issued.
- (9) The Technical Secretary shall specify the new emission limits as conditions on the certificate and if other than reference test methods are to be used to determine compliance, these should be specified on the certificate or the operating permit. Other conditions needed to insure and verify compliance may be placed on the certificate as conditions.
- (10) The owner and operator is hereby placed on notice that the certificate shall become void should the Board find it proper to amend the regulations covering any source listed on the certificate if the effect is to reduce the allowable emission of the source. The certificate in this instance shall be deemed void ninety (90) days after receipt of notice from the Technical Secretary of the effective date of the revised regulations.

**Authority:** T.C.A. §§ 4-5-201, et seq.; 68-201-101, et seq.; and 68-201-105. **Administrative History:** Original rule filed July 25, 1980; effective September 8, 1980. Amendment filed February 4, 1993; effective March 18, 1993. Amendments filed January 22, 2021; effective April 22, 2021. Amendments filed September 29, 2022; effective December 28, 2022.

#### **1200-03-21-.02 APPLICABILITY.**

This chapter applies only to those air contaminant sources which apply for a certificate of alternate control or a revision to a certificate of alternate control after March 18, 1993.

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-201-105. **Administrative History:** Original rule filed February 4, 1993; effective March 18, 1993.

**RULES  
OF  
THE TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
BUREAU OF ENVIRONMENT  
DIVISION OF AIR POLLUTION CONTROL**

**CHAPTER 1200-03-22  
LEAD EMISSION STANDARDS**

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**1200-03-22-.01 DEFINITIONS.**

Unless specifically defined in this Chapter, the definitions from Chapter 1200-03-02 will apply:

- (1) "Significant source of lead" means:
  - (a) Any one permit unit, or combination of permit units as determined by the Technical Secretary, at any of the following stationary sources that emit lead or lead compounds (measured as elemental lead) of at least 1.25 tons per calendar quarter or at least five (5) tons per year whichever is the more restrictive: primary lead smelters, secondary lead smelters, primary copper smelters, lead gasoline additive plants, lead-acid storage battery manufacturing plants that produce 2000 or more batteries per day.
  - (b) Notwithstanding the source sizes specified in subparagraph (a) of this paragraph, any other stationary source that emits 25 or more tons per year of lead or lead compounds measured as elemental lead.
- (2) "Source" means any structure, building, facility, equipment, installation, or operation (or combination thereof) which is located on one or more contiguous or adjacent properties and which is owned or operated by the same person (or by persons under common control). If a portion(s) of a source is rented to or leased to another person(s) for the purpose of a totally separate business venture, the Technical Secretary may designate that (those) portion(s) as a separate source(s).
- (3) "Permit unit" means any part of a source required to obtain an operating permit as determined by the Technical Secretary.
- (4) "Lead point source" means:
  - (a) Any source the actual emissions of which are in excess of 5.0 tons per year of lead or lead compounds measured as elemental lead.
  - (b) Any physical change that would occur at a source not otherwise qualifying under subparagraph (4)(a) as a lead point source if the increase in lead emissions due to a change is in excess of 5.0 tons per year of lead or lead compounds measured as elemental lead.

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-25-105. **Administrative History:** Original rule filed November 5, 1984; effective December 5, 1984. Amendment filed September 22, 1988; effective November 6, 1988.

**1200-03-22-.02 GENERAL LEAD EMISSION STANDARDS.**

- (1) No person shall cause, suffer, allow, or permit lead emissions in excess of the standards in this Chapter.
- (2) Upon mutual agreement of the owner or operator of a significant source of lead and the Technical Secretary, an emission limit more restrictive than that otherwise specified in this Chapter may be established. Also, upon mutual agreement of the owner or operator of any source and the Technical Secretary, operating hours, process flow rates, or any other operating parameters may be established as a binding limit(s). The mutually acceptable limits shall be stated as a special condition(s) for any permit or order concerning the source. Violation of any accepted special limitations is grounds for revocation of the issued permit and/or other enforcement measures provided for in the Tennessee Air Quality Act.

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-25-105. **Administrative History:** Original rule filed November 5, 1984; effective December 5, 1984.

**1200-03-22-.03 SPECIFIC EMISSION STANDARDS FOR EXISTING SOURCES OF LEAD.**

- (1) For an existing source that is a significant source of lead, the Technical Secretary shall specify on the operating permit(s) as permit conditions the emission level that is reasonably available control technology (RACT). The RACT emission level specified as permit conditions on the operating permit (s) must be submitted, reviewed and approved by the Administrator of the Environmental Protection Agency or his designee.
- (2) The possession of a valid permit shall not protect the source from enforcement actions if permit condition(s) are not met.

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-25-105. **Administrative History:** Original rule filed November 5, 1984; effective December 5, 1984. Amendment filed November 12, 1999; effective January 26, 2000.

**1200-03-22-.04 STANDARDS FOR NEW OR MODIFIED SOURCES OF LEAD.**

- (1) A new source the actual emissions of which are in excess of 5.0 tons per year of lead or lead compounds measured as elemental lead shall utilize best available control technology (BACT).
- (2) Any modification of a lead point source which results in an increase in excess of 0.6 tons per year of lead or lead compounds measured as elemental lead shall utilize BACT.
- (3) The owner or operator of a proposed new or modified source of lead shall perform a source impact analysis to demonstrate that the allowable emission increases from the proposed source or modification would not cause or contribute to a violation of the lead ambient air quality standard in the source impact area including background concentrations. Source impact analysis shall be based on the applicable air quality models and data bases acceptable to the Technical Secretary.
- (4) Additional requirements for certain new or modified sources of lead are given in Paragraph 1200-03-09-.01(4), Prevention of Significant Deterioration and in Chapter 1200-03-16, New Source Performance Standards, of these regulations.

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-25-105. **Administrative History:** Original rule filed November 5, 1984; effective December 5, 1984. Amendment filed September 22, 1988; effective November 6, 1988.

**1200-03-22-.05 SOURCE SAMPLING AND ANALYSIS.**

Source sampling and analysis for lead shall be conducted in the manner prescribed in Subparagraph 1200-03-12-.03(1)(j) of these regulations.

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-25-105. **Administrative History:** Original rule filed November 5, 1984; effective December 5, 1984.

**1200-03-22-.06 LEAD AMBIENT MONITORING REQUIREMENTS.**

The Technical Secretary may require ambient lead monitoring in the vicinity of a source regulated by this Chapter 1200-03-22. This monitoring shall be done in accordance with the requirements of Rule 1200-03-12-.02 of these regulations.

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-25-105. **Administrative History:** Original rule filed November 5, 1984; effective December 5, 1984.



**RULES  
OF  
THE TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
DIVISION OF AIR POLLUTION CONTROL**

**CHAPTER 1200-03-23  
VISIBILITY PROTECTION**

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**1200-03-23-.01 PURPOSE.**

The purpose of this Chapter is to assure reasonable progress toward meeting the goal of preventing any future, and remedying any existing impairment of visibility in mandatory Class I Federal areas in which impairment results from man-made air pollution.

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-25-105. **Administrative History:** Original rule filed September 22, 1988; effective November 6, 1988.

**1200-03-23-.02 DEFINITIONS.**

Unless specifically defined in this Chapter, the definitions from Chapter 1200-03-02 and Paragraph 1200-03-09-.01(4) shall apply:

- (1) "Best Available Retrofit Technology (BART)" means an emission limitation based on the degree of reduction achievable through the application of the best system of continuous emission reduction for each pollutant which is emitted by an existing stationary facility. The emission limitation must be established, on a case-by-case basis, taking into consideration the technology available, the costs of compliance, the energy and nonair quality environmental impacts of compliance, any pollution control equipment in use or in existence at the source, the remaining useful life of the source, and the degree of improvement in visibility which may reasonably be anticipated to result from the use of such technology.
- (2) "Existing Stationary Facility" means any of the following stationary sources of air pollutants, including any reconstructed source, which was not in operation prior to August 7, 1962, and was in existence on August 7, 1977, and has the potential to emit 250 tons per year or more of any air pollutant. In determining the potential to emit, fugitive emissions must be counted, to the extent quantifiable.
  - (a) Fossil fuel fired steam electric plants of more than 250 million British thermal units per hour heat input.
  - (b) Coal cleaning plants (thermal dryers),
  - (c) Kraft pulp mills,
  - (d) Portland cement plants,
  - (e) Primary zinc smelters,

(Rule 1200-03-23-.02, continued)

- (f) Iron and steel mill plants,
  - (g) Primary aluminum ore reduction plants,
  - (h) Primary copper smelters,
  - (i) Municipal incinerators capable of charging more than 250 tons of refuse per day,
  - (j) Hydrofluoric, sulfuric, and nitric acid plants,
  - (k) Petroleum refineries,
  - (l) Lime plants,
  - (m) Phosphate rock processing plants,
  - (n) Coke oven batteries,
  - (o) Sulfur recovery plants,
  - (p) Carbon black plants (furnace process),
  - (q) Primary lead smelters,
  - (r) Fuel conversion plants,
  - (s) Sintering plants,
  - (t) Secondary metal production facilities,
  - (u) Chemical process plants,
  - (v) Fossil-fuel boilers of more than 250 million British thermal units per hour heat input,
  - (w) Petroleum storage and transfer facilities with a capacity exceeding 300,000 barrels,
  - (x) Taconite ore processing facilities,
  - (y) Glass fiber processing plants, and
  - (z) Charcoal production facilities.
- (3) "Federal Class I area" means any Federal land that is classified or reclassified "Class I".
- (4) "Fixed Capital Cost" means the capital needed to provide all of the depreciable components.
- (5) "In existence" means that the owner or operator has obtained all necessary preconstruction approvals or permits required by this Division and either has (1) begun, or caused to begin, a continuous program of physical on-site construction of the facility or (2) entered into binding agreements or contractual obligations, which cannot be canceled or modified without substantial loss to the owner or operator, to undertake a program of construction of the facility to be completed in a reasonable time.
- (6) "In operation" means engaged in activity related to the primary design function of the source.

(Rule 1200-03-23-.02, continued)

- (7) "Mandatory Class I Federal area" means any area identified by the Administrator of the EPA, including the Great Smoky Mountains National Park, the Joyce Kilmer - Slickrock National Wilderness Area, the Linville Gorge Wilderness Area, Cohutta Wilderness Area, Shining Rock Wilderness Area, Sipsey Wilderness Area, the Mingo National Wilderness Area, and the Mammoth Cave National Park including any integral vista associated with these areas.
- (8) "Natural Conditions" includes naturally occurring phenomena that reduce visibility as measured in terms of visual range, contrast, or coloration.
- (9) "Reconstruction" will be presumed to have taken place where the fixed "capital cost of the new component exceeds 50 percent of the taxed capital cost of a comparable entirely new source. Any final decision as to whether reconstruction has occurred must be made in accordance with the requirements of 40 CFR Part 60.15, Standards of Performance for New Stationary Sources" (dated July 1, 1993.)
- (10) "Visibility Impairment" means any humanly perceptible change in visibility (visual range, contrast, coloration) from that which would have existed under natural conditions.
- (11) "Significant Impairment" means visibility impairment which, in the judgment of the Technical Secretary, interferes with the management, protection, preservation, or enjoyment of the visitor's visual experience of the mandatory Class I Federal area. This determination must be made on a case-by-case basis taking into account the geographic extent, intensity, duration, frequency, and time of the visibility impairment, and how these factors correlate with times of visitor use of the mandatory Class I Federal area, and the frequency and timing of natural conditions that reduce visibility.
- (12) "Integral vista" means a view perceived from within the mandatory Class I Federal area of a specific landmark or panorama located outside the boundary of the mandatory Class I Federal area.
- (13) "Continuous program of physical on-site construction" means significant and continuous site preparation work such as major clearing or excavation followed by placement of footings, pilings, and other materials of construction, assembly, or installation of unique facilities or equipment at the site of the source.
- (14) "Substantial loss" generally means a loss which would equal or exceed 10 percent of the total project cost.
- (15) "Adverse impact on visibility" means, for purposes of 1200-03-23, visibility impairment which interferes with management, protection, preservation, or enjoyment of the visitor's visual experience of the Federal Class I area. This determination must be made on a case-by-case basis taking into account the geographic extent, intensity, duration, frequency and time of visibility impairments, and how these factors correlate with:
  - (a) Times of visitor use of the Federal Class I area, and
  - (b) The frequency and timing of natural conditions that reduce visibility. This term does not include integral vistas.
- (16) "Pollutant" means, for this Rule, for particulate matter, the standards expressed in 1200-03-03, Table I which are attained when the expected number of days per calendar year with a 24-hour average concentration above 150 mg/m<sup>3</sup> as determined in accordance with 40 CFR 50 Appendix K (July 1, 1993), is equal to or less than one.
- (17) "Reasonably attributable" means attributable by visual observation or any other technique the Technical Secretary deems appropriate.

(Rule 1200-03-23-.02, continued)

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-25-105. **Administrative History:** Original rule filed September 22, 1988; effective November 6, 1988. Amendment filed May 10, 1994; effective July 24, 1994.

#### 1200-03-23-.03 GENERAL VISIBILITY PROTECTION STANDARDS.

- (1) No person shall cause, suffer, allow, or permit emissions in excess of the standards in this Chapter.
- (2) Upon mutual agreement of the owner or operator of a source and the Technical Secretary, an emission limitation more restrictive than that otherwise specified in this Chapter may be established. Also, upon mutual agreement of the owner or operator of any source and the Technical Secretary, operating hours, process flow rates, or any other operating parameters may be established as a binding limit(s). The mutually acceptable limits shall be stated as a special condition(s) for any permit or order concerning the source. Violation of any accepted special limitations is grounds for revocation of the issued permit and/or other enforcement measures provided for in the Tennessee Air Quality Act.
- (3) The possession of a valid permit shall not protect the source from enforcement actions if permit conditions are not met.

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-25-103. **Administrative History:** Original rule filed September 22, 1988; effective November 6, 1988.

#### 1200-03-23-.04 SPECIFIC EMISSION STANDARDS FOR EXISTING STATIONARY FACILITIES.

For an existing stationary facility that causes visibility impairment in any mandatory Class I Federal area, the Technical Secretary shall specify on the operating permit(s) as permit conditions the emission limitation that is "best available retrofit technology (BART)", subject to the following provisions:

- (1) Best available retrofit technology (BART) must be determined for fossil-fuel fired generating plants having a total generating capacity in excess of 750 megawatts pursuant to "Guidelines for Determining Best Available Retrofit Technology for Coal-fired Power Plants and Other Stationary Facilities" (1980).
- (2) Each existing stationary facility is required to install and operate BART as expeditiously as practicable but in no case later than five years after July 24, 1994.
- (3) A BART analysis will be provided for any existing stationary facility that might cause or contribute to impairment of visibility in any mandatory Class I Federal area at such times, as determined by the EPA, as new technology for control of the pollutant becomes reasonably available and if:
  - (a) The pollutant is emitted by that existing stationary facility;
  - (b) Controls representing BART for the pollutant have not previously been required under this rules; and
  - (c) The impairment of visibility in any mandatory Class I Federal area is reasonably attributable to the emissions of that pollutant.

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-25-105. **Administrative History:** Original rule filed September 22, 1988; effective November 6, 1988. Amendment filed May 10, 1994; effective July 24, 1994.

**1200-03-23-.05 SPECIFIC EMISSION STANDARDS FOR EXISTING SOURCES.**

For any existing source that causes visibility impairment in any mandatory Class I Federal area, the Technical Secretary may specify on the construction and/or operating permit(s) as permit conditions an emission limitation that is equivalent to "BART". Existing sources subject to the provisions of rule .04 are not subject to the provisions of this Rule ( 1200-03-23-.05).

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-25-105. **Administrative History:** Original rule filed September 22, 1988; effective November 6, 1988. Amendment filed May 10, 1994; effective July 24, 1994.

**1200-03-23-.06 VISIBILITY STANDARDS FOR NEW AND MODIFIED SOURCES.**

- (1) A new "major stationary source" or a "major modification" constructing in an attainment area or unclassifiable area must meet the requirements in Paragraph 1200-03-09-.01(4), Prevention of Significant Deterioration.
- (2) A new "major stationary source" or a "major modification" constructing in a non-attainment area must meet the requirements in Parts 1200-03-09-.01(5)(b)3. and 4.
- (3) For any new source or modification whose air contaminant emissions may cause visibility impairment in a mandatory Class I Federal area, the Technical Secretary may require "best available control technology (BACT)".

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-25-105. **Administrative History:** Original rule filed September 22, 1988; effective November 6, 1988.

**1200-03-23-.07 VISIBILITY MONITORING REQUIREMENTS.**

The Technical Secretary may require visibility monitoring in the vicinity of a source regulated by this Chapter 1200-03-23. This monitoring shall be done in accordance with the requirements as specified by the Technical Secretary.

**Authority:** T.C.A. §§68-25-103 and 4-5-201 et. seq. **Administrative History:** Original rule filed September 22, 1988; effective November 6, 1988.

**1200-03-23-.08 EXEMPTIONS FROM BART REQUIREMENTS.**

- (1) Any existing stationary facility subject to the requirement of this chapter to install, operate, and maintain BART may apply to the Administrator of the EPA through the Technical Secretary for an exemption from that requirement.
- (2) An application under this rule must include all available documentation relevant to the impact of the source's emissions on visibility in any mandatory Class I Federal area and a demonstration by the existing stationary facility that it does not or will not, by itself or in combination with other sources, emit any air pollutant which may be reasonably anticipated to cause or contribute to a significant impairment of visibility in any mandatory Class I Federal area.
- (3) Any fossil-fuel fired power plant with a total generating capacity of 750 megawatts or more may receive an exemption from BART only if the owner or operator of such power plant demonstrates to the satisfaction of the Technical Secretary that such power plant is located at such a distance from all mandatory Class I Federal areas that such power plant does not or will not, by itself or in combination with other sources, emit any air pollutant which may reasonably be anticipated to cause or contribute to significant impairment of visibility in any such mandatory Class I Federal area.

(Rule 1200-03-23-.08, continued)

- (4) The existing stationary facility must give prior written notice to all affected Federal Land Managers of any application for exemption under this rule.
- (5) The Federal Land Manager may provide an initial recommendation or comment on the disposition of such application. Such recommendation, where provided, must be part of the exemption application. This recommendation is not to be construed as the concurrence required under Paragraph (6) below.
- (6) The Technical Secretary within 90 days of receipt of an application for exemption from control, will provide notice of receipt of an exemption application and notice of opportunity for public hearing on the application. After notice and opportunity for public hearing, the Technical Secretary may concur with the application for exemption. If the Technical Secretary concurs, the application for exemption accompanied by the Technical Secretary's written concurrence will be forwarded to the Administrator of the EPA who will grant or deny the exemption. An exemption granted by the Administrator of the EPA will be effective only upon concurrence by all affected Federal Land Managers with the Administrator of the EPA's determination.

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-25-105. **Administrative History:** Original rule filed September 22, 1988; effective November 6, 1988. Amendment filed May 10, 1994; effective July 24, 1994.

**RULES  
OF  
TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
BUREAU OF ENVIRONMENT  
DIVISION OF AIR POLLUTION CONTROL**

**CHAPTER 1200-3-24  
GOOD ENGINEERING PRACTICE  
STACK HEIGHT REGULATIONS**

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**1200-3-24-.01 GENERAL PROVISIONS.**

- (1) This chapter provides that the degree of emission limitation required of any source for control of any air pollutant must not be affected by that portion of any source's stack height that exceeds good engineering practice (GEP) or by any other dispersion technique, except as provided in (a) and (b) of paragraph (2) of this rule. A source may want to establish an emission limitation based on the good engineering practice stack height demonstrated by a fluid model or field study. If the source demonstrates the good engineering practice stack height by a fluid model or a field study, the Technical Secretary must notify the public of the availability of the demonstration study and must provide opportunity for a public hearing on it. This chapter does not restrict in any manner the actual stack height of any source.
- (2) The provisions of this chapter shall not apply to:
  - (a) Stack heights in existence, or dispersion techniques implemented on or before December 31, 1970, except where pollutants are being emitted from such stacks or using such dispersion techniques by stationary sources which were constructed, or reconstructed, or for which major modifications, as defined in 1200-3-9-.01(4)(b)2. and; 1200-3-9-.01(4)(b)2.(i)(I) and were carried out after December 31, 1970; or
  - (b) Coal-fired steam electric generating units which commenced operation before July 1, 1957, and whose stacks were constructed under a construction contract awarded before February 8, 1974.

**Authority:** T.C.A. §§4-5-202 and 68-25-101 et. seq. **Administrative History:** Original rule filed October 8, 1987; effective November 22, 1987.

**1200-3-24-.02 DEFINITIONS.**

- (1) Within the context of this chapter the following definitions apply:
  - (a) Dispersion Technique means any technique which attempts to affect the concentration of a pollutant in the ambient air by:
    1. Using that portion of a stack which exceeds good engineering practice stack height;
    2. Varying the rate of emission of a pollutant according to atmospheric conditions or ambient concentrations of that pollutant; or

(Rule 1200-3-24-.02, continued)

3. Increasing final exhaust gas plume rise by manipulating source process parameters, exhaust gas parameters, stack parameters, or combining exhaust gases from several existing stacks into one stack; or other selective handling of exhaust gas streams so as to increase the exhaust gas plume rise.
  - (i) The preceding sentence does not include:
    - (I) The reheating of a gas stream, following use of a pollution control system, for the purpose of returning the gas to the temperature at which it was originally discharged from the facility generating the gas stream;
    - (II) The merging of exhaust gas streams where:
      - I. The source owner or operator demonstrates that the facility was originally designed and constructed with such merged gas streams;
      - II. After July 8, 1985, such merging is part of a change in operation at the facility that includes the installation of pollution controls and is accompanied by a net reduction in the allowable emissions of a pollutant. This exclusion from the definition of *dispersion techniques* shall apply only to the emission limitation for the pollutant affected by such change in operation; or
      - III. Before July 8, 1985, such merging was part of a change in operation at the facility that included the installation of emissions control equipment or was carried out for sound economic or engineering reasons. Where there was an increase in the emissions limitation or, in the event that no emission limitation was in existence prior to the merging, an increase in the quantity of pollutants actually emitted prior to the merging, the Technical Secretary shall presume that merging was significantly motivated by an intent to gain emissions credit for greater dispersion. Absent a demonstration by the source owner or operator that merging was not significantly motivated by such intent, the Technical Secretary shall deny credit for the effects of such merging in calculating the allowable emissions for the source;
    - (III) Smoke management in agricultural or silvicultural prescribed burning programs;
    - (IV) Episodic restrictions on residential woodburning and open burning; or
    - (V) Techniques under 1200-3-24-.02(1)(a)3., which increase final exhaust gas plume rise where the resulting plant wide allowable emissions of sulfur dioxide do not exceed 5,000 tons per year.
  - (b) Emission limitation and emission standard mean a requirement established by the Technical Secretary, which limits the quantity rate or concentration of emissions of air pollutants on a continuous basis, including any requirements which limit the level of opacity, prescribe equipment, set fuel specifications, or prescribe operation or maintenance procedures for a source to assure continuous emission reduction.
  - (c) Good engineering practice (GEP) stack height means the greater of:



(Rule 1200-3-24-.02, continued)

1. 65 meters (213 feet), measured from the ground-level elevation at the base of the stack;
2. Considering other stack criteria the following formulae apply:
  - (i) For stacks in existence on January 12, 1979, and for which the owner or operator had obtained all applicable permits or approvals required,

$$H_g = 2.5H$$

provided the owner or operator produces evidence that this equation was actually relied on in establishing an emission limitation;

- (ii) For all other stacks,

$$H_g = H + 1.5L,$$

where

$H_g$  = good engineering practice stack height, measured from the ground-level elevation at the base of the stack,

$H$  = height of nearby structure(s) measured from ground-level elevation at the base of the stack,

$L$  = lesser dimension, height ( $H$ ) or projected width, of nearby structure(s), provided that the Technical Secretary may require the use of a field study or fluid model to verify GEP stack height for the source; or

3. The height demonstrated by a fluid model or a field study approved by the Technical Secretary, which ensures that the emissions from a stack do not result in excessive concentrations of any air pollutant as a result of atmospheric downwash, wakes, or eddy effects created by the source itself, nearby structures or nearby terrain features.
- (d) Nearby as used in 1200-3-24-.02(1)(c) is defined for a specific structure or terrain feature and
1. For the purposes of applying the formulae provided in rule 1200-3-24-.02(1)(c)2., means that distance up to five times the lesser of the height or the width dimension of a structure, but not greater than 0.8 km (½ mile), and
  2. For conducting demonstrations under rule 1200-3-24-.02(1)(c)3., means not greater than 0.8 km (½ mile), except that the portion of a terrain feature may be considered to be nearby which falls within a distance of up to 10 times the maximum height ( $H_t$ ) of the feature, not to exceed 2 miles if such feature achieves a height ( $h_t$ ) 0.8 km from the stack that is at least 40 percent of the GEP stack height determined by the formulae provided in 1200-3-24-.02(1)(c)2.(ii) or 26 meters (85 feet), whichever is greater, as measured from the ground level elevation at the base of the stack. The height of the structure or terrain feature is measured from the ground-level elevation at the base of the stack.
- (e) Excessive Concentration is defined for the purposes of determining good engineering practice stack height under 1200-3-24-.02(1)(c)3. and means:
1. For sources seeking credit for stack height exceeding that established under 1200-3-24-.02(1)(c)2., a maximum ground-level concentration due to emissions from a stack due in part to a downwash, wakes, and eddy effects produced by nearby structures or nearby terrain features which individually is at least 40 percent in excess of the maximum concentration experienced in the absence of such downwash, wakes, or eddy effects and which contributes to a total concentration due to emissions from all sources that is greater

(Rule 1200-3-24-.02, continued)

than an ambient air quality standard. For sources subject to the prevention of significant deterioration program, an excessive concentration alternatively means a maximum ground-level concentration due to emissions from a stack due in whole or part to downwash, wakes, or eddy effects produced by nearby structures or nearby terrain features which individually is at least 40 percent in excess of the maximum concentration experienced in the absence of such downwash, wakes, or eddy effects and greater than a prevention of significant deterioration increment. The allowable emission rate to be used in making demonstrations under this rule shall be prescribed by the new source performance standard (NSPS) that is applicable to the source category unless the owner or operator demonstrates that this emission rate is infeasible. Where such demonstrations are approved by the Technical Secretary, an alternative emission rate shall be established in consultation with the source owner or operator;

2. For sources seeking credit after October 11, 1983, for increases in existing stack heights established under 1200-3-24-.02(1)(c)2., either:
  - (i) a maximum ground-level concentration due in whole or part to downwash, wakes, or eddy effects as provided in 1200-3-24-.02(1)(e)1., except that the emission rate specified by the State Implementation Plan (or, in absence of such a limit, the actual emission rate) shall be used, or
  - (ii) the actual presence of a local nuisance caused by the existing stack, as determined by the Technical Secretary; and
3. For sources seeking credit after January 12, 1979, for a stack height determined under 1200-3-24-.02(1)(c)2., where the Technical Secretary requires the use of a field study or fluid model to verify GEP stack height, for sources seeking stack height credit after November 9, 1984, based on the aerodynamic influence of cooling towers, and for sources seeking stack height credit after December 31, 1970, based on the aerodynamic influence of structures and adequately represented by the equations in rule 1200-3-24-.02(1)(c)2., a maximum ground-level concentration due in whole or part to downwash, wakes, or eddy effects that is at least 40 percent in excess of the maximum concentration experienced in the absence of such downwash, wakes, or eddy effects.
  - (f) Stack for the purpose of good engineering practice means any point in a source designed to emit solids, liquids, or gases into the air, including a pipe or duct but not including flares.
  - (g) A Stack in Existence means that the owner or operator had (1) begun, or caused to begin, a continuous program of physical on-site construction of the stack; or (2) entered into binding agreements or contractual obligations, which could not be canceled or modified without substantial loss to the operator, to undertake a program of construction of the stack to be completed in a reasonable time.
  - (h) Coal-Fired Steam Electric Generating Unit means any furnace, boiler, or other device used for combusting coal for the purpose of producing steam and is constructed for the purpose of supplying more than one-third of its potential electric outlet capacity and more than 25 megawatts electrical output to any utility power distribution system for sale.

**Authority:** T.C.A. §§68-25-105 and 4-5-201 et. seq. **Administrative History:** Original rule filed October 8, 1987; effective November 22, 1987.

#### **1200-3-24-.03 GOOD ENGINEERING PRACTICE STACK HEIGHT REGULATIONS STANDARDS.**

- (1) No person shall cause, suffer, allow, or permit emissions in excess of the standards of this chapter.

(Rule 1200-3-24-.03, continued)

- (2) Upon mutual agreement of the owner or operator of a source and the Technical Secretary, an emission limitation more restrictive than that otherwise specified in this chapter may be established. Violation of any accepted special limitations is grounds for revocation of the issued permit and/or other enforcement measures provided for in the Tennessee Air Quality Act.
- (3) The possession of a valid permit shall not protect the source from enforcement actions if permit conditions are not met.

**Authority:** T.C.A. §§68-25-105 and 4-5-201 et. seq. **Administrative History:** Original rule filed October 8, 1987; effective November 22, 1987.

#### **1200-3-24-.04 SPECIFIC EMISSION STANDARDS.**

For any affected air contaminant source(s) at a facility, the Technical Secretary shall specify on the construction and/or operating permit(s) as permit conditions the emission limitation that is determined to be necessary under the provisions of this chapter. The permit(s) must be subjected to a public hearing and incorporated as a revision to the State Implementation Plan.

**Authority:** T.C.A. §§68-25-105 and 4-5-201 et. seq. **Administrative History:** Original rule filed October 8, 1987; effective November 22, 1987.

**RULES  
OF  
TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
BUREAU OF ENVIRONMENT  
DIVISION OF AIR POLLUTION CONTROL**

**CHAPTER 1200-03-25  
STANDARDS FOR INFECTIOUS WASTE INCINERATORS**

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**1200-03-25-.01 PURPOSE.**

It is the purpose of this chapter to establish emission standards and performance specifications for new and existing incinerators that burn infectious waste so as to prevent undesirable levels of air contaminants in the atmosphere.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed September 22, 1988; effective November 6, 1988.

**1200-03-25-.02 GENERAL.**

- (1) Incinerators which burn infectious waste generated by Hospitals, Nursing Homes or Ambulatory Surgical Treatment Centers as such facilities are defined in T.C.A. § 68-11-201 are subject to the provisions of this chapter.
- (2) An owner or operator shall not burn infectious waste except in a multiple-chamber incinerator with a solid hearth, or in a device found to be equally effective for the purpose of air contaminant control as an approved multiple-chamber incinerator as determined by the Technical Secretary but not a described in 1200-03-25-.06(1)(c).
- (3) The Technical Secretary may establish an emission limit more restrictive than that otherwise specified in this chapter and/or an emission limit for any air contaminant discharged from the infectious waste incinerator that is not specified in this chapter. These emission limits shall be a special condition on any permit or order concerning the source and shall be ratified by the Air Pollution Control Board. Violation of the special condition shall be grounds for revocation of the issued permit or order pursuant to the UAPA.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed September 22, 1988; effective November 6, 1988.

**1200-03-25-.03 EXISTING SOURCE COMPLIANCE SCHEDULES.**

- (1) Incinerators in existence before November 6, 1988 must be in compliance, on or before 18 month from November 6, 1988, with the standards and requirements of this chapter. Each owner or operator of an existing incinerator shall either demonstrate compliance with the requirements of this chapter or submit a compliance schedule detailing the plan of action to achieve compliance within the above 18-month time frame to the Technical Secretary within 180 days from November 6, 1988.

(Rule 1200-03-25-.03, continued)

- (2) Individual compliance schedules for existing incinerators approved under this rule must contain the following increments of progress and achieve final compliance with the specified emission standards and requirements.
  - (a) Date contract will be awarded
  - (b) Date initial construction will commence
  - (c) Date construction will be completed
  - (d) Date final compliance will be achieved
  - (e) Date of compliance demonstration
- (3) The individual compliance schedule must be received and approved by the Technical Secretary prior to the date of the first increment of progress.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed September 22, 1988; effective November 6, 1988.

#### **1200-03-25-.04 DEFINITIONS.**

Unless specifically defined in this chapter, the definitions from Chapter 1200-03-02 will apply:

- (1) "Incinerator" means any device used in the process of controlled combustion of waste for the purpose of reducing the volume and minimizing the potential for harm to public health from the waste charged by destroying combustible matter leaving the noncombustible ashes or residue.
- (2) "Infectious waste" means solid or liquid wastes which contain pathogens with sufficient virulence and quantity such that exposure to the waste by a susceptible host could result in an infectious disease. For purposes of this Rule, all of the following types of wastes shall be considered to be infectious wastes:
  - (a) Wastes contaminated by patients who are isolated due to communicable disease, as provided in the U.S. Centers for Disease Guidelines for Isolation Precautions in Hospital, (July, 1983).
  - (b) Cultures and stocks of infectious agents: including specimen cultures collected from medical and pathological laboratories, cultures and stocks of infectious agents from research and industrial laboratories, wastes from the production of biologicals, discarded live and attenuated vaccines, and culture dishes and devices used to transfer, inoculate, and mix cultures.
  - (c) Waste human blood and blood products such as serum, plasma, and other blood components.
  - (d) Pathological wastes, such as tissues, organs, body parts, and body fluids that are removed during surgery and autopsy.
  - (e) All discarded sharps (e.g., hypodermic needles, syringes, pasteur pipettes, broken glass, scalpel blades) used in patient care or which have come into contact with infectious agents during use in medical, research, or industrial laboratories.

(Rule 1200-03-25-.04, continued)

- (f) Contaminated carcasses, body parts, and bedding of animals that were exposed to pathogens in research, in the production of biologicals, or in the *in vivo* testing of pharmaceuticals.
  - (g) Other wastes determined to be infectious by the facility.
- (3) "In existence" means that the owner or operator has (1) begun, or caused to begin, a continuous program of physical on-site construction of the facility, or (2) entered into binding agreements or contractual obligations, which cannot be canceled or modified without substantial loss to the owner or operator, or to undertake a program of construction at the facility to be completed in a reasonable time, or (3) that the owner or operator possesses a valid operating permit.
  - (4) "Continuous program of physical on-site construction" means significant and continuous site preparation work such as major clearing or excavation followed by placement of footings, pilings, and other materials of construction, assembly, or installation of unique facilities or equipment at the site of the source.
  - (5) "Substantial loss" generally means a loss which would equal or exceed 10 percent of the total project cost.
  - (6) "Anti-neoplastic agents" means chemotherapy drugs or compounds used in the treatment of cancer. For the purpose of this rule containers or other items containing residues of anti-neoplastic agents shall not be considered anti-neoplastic agents.
  - (7) "Residues of anti-neoplastic agents" means the portion of compound that remains in a container or other item after all the compound has been removed using the practices commonly employed to remove materials from that type of container, e.g., pouring, pumping, and aspirating; and no more than 2.5 centimeters (one inch) of material remain on the bottom of the container or other item, or no more than 3 (three) percent by weight of the total capacity of the container remains in the container or other item.
  - (8) "Multiple-chamber incinerator" means an incinerator consisting of at least two refractory lined combustion chambers (primary and secondary) in series, physically separated by refractory walls, interconnected by gas passage ports or ducts.
  - (9) "Afterburner" means an auxiliary burner for destroying unburned or partially burned combustion gases after they have passed from the combustion chamber.
  - (10) "Batch Incinerator" means an incinerator that is loaded while the chamber(s) is cold and is not recharged until the burndown cycle is complete.
  - (11) "Biologicals" means noxious organisms.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed September 22, 1988; effective November 6, 1988. Amendment filed May 17, 1990; effective July 1, 1990.

#### **1200-03-25-.05 EMISSION STANDARDS.**

- (1) Particulate matter shall not be in excess of 0.1 grains per dry standard cubic foot of exhaust gas corrected to 12 percent CO<sub>2</sub>.
- (2) The Technical Secretary shall specify on the construction and/or operating permits as permit conditions, the hydrogen chloride (HCl) emission level that is reasonable available control technology (RACT) so that the air quality impact from a source shall not exceed 70.0 micrograms per cubic meter HCl, 24-hour average. The owner or operator of the infectious

(Rule 1200-03-25-.05, continued)

waste incinerator may choose to limit the operating hours of the source to meet the impact level.

(3) Visible Emission Standards

- (a) No owner or operator subject to the provisions of this chapter shall cause to be discharged into the atmosphere from any affected facility any gases which exhibit greater than 10 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 20 percent opacity. This opacity standard shall not apply to burner startups when only firing auxiliary fuel without waste being burned.
- (b) Visible determination of opacity of emissions shall be determined by the reference method as specified in Rule 1200-03-16-.01(5)(g) of the Official Compilation of the Rule and Regulations of the State of Tennessee and the *Federal Register*, Vol. 39, No. 219, November 12, 1974.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed September 22, 1988; effective November 6, 1988.

**1200-03-25-.06 PERFORMANCE SPECIFICATIONS.**

(1) Temperature and Residence Time Requirements

- (a) The incinerator secondary chamber shall be maintained at a minimum temperature of 1600°F, except as specified in subparagraph (c) of this paragraph.
- (b) The minimum secondary chamber residence time for those incinerators not in existence on November 6, 1988 shall be 1.0 second. The minimum secondary chamber residence time for incinerators in existence on November 6, 1988 shall be sufficient to prevent excess visible emissions as specified in subparagraph 1200-03-25-.05(3)(a).
- (c) Owners or operators which have an incinerator in existence on November 6, 1988 without a secondary chamber and equipped with an afterburner operated at a minimum temperature of 1600°F may choose to meet a more restrictive visible emission standard of zero percent opacity in lieu of meeting the secondary chamber requirements. The opacity shall be evaluated using Tennessee Visible Emission Evaluation (TVEE) Method 3 approved by the Tennessee Air Pollution Control Board on December 12, 1984 and amended on May 30, 1985 and included in the State Implementation Plan. TVEE Method 3 was approved by EPA on March 19, 1986 and published in the *Federal Register*, Vol. 51, No. 53, Page 9445, May 19, 1986.
- (d) An infectious waste incinerator used to combust anti-neoplastic agents must be operated with the secondary chamber at a minimum exit temperature of 1800°F with a secondary chamber design residence time of not less than 1.5 seconds.

(2) The firing of the incinerator burners shall be controlled automatically to maintain the specified minimum secondary chamber or afterburner temperature.

(3) Charging Systems

- (a) Incinerators shall be equipped with an automatic mechanical loading device, and an interlock system shall be provided to prevent charging until the secondary chamber exit temperature of 1600°F is established except as provided for below.

(Rule 1200-03-25-.06, continued)

- (b) The owner or operator of an incinerator, except a batch incinerator, in existence on November 6, 1988 which is manually fed may submit a written request to the Technical Secretary that manual feeding be allowed. The request must include a plan detailing the methods and operating procedure to be employed in manually charging the incinerator. The Technical Secretary shall determine if the plan provided is acceptable. The plan must be submitted to the Technical Secretary within 180 days of November 6, 1988 and the operation of the incinerator by this plan shall become a condition of the operating permit.
    - 1. The owner or operator of the incinerator must post or file on the operating premises a copy of the approved plan.
    - 2. The approval of the plan shall not relieve the owner or operator of the duty to comply with all other applicable emission requirements.
    - 3. Any violation of the permit conditions or other requirements of this chapter may result in the Technical Secretary requiring that an automatic mechanical loading device be installed.
  - (c) Batch incinerators shall incorporate a lockout system which will prevent ignition of the waste until the exit temperature of the secondary chamber or the afterburner reaches 1600°F and prevent recharging until the combustion and burndown cycles are complete.
- (4) Startup and Shutdown Requirements
- (a) No waste shall be charged to an incinerators other than a batch incinerator until the secondary chamber or afterburner has achieved a minimum temperature of 1600°F, except as specified in subparagraph (b) of this paragraph. The secondary chamber or afterburner must achieve and maintain the required minimum temperature for 15 minutes before charging begins.
  - (b) No waste shall be charged to an incinerator used to combust anti-neoplastic agents until the secondary chamber has achieved a minimum temperature of 1800°F. The secondary chamber must achieve and maintain the required minimum temperature for 15 minutes before charging begins.
  - (c) During incinerator shutdowns the secondary chamber or afterburner minimum temperature of 1600°F is to be maintained using auxiliary burners until the wastes are completely combusted and the burndown cycle is complete. For incinerators used to combust anti-neoplastic agents, the secondary chamber must be maintained at a minimum temperature of 1800°F during a shutdown until all wastes are completely combusted and the burndown cycle is complete.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed September 22, 1988; effective November 6, 1988.

#### **1200-03-25-.07 MONITORING REQUIREMENTS.**

The secondary chamber or afterburner temperature shall be continuously monitored and recorded. Sensors shall be installed, maintained, and operated such that the flames from the burners do not impinge upon the sensors. The secondary chamber temperature shall be measured at or beyond the chamber exit. The temperature sensing device shall have an accuracy that is  $\pm 25^{\circ}\text{F}$  over its operating range. The recorders must have a minimum chart speed of one (1) inch per hour for strip chart recorders and a maximum of 24 hours per chart for circular recorders.



(Rule 1200-03-25-.07, continued)

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed September 22, 1988; effective November 6, 1988.

#### **1200-03-25-.08 TESTING REQUIREMENTS.**

- (1) For incinerators in existence before November 6, 1988, a particulate matter stack test shall be conducted within 180 days of November 6, 1988. For owners or operators with an approved compliance schedule stack testing will be conducted as specified in the approved schedule.
- (2) For incinerators where construction commenced on or after November 6, 1988, stack testing for particulate matter must be conducted within 60 days after achieving the maximum capacity at which the incinerator will be operated, but not later than 180 days after initial startup.
- (3) In lieu of requiring a source to stack test, the Technical Secretary may approve a previously conducted stack testing report for an identical unit tested under operating conditions representative of worst case emission release.
- (4) The owner or operator must furnish the Technical Secretary with a written report of the results of any stack testing.
- (5) Stack testing for particulate matter shall be conducted in the manner prescribed in Ruler 1200-03-12-.03 of the Official Compilation of the Rules and Regulations of the State of Tennessee.
- (6) Stack testing for hydrogen chloride may be required by the Technical Secretary. The stack testing shall be conducted in a manner prescribed by the Technical Secretary.
- (7) Performance tests shall be conducted under such conditions as the Technical Secretary shall specify to the facility operator based upon representative performance of the affected facility. The owner or operator shall make available to the Technical Secretary such records as may be necessary to determine the conditions of the performance test(s). Operations during startups, shutdowns, and malfunctions shall not constitute representative conditions of performance tests.
- (8) The owner or operator shall provide the Technical Secretary twenty (20) days' notice of the performance test to afford the Technical Secretary the opportunity to have an observer present.
- (9) The owner or operator of an affected facility shall provide, or cause to be provided, performance testing facilities as described in Rule 1200-03-10-.01 of the Official Compilation of the Rule and Regulations of the State of Tennessee.
- (10) The Technical Secretary may require air contaminant stack testing as determined to be necessary to assure continuous compliance with the standards of this chapter and any emission limit stipulated as a permit condition.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed September 22, 1988; effective November 6, 1988.

#### **1200-03-25-.09 RECORD KEEPING AND REPORTING REQUIREMENTS.**

- (1) Records shall be maintained at the source for a minimum of 2 years from the date compiled and shall be made available for review upon request of the Technical Secretary or his agent.

(Rule 1200-03-25-.09, continued)

- (2) Operating procedures, startup procedures, and shutdown procedures for infectious waste incinerators shall be approved by the Technical Secretary and posted on-site at or near the incinerator.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed September 22, 1988; effective November 6, 1988.

**1200-03-25-.10 INSPECTION AND MAINTENANCE.**

- (1) Inspection and maintenance schedules for infectious waste incinerators are to be posted or kept on-site at or near the incinerator.
- (2) Records shall be kept of inspections, maintenance, and repairs.

**Authority:** T.C.A. §§ 4-5-202 and 68-25-105. **Administrative History:** Original rule filed September 22, 1988; effective November 6, 1988.

**RULES  
OF  
THE TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
DIVISION OF AIR POLLUTION CONTROL**

**CHAPTER 1200-03-26  
ADMINISTRATIVE FEES SCHEDULE**

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**1200-03-26-.01 TENNESSEE VISIBLE EMISSIONS EVALUATION COURSE FEES.**

- (1) The effective date of the fee schedule in subparagraph (2)(b) of this rule shall be July 1, 2020. The fee schedule in subparagraph (2)(a) of this rule continues to apply until June 30, 2020.
- (2) Fee schedules.
  - (a) Until June 30, 2020, the following course fees apply:

|  |          |
|--|----------|
| Initial Certification Tennessee Applicant    | \$125.00 |
| Recertification Tennessee Applicant          | \$95.00  |
| Initial Certification Out-of-State Applicant | \$175.00 |
| Recertification Out-of-State Applicant       | \$125.00 |
  - (b) Beginning July 1, 2020, the following course fees apply:

|                       |          |
|-----------------------|----------|
| Initial Certification | \$180.00 |
| Recertification       | \$150.00 |

**Authority:** T.C.A. §§ 4-5-201, et seq.; 68-201-101, et seq.; and 68-201-105. **Administrative History:** Original rule filed June 1, 1990; effective July 16, 1990. Repeal and new rule filed July 5, 1994; effective September 18, 1994. Amendments filed January 15, 2020; effective April 14, 2020.

**1200-03-26-.02 CONSTRUCTION AND ANNUAL FEES.**

- (1) Purpose.
  - (a) It is the purpose of this rule to establish fees for sources subject to permitting pursuant to Division 1200-03 sufficient to supplement existing state and federal funding that covers reasonable costs (direct and indirect) associated with the development, processing, and administration of the air pollution control program. This will provide for better quality evaluation of the impact of air emissions on the citizens of Tennessee, and timely permitting services for sources subject to permitting requirements.
  - (b) Such costs shall include, but not be limited to, costs associated with review of applications and reports, issuance of required permits and associated inspections of sources, unit observation, review and evaluation of monitoring results (stack and/or ambient), modeling, and costs associated with any necessary enforcement actions (excluding penalties assessed).

(Rule 1200-03-26-.02, continued)

- (c) Annual emission fees collected from major sources and all sources subject to paragraph (11) of Rule 1200-03-09-.02 shall be used to pay for the direct and indirect costs of:
1. Preparing generally applicable regulations or guidance regarding the permit program or its implementation or enforcement;
  2. Reviewing and acting on any application for a permit, permit revision, or permit renewal, including the development of an applicable requirement as part of the processing of a permit, or permit revision or renewal;
  3. General administrative costs of running the permit program, including the supporting and tracking of permit applications, compliance certification and related data entry;
  4. Implementing and enforcing the terms of any 40 C.F.R. Part 70 permit (not including any court costs or other costs associated with an enforcement action), including adequate resources to determine which sources are subject to the program;
  5. Emissions and ambient monitoring;
  6. Modeling, analyses, or demonstrations;
  7. Preparing inventories and tracking emissions; and
  8. Providing direct and indirect support to sources under the Small Business Environmental Assistance Program.

(2) Definitions.

Unless specifically defined in this chapter, the definitions from Chapter 1200-03-02 will apply. All terms defined in this chapter apply only to the provisions of this chapter.

- (a) "Air contaminant" is particulate matter, dust, fumes, gas, mist, smoke, or vapor, or any combinations thereof.
- (b) "A source subject to fees (source)" is any and all sources of emission of air contaminants, whether privately or publicly owned or operated, that is required to obtain a permit.
- (c) "Annual accounting period" is a twelve (12) consecutive month period. For sources subject to paragraph (11) of Rule 1200-03-09-.02, the annual accounting period shall be either of the following: the calendar year (January 1 to December 31) or the state fiscal year (July 1 to June 30). For sources not subject to paragraph (11) of Rule 1200-03-09-.02, the annual accounting period is the twelve consecutive month period as specified in paragraph (6) of this rule.
- (d) "Allowable emissions" mean the emissions rate of a source calculated at full design capacity operating twenty-four (24) hours per day, every day of the annual accounting period or calculated at the operating time and/or other operating conditions specified in a legally enforceable permit, and the most stringent of the following:
  1. The applicable standards under Division 1200-03;

(Rule 1200-03-26-.02, continued)

2. The emission rate specified in a legally enforceable permit condition established pursuant to Rule 1200-03-09-.01 including those with a future compliance date; or pursuant to Rule 1200-03-09-.02; or
  3. If no allowable emission rate is specified pursuant to part 1. or part 2. above, the actual emissions will equal the allowable emission rate solely for the purposes of fee computation. In no way is this item to be considered the setting of a binding emission limitation pursuant to the provisions of Chapter 1200-03-09. The actual emission rate will be calculated as the maximum actual emissions expected of full design capacity operating twenty-four (24) hours per day, every day of the annual accounting period, or expected at the operating time specified in a legally enforceable permit.
- (e) "Division" means the Tennessee Division of Air Pollution Control.
- (f) "Legally enforceable" means all limitations and conditions which are enforceable by the Technical Secretary, including those under this Division 1200-03, Division 0400-30, the State Implementation Plan, and any permit requirements established pursuant to Chapter 1200-03-09. For major sources and sources subject to paragraph (11) of Rule 1200-03-09-.02, legally enforceable also includes a limitation or condition that is enforceable by the United States Environmental Protection Agency or its administrator.
- (g) "Major source" means any source or group of sources located within a contiguous area, and under common control which is regulated by one of the following:
1. A source subject to the Prevention of Significant Deterioration (PSD) requirements, paragraph 1200-03-09-.01(4).
  2. A source subject to the requirements for nonattainment areas, subparagraph 1200-03-09-.01(5)(b) which must meet a lowest achievable emission rate (LAER) limitation.
  3. "Major source" means any stationary source (or any group of stationary sources that are located on one or more contiguous or adjacent properties, and are under common control of the same person [or persons under common control]) belonging to a single major industrial grouping and that are described in subparts (i), (ii), or (iii) of this definition. For the purposes of defining "major source," a stationary source or group of stationary sources shall be considered part of a single industrial grouping if all of the pollutant emitting activities at such source or group of sources on contiguous or adjacent properties belong to the same Major Group (i.e., all have the same two-digit code) as described in the Standard Industrial Classification Manual, 1987.
    - (i) A major source under section 112 of the Federal Act which is defined as:
      - (l) For pollutants other than radionuclides, any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit, in the aggregate, 10 tons per year (tpy) or more of any hazardous air pollutant which has been listed pursuant to section 112(b) of the Federal Act, 25 tpy or more of any combination of such hazardous air pollutants, or such lesser quantity as the Administrator may establish by rule. Notwithstanding the preceding sentence, emissions from any oil or gas exploration or production well (with its associated equipment) and emissions from any pipeline compressor or pump station shall not be aggregated with emissions from other

(Rule 1200-03-26-.02, continued)

similar units, whether or not such units are in a contiguous area or under common control, to determine whether such units or stations are major sources; or

- (II) For radionuclides, "major source" shall have the meaning specified by the Administrator by rule.
- (ii) A major stationary source of air pollutants, as defined in section 302 of the Federal Act, that directly emits or has the potential to emit, 100 tpy or more of any air pollutant (including any major source of fugitive emissions of any such pollutant, as determined by rule by the Administrator). The fugitive emissions of a stationary source shall not be considered in determining whether it is a major stationary source for the purposes of section 302(j) of the Federal Act, unless the source belongs to one of the following categories of stationary sources:
  - (I) Coal cleaning plants (with thermal dryers);
  - (II) Kraft pulp mills;
  - (III) Portland cement plants;
  - (IV) Primary zinc smelters;
  - (V) Iron and steel mills;
  - (VI) Primary aluminum ore reduction plants;
  - (VII) Primary copper smelters;
  - (VIII) Municipal incinerators capable of charging more than 250 tons of refuse per day;
  - (IX) Hydrofluoric, sulfuric, or nitric acid plants;
  - (X) Petroleum refineries;
  - (XI) Lime plants;
  - (XII) Phosphate rock processing plants;
  - (XIII) Coke oven batteries;
  - (XIV) Sulfur recovery plants;
  - (XV) Carbon black plants (furnace process);
  - (XVI) Primary lead smelters;
  - (XVII) Fuel conversion plant;
  - (XVIII) Sintering plants;
  - (XIX) Secondary metal production plants;
  - (XX) Chemical process plants;

(Rule 1200-03-26-.02, continued)

- (XXI) Fossil-fuel boilers (or combination thereof) totaling more than 250 million British thermal units per hour heat input;
  - (XXII) Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels;
  - (XXIII) Taconite ore processing plants;
  - (XXIV) Glass fiber processing plants;
  - (XXV) Charcoal production plants;
  - (XXVI) Fossil-fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input; or
  - (XXVII) All other stationary source categories regulated by a standard promulgated under section 111 or 112 of the Federal Act, but only with respect to those air pollutants that have been regulated for that category;
- (iii) A major stationary source as defined in part D of title I of the Federal Act, including:
- (I) For ozone nonattainment areas, sources with the potential to emit 100 tpy or more of volatile organic compounds or oxides of nitrogen in areas classified as “marginal” or “moderate,” 50 tpy or more in areas classified as “serious,” 25 tpy or more in areas classified as “severe,” and 10 tpy or more in areas classified as “extreme”; except that the references in this paragraph to 100, 50, 25, and 10 tpy of nitrogen oxides shall not apply with respect to any source for which the Administrator has made a finding, under section 182(f)(1) or (2) of the Federal Act, that requirements under section 182(f) of the Federal Act do not apply;
  - (II) For ozone transport regions established pursuant to section 184 of the Federal Act, sources with the potential to emit 50 tpy or more of volatile organic compounds;
  - (III) For carbon monoxide nonattainment areas (1) that are classified as “serious,” and (2) in which stationary sources contribute significantly to carbon monoxide levels as determined under rules issued by the Administrator, sources with the potential to emit 50 tpy or more of carbon monoxide; and
  - (IV) For particulate matter (PM-10) nonattainment areas classified as “serious,” sources with the potential to emit 70 tpy or more of PM-10.
- (h) “Minor source” means any source or group of sources located within a contiguous area, and under common control which is not a major or conditional major source for the purposes of this rule. However, for the sole purpose of emission fee calculation, affected sources subject to the acidic precipitation requirements of Title IV of the Federal Clean Air Act embodied at 42 U.S.C. §§ 7401 et seq. shall be considered minor sources subject to the provisions of paragraph 1200-03-26-.02(6) until the year 2000. At that time, the affected sources will become major sources subject to paragraph 1200-03-26-.02(9).

(Rule 1200-03-26-.02, continued)

- (i) "Regulated pollutant" means allowable emissions (and/or actual emissions for major sources) of 4,000 tons per year or less from a source for each of the following compounds or substances:
  - 1. Each pollutant regulated under Chapter 0400-30-38 Emission Standards for Hazardous Air Pollutants (excluding transitory asbestos from construction, demolition, and renovation).
  - 2. Each regulated pollutant from a source subject to the provisions of Chapter 1200-03-16 New Source Performance Standards.
  - 3. Volatile Organic Compounds (VOC)
  - 4. Particulates
  - 5. For major sources, the following pollutants:
    - (i) Nitrogen oxides or any volatile organic compounds;
    - (ii) Any pollutant for which a national ambient air quality standard has been promulgated;
    - (iii) Any pollutant that is subject to any standard promulgated under section 111 of the Federal Act; provided, however, that any such pollutant shall not be a regulated pollutant solely because the pollutant is a constituent of greenhouse gases;
    - (iv) Deleted.
    - (v) Any pollutant subject to a standard promulgated under section 112 or other requirements established under section 112 of the Federal Act, including sections 112(g), and (j), of the Act, including the following:
      - (I) Any pollutant subject to requirements under section 112(j) of the Federal Act. If the Administrator fails to promulgate a standard by the date established pursuant to section 112(e) of the Federal Act, any pollutant for which a subject source would be major shall be considered to be regulated on the date 18 months after the applicable date established pursuant to section 112(e) of the Federal Act; and
      - (II) Any pollutant for which the requirements of section 112(g)(2) of the Federal Act have been met, but only with respect to the individual source subject to section 112(g)(2) requirement except that carbon monoxide, any pollutant regulated as a Class I or Class II substance subject to a standard promulgated under Title VI of the Federal Clean Air Act or any pollutant regulated solely because it is subject to the provision of Section 112(r) of the Federal Clean Air Act shall not be included in the compilation of pollutants at part 1200-03-09-02(11)(b)19.
- 6. Sulfur Dioxide (SO<sub>2</sub>)
- 7. Nitrogen Oxides (NO<sub>x</sub>)



(Rule 1200-03-26-.02, continued)

8. Lead (Pb)
  9. Gaseous Fluorides expressed as Hydrogen Fluoride (HF)
  10. Carbon Monoxide (no charge)
  11. Hydrogen Chloride (HCl)
  12. Each hazardous air pollutant actually emitted or allowed to be emitted from a source subject to paragraph (11) of Rule 1200-03-09-.02.
- (j) “Construction” means for the purpose of this rule, any activities that require a source to obtain a construction permit under the provisions of Rule 1200-03-02-.01 and Rule 1200-03-09-.01.
- (k) Reserved.
- (l) “Potential to emit” means the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation is enforceable by the Administrator. This term does not alter or affect the use of this term for any other purposes under the Federal Act, or the term “capacity factor” as used in title IV of the Federal Act or the Federal regulations promulgated thereunder.
- (m) “Responsible official” means one of the following:
1. For a corporation: a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:
    - (i) The facilities employ more than 250 persons or have gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars); or
    - (ii) The delegation of authority to such representative is approved in advance by the Technical Secretary;
  2. For a partnership or sole proprietorship: a general partner or the proprietor, respectively;
  3. For a municipality, State, Federal, or other public agency: either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of EPA); or
  4. For affected sources:
    - (i) The designated representative in so far as actions, standards, requirements, or prohibitions under title IV of the Federal Act or the regulations promulgated thereunder are concerned; and

(Rule 1200-03-26-.02, continued)

- (ii) The designated representative for any other purposes under Division Rules. However, a person other than the designated representative may serve as the responsible official for non title IV activities.
- (n) "Federal Act" means the Clean Air Act, as amended, 42 U.S.C. §§ 7401, et seq. as amended by Public Law No. 101-549 (November 15, 1990).
- (o) "Affected source" shall have the meaning given to it in the federal regulations promulgated under title IV of the Federal Act.
- (p) "EPA or the Administrator" means the Administrator of the EPA or his designee.
- (q) "Conditional major source" for the purpose of fee payments, means a source that would otherwise be considered a major source under potential to emit conditions if it were not for a mutually agreed upon, more restrictive permit limit than that prescribed by regulation or a more restrictive permit limitation upon operating hours and/or production rates than that which would otherwise be possible at the source.
- (r) "Permit review fee" is a fee charged to conditional major sources to cover the costs associated with insuring the source is operating below the major source emission thresholds. These costs include, but are not limited to, inspections of the source, and review of annual reports for this facility.
- (s) "Greenhouse gases" means the air pollutant defined in part 86.1818-12(a) of Chapter I of Title 40 of the Code of Federal Regulations as the aggregate group of the following six greenhouse gases: carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.
- (t) "Permit amendment" is a permit revision that:
  1. Corrects typographical errors;
  2. Identifies a change in the name, address, or phone number of any person identified in the permit, or makes a similar minor administrative change at the source;
  3. Requires more frequent monitoring or reporting by the permittee;
  4. Allows for a change of ownership or operational control of a source where the Technical Secretary determines that no other change in the permit is necessary, provided that a transfer of ownership permit application is filed consistent with the provisions of paragraph (6) of Rule 1200-03-09-.03;
  5. Incorporates into a true minor source or conditional major source operating permit the requirements of a construction permit issued pursuant to Rule 1200-03-09-.01;
  6. Extends the expiration date of a construction permit;
  7. Changes the name of a source or facility;
  8. Changes a deadline established in a permit; or
  9. Adds or revises a monitoring parameter.

(Rule 1200-03-26-.02, continued)

- (u) “Anticipated maximum emission rate” (AMER) means the maximum rate of actual emissions, in tons per year, from all regulated air pollutants, as defined in part (11)(b)19. of Rule 1200-03-09-.02, emitted from all sources listed in a construction permit application, excluding sources that are not required to obtain a permit in accordance with Rule 1200-03-09-.04. Except as specified below, the responsible official shall calculate the AMER based on each source operating at its maximum actual hourly emission rate, as listed in the construction permit application, for 8,760 hours per year.

$$AMER = \sum_{i=1}^m \sum_{j=1}^n E_{i,j} \times h_j$$

Where:

- m = number of pollutants emitted by sources included in the application;
- n = total number of sources included in the application, excluding sources that are exempt from permitting in accordance with Rule 1200-03-09-.04;
- E = emission rate in pounds per hour; and
- h = hours per year (8,760 except as specified below).

For applications that do not list a maximum pound-per-hour emission rate for a particular pollutant or source, the responsible official shall use the potential emissions, in tons per year, as listed in the construction permit application. The responsible official may use a reduced emission rate or hours of operation if the same is limited by federal or state air quality regulation, limited by operational constraints within the process (i.e., a bottleneck), or the responsible official has requested a limitation of the same in the construction permit application. Emission of a greenhouse gas that is a regulated air pollutant solely because the pollutant is a constituent of greenhouse gases shall not be included when calculating the AMER. Emission of a hazardous air pollutant that is also a VOC or particulate matter shall be counted only as VOC or particulate matter. When calculating the AMER for particulate matter, the responsible official shall use the highest of the source’s PM, PM<sub>10</sub>, or PM<sub>2.5</sub> emission rate. For construction permit applications that include the retirement of existing sources or the reduction of emissions from existing sources, the AMER shall not include the emission reductions associated with such retirement or reduction of emissions.

- (v) “Anticipated maximum increase in emissions” means the AMER of the existing source following the change minus the anticipated maximum emission rate prior to the change.

(3) General Provisions.

- (a) A source must meet all provisions and limitations specified in the permit(s) for construction and operation of the source.
- (b) All annual fees must be paid in full by the due dates specified in subparagraph (6)(c) and paragraph (9) of this rule.
- (c) Any source exempted by Rule 1200-03-09-.04 is exempt from the annual emission fee requirements of this chapter, unless emissions from the exempt source are included in a facility-wide emissions limit. However, the emissions from any exempt source must comply with all rules and regulations of the Tennessee Air Pollution Control Board.
- (d) All construction fees required by paragraph (5) of this rule must be paid in full upon submission of the application.

(Rule 1200-03-26-.02, continued)

- (e) Any responsible official who disagrees with the calculation or the applicability of the fee may petition the Tennessee Air Pollution Control Board (Board) for a hearing. In order to perfect a hearing, a petition for a hearing together with the total amount of the fee due must be received by the Technical Secretary of the Board not later than fifteen (15) days after the due date. Such hearing shall be in accordance with contested case provisions set forth in Title 4, Chapter 5, T.C.A. If the annual emission fee paid was improperly assessed, the Technical Secretary shall return the amount determined to be improperly assessed plus interest on the excess accrued from the date the emission fee was paid.
- (f) If a responsible official requests an operating permit that is later determined by the Division to be subject to the construction permit rule, the permit application submittal shall not be subject to the time lines in this rule until complete construction permit applications are submitted.
- (g) Any responsible official impacted by the decision in subparagraph (f) of this paragraph who disagrees with such decision may petition the Tennessee Air Pollution Control Board for a hearing. The hearing shall be in accordance with contested case provisions as set forth in Title 4, Chapter 5, T.C.A. §§ 4-5-301 et seq.
- (h) In the event a fee is paid for a construction permit and it is later determined that only an operating permit is needed or the source is insignificant or otherwise exempt from permitting, 100% of the fee will be forfeited for the permit review.
- (i) Where more than one allowable emission limit is applicable to a regulated pollutant, the allowable emissions for the regulated pollutants shall not be double counted.
  - 1. Major sources subject to the provisions of paragraph (9) of this rule shall apportion their emissions as follows to ensure that their fees are not double counted.
    - (i) For fee purposes, hazardous air pollutants that are also in the family of volatile organic compounds or the family of particulate matter will be included in their respective family category when determining annual emission fees.
    - (ii) For fee purposes, hazardous air pollutants that are not in the family of volatile organic compounds or the family of particulate matter will be reported separately.
    - (iii) Each individual hazardous air pollutant is subject to the 4,000-ton cap provisions of subparagraph (2)(i) of this rule.
    - (iv) Major sources that wish to pay annual fees for PM<sub>10</sub> on an allowable emission basis may do so if they have a specific PM<sub>10</sub> allowable emission standard. If a major source has a total particulate emission standard but wishes to pay annual fees on an actual PM<sub>10</sub> emission basis, it may do so if the PM<sub>10</sub> actual emission levels are proven to the satisfaction of the Technical Secretary. The method to demonstrate the actual PM<sub>10</sub> emission levels must be made as part of the source's major source operating permit in advance in order to exercise this option. The PM<sub>10</sub> emissions reported under these options shall not be subject to fees under the family of particulate emissions. The 4,000-ton cap provisions of subparagraph (2)(i) of this rule shall also apply to PM<sub>10</sub> emissions.

(Rule 1200-03-26-.02, continued)

- (j) No construction fee, annual emission fee, or permit review fee under paragraph (1) of this rule shall be imposed for review of notices of intent for authorization under a permit-by-rule or issuance of a notice of authorization.
- (4) Complete Applications.
- (a) A construction permit application is not considered complete unless the application filing/processing fee has been paid in full. The application filing/processing fee is not refundable, except as provided in paragraph (5)(f) of this rule. Any overpayment of the application filing/processing fee is applied to the annual emission fee as a credit. The effective date of this provision is October 24, 1991.
  - (b) For the purposes of determining whether or not the Division has acted in the time frame established to process permit applications set forth in paragraph (5), the evaluation period shall not begin until a complete application has been filed in the Division of Air Pollution Control's Nashville office.
  - (c) The Division shall denote the date that all applications for construction permits are received in its Central office. Applications received after 4:30 p.m. local time will be considered as being received the next working day.
  - (d) Upon receipt of a construction permit application, the Division must examine it to ensure that it is complete within 30 days. If the application is found to be incomplete, parts 1. through 4. of this subparagraph apply. The 30 days completeness evaluation time period is extended to 90 days for minor and conditional major sources of the nonattainment pollutant or its precursor pollutants as identified in part (4)(b)47. of Rule 1200-03-09-.01 located within the boundary of a nonattainment area so designated by the Board and/or the United States Environmental Protection Agency.
    - 1. If an application for a construction permit is determined to be incomplete, the Division must notify the applicant in writing via certified mail of the finding with a brief explanation of the deficiencies. The application filing/processing fee shall be retained by the Division.
    - 2. After receiving notice from the Division that the application was incomplete, the applicant shall have 180 calendar days to correct the deficiencies. If properly corrected, the application will be processed and no additional fee is required. The permit will then be granted or denied in accordance with this chapter and Chapter 1200-03-09. If the deficiencies are not corrected within the 180-day correction period, the fee will be forfeited in its entirety to the Division and the Division will officially deny the permit based on the incomplete permit application. If the applicant re-applies, a new application/processing fee must be paid in full along with the re-application.
    - 3. It is the express intent of the Board that the 180-day permit application correction period is not to be construed by an applicant as permission to construct or modify a source without the permit required by Chapter 1200-03-09.
    - 4. Upon receipt of a corrected application revised pursuant to part 1., 2., or 3. of this subparagraph, the Division shall re-evaluate the application and notify the applicant of its finding as to whether or not the application is considered to be complete. If the application is still deemed incomplete the applicant has the remainder of the initial 180-day period to correct the deficiencies or forfeit the fee in its entirety. Unless a determination that a corrected application is not complete is made by the Division and communicated to the applicant via certified mail within 30 days of receipt, the corrected application shall be deemed to be

(Rule 1200-03-26-.02, continued)

complete for the purpose of starting the Division's permit processing deadline schedule. However, if additional information is still needed to process the permit, the applicant has a duty to furnish said information or face denial of the permit.

- (e) Revisions to a construction permit application to reflect changes in the design of the source or the materials to be processed therein will be accepted by the Division during the permit processing period. However, the deadline for evaluation as to issuance of a permit or denial of the request will restart upon each and every significant revision as though it were an entirely new permit.
- (5) Construction Fees.
- (a) Construction Permit and Opt-Out Permit Application Filing/Processing Fees
    - 1. The fee rates of this subparagraph effective on July 1, 2022, continue to apply until July 1, 2024.
    - 2. On and after July 1, 2024, a responsible official applying for the construction permit (i.e., construction as defined in subparagraph (2)(j) of this rule) required by Rule 1200-03-09-.01, or an opt-out permit, must pay a construction permit application filing/processing fee as follows:
      - (i) A responsible official of a minor source or a conditional major source must pay construction permit application fees as set forth in subparagraph (g), Schedule A of this paragraph. The fee determined from subparagraph (g), Schedule A of this paragraph shall be calculated based on the definitions of AMER and anticipated maximum increase in emissions, as defined in subparagraphs (2)(u) and (v) of this rule.
      - (ii) A responsible official of a major source or a source subject to paragraph (11) of this rule (hereinafter, "Paragraph 11 source") must pay a construction permit application fee of \$7,000.
      - (iii) Except as specified in subpart (v) of this part, a responsible official applying for a Prevention of Significant Air Quality Deterioration permit as required by paragraph (4) of Rule 1200-03-09-.01 must pay a construction application fee of \$70,000.
      - (iv) Except as specified in subpart (v) of this part, a responsible official applying for a permit under the provisions of paragraph (5) of Rule 1200-03-09-.01, Growth Policy, must pay a construction application fee of \$70,000.
      - (v) A responsible official applying for a plantwide applicability limit (PAL) under the provisions of subparagraph (4)(s) of Rule 1200-03-09-.01 or part (5)(b)10. of Rule 1200-03-09-.01 must pay an application fee of \$10,000 per pollutant.
      - (vi) A responsible official of an existing Paragraph 11 source applying for an operating permit to opt out of being a Paragraph 11 source, as described in subparagraph (11)(a) of Rule 1200-03-09-.02, by limiting the potential to emit such that the potential emissions of all pollutants are below the major source applicability thresholds, as defined in part (11)(b)14. of Rule 1200-03-09-.02, must pay an application fee of \$18,000.

(Rule 1200-03-26-.02, continued)

3. On and after July 1, 2024, an applicant for a minor source or a conditional major source applying to make a change to an existing source or permit such that a new construction permit is required must pay a permit application fee as set forth in subparagraph (g), Schedule A of this paragraph. This fee is determined by the anticipated maximum increase in emissions, as defined in subparagraph (2)(v) of this rule, from the AMER of the previous construction permit for the source. The fee rates in this part in effect on July 1, 2022, continue to apply until July 1, 2024.
4. On and after July 1, 2024, an owner or operator of a source that submits notice of intent for coverage under a general permit serving as a construction permit shall pay a permit application fee equal to that determined in accordance with the subparagraph (g) of this paragraph, Schedule A fee corresponding to the applicant's AMER, unless an alternate construction permit application fee is stipulated in the table below. If Schedule A from subparagraph (g) of this paragraph is used to determine the fee, it shall be determined by the anticipated maximum increase in emissions, as defined in subparagraph (2)(v) of this rule, from the AMER of the previous construction permit for the source.

| General Permit Category                              | Construction and Modification Permit Application Fee |
|--|--|
| Perchloroethylene and Petroleum Solvent Dry Cleaners | \$100  |
| Concrete batch plants                                | \$100  |
| Portable rock crushers                               | \$100  |
| Asphalt plants                                       | \$250  |
| Air Curtain Incinerators                             | \$500  |

5. All application filing/processing fees required by this subparagraph are due upon submission of the permit application.
- (b)
1. The fee rates required by this subparagraph effective July 1, 2022, continue until July 1, 2024.
  2. With the exception of changes received during the initial construction permit evaluation period (i.e., prior to the Division letter or email denoting application completeness), all revisions under subparagraph (4)(e) of this rule that result in an increase in allowable emissions sought by the applicant or an increase in actual emissions declared in the original application for a permit shall be subject to a fee equal to the following:
    - (i) For minor sources and conditional major sources, one-half of the Schedule A fee corresponding to the applicant's anticipated maximum emission rate, not to exceed \$500.
    - (ii) For Paragraph 11 sources, \$3,500.
  3. The fee required by subparts 2(i) and (ii) of this subparagraph is determined by the anticipated maximum increase in emissions from the anticipated maximum emission rate of the previous construction permit for the source.
- (c) Reserved.

(Rule 1200-03-26-.02, continued)

- (d) The Division must consider all applications for construction that are received from a source in the Division's Nashville office on the same date as a source submittal. The source submittal is subject to the applicable permit filing/processing fee.
- (e) The Division must make a decision to issue or deny a request for a permit in one of the categories listed in parts 1. through 4. of this subparagraph and notify the applicant of that decision in accordance with the following time-lines:
  - 1. Major source or Paragraph 11 source construction permit reviews must be completed in 180 days, from receipt of a complete application unless a longer period is agreed to in writing by the applicant.
  - 2. Minor and conditional major source construction permit reviews must be completed within 115 days from receipt of a complete application.
  - 3. PAL reviews must be completed within 365 days from receipt of a complete application unless a longer period is agreed to in writing by the applicant.
  - 4. Operating permit reviews for an existing major source or Paragraph 11 source applying for an operating permit to opt out of being a major source or Paragraph 11 source by limiting the potential to emit such that they are below the major source applicability thresholds must be completed within 365 days from receipt of a complete application unless a longer period is agreed to in writing by the applicant.
  - 5. If a mutual agreement letter required by part (6)(b)1. of this rule or subparagraph (11)(a) of Rule 1200-03-09-.02 has been requested by the Division at least seven days prior to a deadline specified in part 1., 2., 3., or 4. of this subparagraph, but is not received by that deadline, the applicable deadline specified in part 1., 2., 3., or 4. of this subparagraph shall be seven days after receipt of the agreement letter.
  - 6. If a source is required to have a compliance schedule in their permit in accordance with paragraph (4) of Rule 1200-03-09-.02 arises after an application was deemed complete, the deadlines specified in part 1., 2., 3., or 4. of this subparagraph shall be extended as follows:
    - (i) 21 days after receipt of a compliance schedule from the applicant that is acceptable to the Technical Secretary if the draft permit is not required to have a public comment period.
    - (ii) 60 days after receipt of a compliance schedule from the applicant that is acceptable to the Technical Secretary if the draft permit is subject to an opportunity for public comment, and no public hearing is held.
    - (iii) 60 days after receipt of a compliance schedule from the application that is acceptable to the Technical Secretary if the draft permit is subject to an opportunity for public comment and a public hearing is announced along with the opportunity for public comment on the draft permit.
    - (iv) 90 days after receipt of a compliance schedule from the applicant that is acceptable to the Technical Secretary if the draft permit is subject to an opportunity for public comment, if a public hearing is requested during the public comment period, and the public hearing is held after the close of the public comment period.



(Rule 1200-03-26-.02, continued)

- (f) In the event that the Division fails to process the construction permit application within the time lines established in subparagraph (e) of this paragraph, the Division will refund the permit filing/processing fee to the applicant in full. The refund will be made within 30 days following the date that the deadline for a decision on that particular permit application was established. For refunds in excess of \$1,000, additional time to allow review and approval of the refund by the Office of the Attorney General shall be allowed.
- (g) The appropriate permit filing/processing fee shall be determined by the applicant from the following schedules:

SCHEDULE A –  
CONSTRUCTION PERMIT FEES FOR MINOR AND CONDITIONAL MAJOR SOURCES

| Anticipated Maximum<br>Emission Rate | (Filing/Processing)<br>Permit Fee |
|--------------------------------------|-----------------------------------|
| Less Than 10 Tons/Year               | \$100                             |
| 10 to < 100 Tons/Year                | \$500                             |
| 100 to < 250 Tons/Year               | \$1,000                           |
| 250 to < 500 Tons/Year               | \$2,000                           |
| 500 to < 1,000 Tons/Year             | \$3,000                           |
| 1,000 to < 5,000 Tons/Year           | \$4,000                           |
| 5,000 and Greater Tons/Year          | \$5,000                           |

- (6) Annual Fees for Minor and Conditional Major Sources.
  - (a) A responsible official of a minor source and/or a conditional major source must pay an annual fee to the State of Tennessee. The annual fee shall be based on the source's allowable emissions as defined in subparagraph (2)(d) of this rule.
  - (b)
    1. The minor source and conditional major source annual emission fee must be calculated using the sum of the allowable emissions of all regulated pollutants at a source. Upon mutual agreement of the responsible official and the Technical Secretary, a more restrictive regulatory requirement may be established to minimize the allowable emissions and thus the annual emission fee. The more restrictive requirement must be specified in the permit, and must include the method(s) used to determine compliance with the limitation(s). The documentation procedure to be followed by the source owner or operator must also be included to ensure that the limit is not exceeded. Exceedances of the mutual agreement limit will be considered by the Board as circumvention of the required annual emissions fee and a matter in which enforcement action must be pursued.
    2. To reduce the amount of the fee as provided in part 1. of this subparagraph, the responsible official must submit a letter to the Technical Secretary requesting reduced allowable emissions and providing the method or methods that will be used to ensure compliance with the requested limit or limits. This request must be received at least 90 days prior to the applicable due date of the annual fee. Any request received after that deadline may only apply to the fee for the following year and not for the year being invoiced.
  - (c) All minor and conditional major source annual fees are due and payable to the State of Tennessee in full according to Schedule I of this subparagraph. The county in which a source is located determines when the source's annual fee is due. If a source is located on contiguous property in more than one county, the county appearing earliest

(Rule 1200-03-26-.02, continued)

in the calendar year shall be used to determine the due date of the annual fee. Due to seasonal operations, cotton gin source annual fees are due and payable annually to the State of Tennessee by December 1 of each year regardless of the county in which the source is located. The fee must be paid to the State of Tennessee in full by the first day of the month that the fee is due. The Technical Secretary extends this due date by an appropriate period not to exceed 90 days where the source owner or operator's fee notice was mailed by the Department to an incorrect mailing address.

SCHEDULE I

Month the Annual Fee Is Due (Accounting Period)  
Counties in the Monthly Grouping

|           |  |
|-----------|--|
| January   | Anderson, Bedford, Benton, Bledsoe, Blount, Bradley, and Campbell  |
| February  | Cannon, Carroll, Carter, Cheatham, Chester, Claiborne, Clay, and Cocke                                       |
| March     | Coffee, Crockett, Cumberland, Davidson, Decatur, DeKalb, Dickson, Dyer, and Fayette                          |
| April     | Fentress, Franklin, Gibson, Giles, Grainger, Greene, and Grundy  |
| May       | Hamblen, Hamilton, Hancock, Hardeman, Hardin, Hawkins, Haywood, and Henderson                                |
| June      | Henry, Hickman, Houston, Humphreys, Jackson, Jefferson, Johnson, Knox, Lake, Lauderdale, Lawrence, and Lewis |
| July      | Lincoln, Loudon, McMinn, McNairy, Macon, and Madison   |
| August    | Marion, Marshall, Maury, Meigs, Monroe, Montgomery, Moore, and Morgan  |
| September | Obion, Overton, Perry, Pickett, Polk, Putnam, and Rhea   |
| October   | Roane, Robertson, Rutherford, Scott, Sequatchie, Sevier, and Shelby  |
| November  | Smith, Stewart, Sullivan, Sumner, Tipton, Trousdale, Unicoi, and Union                                       |
| December  | Van Buren, Warren, Washington, Wayne, Weakley, White, Williamson, and Wilson                                 |

- (d) 1. A newly constructed minor or conditional major source beginning operation subsequent to the annual accounting period for the county in which it is located shall not be required to pay an annual fee for the remainder of the annual accounting period. A minor or conditional major source ceasing operations during the annual accounting period will not receive a refund for annual fees paid.
- 2. Sources issued a combination construction and operating permit in accordance with paragraph (12) of Rule 1200-03-09-.02 shall pay annual fees as if operation of the new or modified source began on the date of permit issuance. This part does not apply to sources for which construction and operation of the new source or modification began prior to receipt of a construction permit.
- (e) Except for sources that are covered under a general permit issued in accordance with Rule 1200-03-09-.06, the appropriate annual emissions fee for minor and conditional major sources in operation on or after July 1, 1993, shall be calculated at an emission fee rate of \$18.75 per ton of allowable emissions of regulated pollutants at the time of

(Rule 1200-03-26-.02, continued)

the fee assessment by the Division based on the current active permit(s). Sources with allowable emissions less than 10 tons will not be subject to this fee, provided that such source has not taken a limitation on their permit that would render them a conditional major source.

- (f) A responsible official of a source operating under a general permit shall pay an annual emissions fee as stipulated in subparagraph (e) of this paragraph based on the allowable emissions specified in the general permit unless different fee rates are stipulated in the following table. These fees are due and payable by the date established in subparagraph (c) of this paragraph:

| General Permit Category   | Combined Annual Emission Fee and Base Fee | Permit Review Fee |
|---|---|-------------------|
| Perchloroethylene and Petroleum Solvent Dry Cleaners                                    | \$0                                       | \$0               |
| Concrete Batch Plants with emissions less than 10 tons per calendar year                | \$0                                       | \$0               |
| Concrete Batch Plants with emissions greater than or equal to 10 tons per calendar year | \$400                                     | \$0               |
| Portable rock crushers at True Minor Facilities   | \$1,000                                   | \$0               |
| Portable rock crushers at Conditional Major Facilities                                  | \$1,000                                   | \$500             |
| Asphalt Plants  | \$1,000                                   | \$500             |

- (g) Deleted.
- (h) Deleted.
- (i) The annual emission fee will be calculated on no more than 4,000 tons per year of each regulated pollutant. An annual emission fee will not be charged for carbon monoxide or for emissions of a pollutant solely because the pollutant is a constituent of greenhouse gases.
- (j) Deleted.
- (k) Conditional major sources must pay an annual permit review fee in accordance with the table below in addition to the annual emission fees specified in subparagraph (e) of this paragraph. This fee is due and payable to the State of Tennessee according to Schedule I found in subparagraph (c) of this paragraph. When determining the permit review fee, the allowable tons per year shall be calculated in accordance with subparagraph (b) of this paragraph except that carbon monoxide emissions shall be included.

| Allowable Tons Per Year | Review Fee |
|-------------------------|------------|
| 0-50                    | \$250      |
| 50.1-100 TPY            | \$500      |
| 100.1-250 TPY           | \$1,000    |
| 250.1 and up            | \$2,000    |

(7) Payment of Fees.

(Rule 1200-03-26-.02, continued)

- (a) All fees regulated by this chapter shall be payable to the State of Tennessee.
  - (b) Fees not paid, late fees, and returned checks are subject to the provisions of paragraph (8) of this rule.
  - (c) Returned checks for any reason (i.e. insufficient funds, account closed, etc.) are considered failure to pay until such time collected funds are forwarded to the State of Tennessee. Returned checks are subjected to additional handling charges.
  - (d) Annual fee payments and permit review fee payments shall be clearly identified with the "Emission Source Reference Number" or "Facility ID" specified in the source's permit(s) and the invoice number, if available, or by an alternative method proposed by the source and agreed to by the Technical Secretary. Major sources paying fees on more than one SIC code at their facility shall denote the SIC code on their check for the account upon which they are paying. Delivery of the payment shall be to the location prescribed by the Technical Secretary.
  - (e) When a fee overpayment has been made as a result of an error by the source, an owner or operator may seek a credit or refund for such fee overpayment within one year from the date on which the State of Tennessee received payment of the fee.
  - (f) Online payment can be made to the State of Tennessee for annual fees by following the established State of Tennessee online payment process. Online payments require the inclusion of the customer identification number and the invoice number, if available, to ensure proper crediting of payment.
- (8) Late Fees – Failure to Pay.
- (a) The Technical Secretary will not issue any permit or renewal of a permit to an applicant until all fees required by this chapter have been paid in full to the State of Tennessee.
  - (b) If any part of any fee imposed under this rule is not paid within 15 days of the due date, a late payment penalty of five percent of the amount due shall at once accrue and be added thereto. Thereafter, on the first day of each month during which any part of any fee or any prior accrued late payment penalty remains unpaid, an additional late payment penalty of five percent of the then unpaid balance shall accrue and be added thereto. In addition, the fees not paid within 15 days after the due date, shall bear interest at the maximum lawful rate from the due date to the date paid, compounded monthly; however, the total of the penalties and interest that accrue pursuant to this subparagraph shall not exceed three times the amount of the original fee.
  - (c) It is the express intent of the Tennessee Air Pollution Control Board that late payment fees or interest accrued on an unpaid fee are not to be viewed by the Technical Secretary as a mitigating factor in calculating a civil penalty for construction or operating without the permits required by Rule 1200-03-09-.01 and/or Rule 1200-03-09-.02.
- (9) Annual Fees for Major Sources and Sources Subject to Paragraph (11) of Rule 1200-03-09-.02.
- (a) 1. A responsible official of a major source or a source subject to paragraph (11) of Rule 1200-03-09-.02 (hereinafter, "Paragraph 11 source") must pay an annual fee to the State of Tennessee. A major source or Paragraph 11 source is not subject to the minor and conditional major source annual fees of paragraph (6) of this rule on or after July 1, 1994. Prior to July 1, 2022, a major source or

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Paragraph 11 source paying major source annual fees pursuant to this paragraph (9) will not be subject to the construction permit fees of paragraph (5) of this rule for any additional construction occurring at the source as long as the source remains a major source or Paragraph 11 source. On or after July 1, 2022, all major sources and Paragraph 11 sources are subject to the construction permit fees of paragraph (5) of this rule.

2. Effective January 1, 2018, the following shall apply:
  - (i) Sources choosing to pay annual fees on an allowable emissions basis pursuant to subparagraph (b) of this paragraph shall pay 100% of the fee due pursuant to subparagraph (d) of this paragraph:
    - (I) No later than April 1 of the year immediately following the annual accounting period for which the fee is due for sources paying on a calendar year basis pursuant to subparagraph (b) of this paragraph; or
    - (II) No later than April 1 of the current fiscal year for sources paying on a fiscal year basis pursuant to subparagraph (b) of this paragraph.
  - (ii) Sources choosing to pay annual fees on an actual emissions basis or a combination of actual and allowable emissions basis and on a calendar year basis pursuant to subparagraph (b) of this paragraph shall pay 100% of the fee due pursuant to subparagraph (d) of this paragraph no later than April 1 of the year immediately following the annual accounting period for which the fee is due, except as allowed by part (g)3. of this paragraph.
  - (iii) Sources choosing to pay annual fees on an actual emissions basis or a combination of actual and allowable emissions basis and on a fiscal year basis pursuant to subparagraph (b) of this paragraph shall pay an estimated 65% of the fee due pursuant to subparagraph (d) of this paragraph no later than April 1 of the current fiscal year. The remainder of the annual fee is due August 1 of each year, except as allowed by part (g)3. of this paragraph.
- (b) 1. On or before December 31 of the annual accounting period, the responsible official must submit to the Division in writing the responsible official's determination to pay the annual fee based on:
  - (i) Either a calendar year or state fiscal year; and
  - (ii) Actual emissions, allowable emissions, or a mixture of actual and allowable emissions of regulated pollutants.
2. If the responsible official does not declare a fee payment choice as provided in subparts 1.(i) or (ii) of this subparagraph, then the basis of the annual fee payment shall be the same as the responsible official's most recent choice of fee payment, or, if no such previous choice was made, the basis of the annual fee payment shall be that specified in the source's current major source operating permit.
3. If the responsible official wishes to restructure allowable emissions for a major source or Paragraph 11 source for the purpose of lowering the annual fee, then an application must be filed at least 90 days prior to December 31 of the annual accounting period as provided in subparagraph (g) of this paragraph.

(Rule 1200-03-26-.02, continued)

4. The responsible official of a newly constructed major source, Paragraph 11 source, or minor source modifying its operation such that the source becomes a major source or Paragraph 11 source shall pay an initial annual fee based on a calendar year and allowable emissions for the fractional remainder of the calendar year commencing upon the source's start-up. However, in no case shall the annual fee be less than the annual base fee established in part (d)1 of this paragraph. Prior to July 1, 2024, in no case shall the annual fee be less than the minimum fee established in subpart (d)2.(ii) of this paragraph effective on July 1, 2022.
  5. For purposes of the payment of annual fees due July 1, 2016, parts 1. and 2. of this subparagraph shall not apply. Annual fees due July 1, 2016, shall be based on the state fiscal year and the annual fee basis (actual emissions, allowable emissions, or a mixture) specified in a source's current major source operating permit. If a source does not have an effective major source operating permit on July 1, 2016, then the source's responsible official shall pay the annual fee based on the state fiscal year and allowable emissions.
- (c) Reserved.
- (d) 1. Notwithstanding the fee rates established by parts 2. and 4. of this subparagraph, a responsible official of any source subject to this paragraph shall pay an annual base fee which shall be calculated in accordance with subparts (i) through (iii) of this part. This base fee shall be paid in addition to the annual emission fee established by subpart 2.(iii) of this subparagraph. The fee rates required by this part effective July 1, 2022, continue to apply until July 1, 2024.
- (i) The base fee shall be determined by the number of federal air quality standards to which a major source or Paragraph 11 source is subject. The following federal air quality standards shall be considered if the standards have been incorporated into a permit issued to the facility under the provisions of Chapter 1200-03-09 or have been incorporated into Chapter 0400-30-38 or Chapter 0400-30-39:
    - (I) Standards of Performance for New Stationary Sources as codified in 40 C.F.R. part 60, excluding subparts A, B, Ba, C, Cb, Cc, Cd, Ce, Cf, AAA, DDDD, FFFF, MMMM, and UUUUa.
    - (II) National Emission Standards for Hazardous Air Pollutants as codified in 40 C.F.R. part 61, excluding subpart A.
    - (III) National Emissions Standards for Hazardous Air Pollutants as codified in 40 C.F.R. part 63, excluding subparts A, B, C, D, E, OO, PP, QQ, RR, SS, TT, UU, VV, and XX.
  - (ii) If a facility is subject to 40 C.F.R. part 60 subpart IIII or JJJJ, or 40 C.F.R. part 63 subpart ZZZZ or CCCCCC and is only subject to that subpart for air contaminate sources that are not required to be included in a permit in accordance with paragraph (4) of Rule 1200-03-09-.04, then such subpart shall not be included when determining the number of federal air quality standards that a source is subject.
  - (iii) The base fee is determined in accordance with the following table:

(Rule 1200-03-26-.02, continued)

| Number of federal air quality standards | Base Fee |
|---|----------|
| 0                                       | \$10,000 |
| 1                                       | \$15,000 |
| 2 to 3                                  | \$20,000 |
| 4 to 5                                  | \$30,000 |
| 6 to 10                                 | \$40,000 |
| 11 to 20                                | \$50,000 |
| 21 and up                               | \$75,000 |

2. (i) For purposes of this part, an electric utility generating unit (EGU) means any steam electric generating unit or stationary combustion turbine that is constructed for the purpose of supplying more than one-third of its potential electric output capacity and more than 25 MW net-electrical output to any utility power distribution system for sale. Also, any steam supplied to a steam distribution system for the purpose of providing steam to a steam electric generator that would produce electrical energy for sale is considered in determining the electrical energy output capacity of the affected EGU.
- (ii) Notwithstanding the annual emission fee rates established by subpart (iii) of this part, the annual fee required to be paid by a responsible official of any source subject to this paragraph shall be no less than:
  - (I) \$5,500 for sources (Once in/Always in sources) subject to this paragraph solely due to the May 16, 1995 EPA memorandum entitled, "Potential to Emit for MACT Standards—Guidance on Timing Issues," from John Seitz, Director, Office of Air Quality Planning and Standards (OAQPS), to EPA Regional Air Division Directors, provided that the source has permitted allowable emissions below the major source thresholds found in part (11)(b)14. of Rule 1200-03-09-.02. If the source's permitted allowable emissions are not below those major source thresholds as of October 31 of the annual accounting period for which fees are due under this part, then item (II) of this subpart applies; and
  - (II) \$10,000 for all other sources subject to this paragraph for fees due on and after January 1, 2023.
- (iii) The emission fee rates applied to calculate the annual fee assessed pursuant to subparagraph (a) of this paragraph shall be as follows:
  - (I) Fee based on actual emissions: \$70.50 per ton for non-EGU sources and \$98.50 per ton for EGU sources; and
  - (II) Fee based on allowable emissions: \$48.50 per ton for non-EGU sources and \$68.00 per ton for EGU sources.
- (iv) The fees and fee rates enumerated in this subparagraph must be supported by the Division's annual workload analysis that is approved by the Board.
- (v) When subparts 1.(i) through (iii) of this subparagraph become effective, subpart (ii) of this part will no longer be applicable.

(Rule 1200-03-26-.02, continued)

3. The fees and fee rates specified in this subparagraph shall remain in effect until the effective date of an amendment to this subparagraph. Any revision to the fees and fee rates must result in the collection of sufficient fee revenue to fund the activities identified in subparagraph (1)(c) of this rule and must be supported by the Division's annual workload analysis that is approved by the Board.
  4. Notwithstanding the fee rates established by part 1. or 2. of this subparagraph, a responsible official of any source subject to this paragraph shall pay a Title V modification fee calculated as follows:
    - (i) For each minor permit modification issued in accordance with subpart (11)(f)5.(ii) of Rule 1200-03-09-.02 during the calendar year preceding the year in which the annual fee is due, the responsible official shall pay \$2,800.
    - (ii) For each significant modification issued in accordance with subpart (11)(f)5.(iv) of Rule 1200-03-09-.02 during the calendar year preceding the year in which the annual fee is due, the responsible official shall pay \$5,000.
  5. The Title V modification fee required by part 4. of this subparagraph shall be paid in addition to the annual emission fee established by subpart 2.(iii) of this subparagraph. The Title V modification fee is not required for complete minor permit modification and significant modification applications received prior to July 1, 2024.
- (e)
1. An emission cap of 4,000 tons per year per regulated pollutant per major source SIC code shall apply to actual or allowable based emission fees. A major source annual emission fee will not be charged for emissions in excess of the cap(s) or for carbon monoxide.
  2. No annual fee under this paragraph (9) will be charged for emissions of a pollutant solely because the pollutant is a constituent of greenhouse gases.
- (f)
- In the case where a source is shut down such that it has operated only during a portion of the annual accounting period and the source's permits are forfeited to the Technical Secretary, the appropriate fee shall be calculated on a prorated basis over the period of time that the source was operated in the annual accounting period. The responsible official of a major source or Paragraph 11 source that is shut down, but wishes to retain its permits, shall pay a maintenance fee equivalent to 40% of the fee that would be charged had the responsible official determined to base the annual fee on allowable emissions. If the responsible official chooses this option in the midst of an annual accounting period, then the fee will be prorated according to the number of months that the source was in the maintenance fee status. However, in no case shall the annual fee be less than the minimum annual fee established in subpart (d)2.(ii) of this paragraph. The responsible official shall notify the Division no later than December 31 of the annual accounting period so that the Division will have sufficient time to adjust billing records for the maintenance fee status.
- (g)
- Responsible officials required to pay the major source or Paragraph 11 source annual fee pursuant to subparagraph (a) of this paragraph must conform to the following requirements with respect to fee payments:
1. (i) If a responsible official paying the annual fee based on allowable emissions wishes to restructure the allowable emissions of a major source or Paragraph 11 source for the purpose of lowering the annual fee, then upon



(Rule 1200-03-26-.02, continued)

mutual agreement of the responsible official and the Technical Secretary, a more restrictive regulatory requirement may be established to minimize the allowable emissions and thus the annual fee. The more restrictive regulatory requirement, the method used to determine compliance with the limitation, and the documentation procedure to be followed by the major source or Paragraph 11 source to ensure that the limit is not exceeded must be included in the application and specified in a permit through either the permit modification processes of paragraph (11) of Rule 1200-03-09-.02, or the construction permit processes of Rule 1200-03-09-.01, or both. The more restrictive requirement shall be effective for purposes of lowering the annual fee upon agreement by both the responsible official and the Technical Secretary and for all other purposes shall be effective upon issuance of the permit, modification, or both.

- (ii) To reduce the amount of the fee as provided in subpart (i) of this part, the responsible official must file a complete permit modification or construction permit application with the Division at least 90 days prior to December 31 of the annual accounting period.
- 2. The responsible official shall file an analysis of actual emissions, allowable emissions, or both actual and allowable emissions, whichever is appropriate due to the basis of the annual fee payment, with the Technical Secretary on or before the date the fee is due pursuant to subparagraph (a) of this paragraph. The analysis shall summarize the emissions of all regulated pollutants at the air contaminant sources of the major source or Paragraph 11 source facility and shall be used to calculate the amount of the annual fee owed pursuant to subparagraph (a) of this paragraph.
  - (i) An annual fee based on both actual emissions and allowable emissions shall be calculated utilizing the 4,000 ton per year cap specified in subparagraph (2)(i) of this rule. In determining the tonnages to be applied toward the regulated pollutant 4,000 ton cap in a mixed base fee, the responsible official shall first calculate the actual emission-based fees for a regulated pollutant and apply that tonnage toward the regulated pollutant's cap. The remaining tonnage available in the 4,000 ton category of a regulated pollutant shall be subject to allowable emission-based fee calculations. Once the 4,000 ton per year cap has been reached for a regulated pollutant, no additional fee for that pollutant shall be required.
  - (ii) If the responsible official chooses to base the annual fee on actual emissions, then the responsible official must prove the magnitude of the source's emissions to the satisfaction of the Technical Secretary.
- 3. (i) Responsible officials choosing to pay the annual fee based on actual emissions or a mixture of actual and allowable emissions may request an extension of time for filing the emissions analysis with the Technical Secretary. The extension may, for facilities paying fees on a calendar year basis, be granted by the Technical Secretary for up to 90 days after the fee is due pursuant to subparagraph (a) of this paragraph. The extension may, for facilities paying fees on a fiscal year basis, be granted by the Technical Secretary for up to 60 days after the fee is due pursuant to subparagraph (a) of this paragraph. The request for extension must be received by the Division no later than 4:30 p.m. on April 1 or the request for extension shall be denied. The request for extension to file must state the reason for the request and provide an adequate explanation. An estimated annual fee payment of no less than 65% of the annual fee must accompany the

(Rule 1200-03-26-.02, continued)

request for extension to avoid penalties and interest on the underpayment of the annual fee. The remaining balance due must accompany the emission analysis. If there has been an overpayment, the responsible official may request a refund in writing to the Division or the amount of the overpayment may be applied as a credit toward the next annual fee.

- (ii) A responsible official choosing to pay the annual fee based on allowable emissions is not eligible for the extension of time authorized by subpart (i) of this part.
- (h) Reserved.
- (i) Reserved.

**Authority:** T.C.A. §§ 4-5-201, et seq.; 4-5-202, et seq.; 68-201-101, et seq.; 68-201-105, et seq.; and 68-203-103, et seq. **Administrative History:** Original rule filed June 1, 1990; effective July 16, 1990. Repeal and new rule filed July 5, 1994; effective September 18, 1994. Amendment filed March 13, 1997; effective May 27, 1997. Amendment filed March 23, 1998; effective June 6, 1998. Amendment filed March 26, 1999; effective June 9, 1999. Amendment filed April 17, 2000; effective July 1, 2000. Amendment filed December 21, 2000; effective March 6, 2001. Amendment filed January 14, 2002; effective March 30, 2002. Amendment filed May 23, 2003; effective August 6, 2003. Amendment filed May 17, 2004; effective July 31, 2004. Amendment filed March 29, 2005; effective June 12, 2005. Amendment filed April 13, 2006; effective June 27, 2006. Amendment filed June 30, 2006; effective October 27, 2006. Amendment filed October 17, 2006; effective December 31, 2006. Amendment filed April 16, 2007; effective June 30, 2007. Amendment filed April 16, 2008; effective June 30, 2008. Amendment filed February 25, 2009; effective May 11, 2009. Amendment filed July 13, 2009; effective October 11, 2009. Amendment filed March 30, 2010; effective June 28, 2010. Amendments filed November 1, 2010; to have become effective January 30, 2011. On January 24, 2011, the Government Operations Committee voted to stay the amendments for 60 days; new effective date March 31, 2011. Amendment filed November 30, 2010; to have become effective February 28, 2011. On January 24, 2011, the Government Operations Committee voted to stay the amendment for 60 days; new effective date April 30, 2011. Amendment filed March 16, 2011; effective June 14, 2011. Amendments filed February 22, 2012; effective May 22, 2012. Amendment filed January 8, 2013; to have become effective April 8, 2013. However, the Government Operations Committee filed a 25-day stay of the rule's effective date; new effective date May 3, 2013. Amendment filed January 8, 2014; effective April 8, 2014. Amendments filed January 6, 2016; effective April 5, 2016. Amendments filed March 7, 2016; effective June 5, 2016. Amendments filed May 17, 2017; effective August 15, 2017. Amendments filed October 10, 2017; effective January 8, 2018. Amendments filed January 11, 2018; effective April 11, 2018. Amendments filed January 15, 2020; effective April 14, 2020. Amendments filed December 20, 2021; effective March 20, 2022. Amendments filed September 29, 2022; effective December 28, 2022. Amendments filed December 4, 2023; effective March 3, 2024.

**1200-03-26-.03 REPEALED.**

**Authority:** T.C.A. §§ 4-5-201, et seq.; 68-1-1301; and 68-25-105. **Administrative History:** Original rule filed March 5, 1993; effective April 19, 1993. Amendment filed March 18, 1994; effective June 1, 1994. Amendment filed November 4, 1996; effective January 18, 1997. Repeal filed June 26, 2001; effective September 7, 2001.

**RULES  
OF  
THE TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
DIVISION OF AIR POLLUTION CONTROL**

**CHAPTER 1200-03-27  
NITROGEN OXIDES**

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**1200-03-27-.01 DEFINITIONS.**

- (1) For the purpose of this rule, the following definitions apply:
  - (a) "Facility" means any source or group of sources located within a contiguous area, and under common control.
  - (b) "Nitrogen Oxides" means all oxides of nitrogen except nitrous oxide.
- (2) The definitions in Chapter 1200-03-02 apply for those terms not defined in Chapter 1200-03-27.

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-201-105. **Administrative History:** Original rule filed March 5, 1993; effective April 19, 1993.

**1200-03-27-.02 GENERAL PROVISIONS AND APPLICABILITY.**

- (1) It is the purpose of this chapter to establish emission standards and requirements for certain sources of nitrogen oxides.
- (2) Upon mutual agreement of any air contaminant source and the Technical Secretary, an emission limit more restrictive than that otherwise specified in this chapter may be established. Also, upon mutual agreement of any air contaminant source and the Technical Secretary, operating hours, process flow rates, or any other operating parameter may be established as a binding limit which the source must adhere to. Any items mutually agreed to shall be stated as a special condition for any permit or order concerning the source. Violation of this mutual agreement shall result in enforcement action.
- (3) Nothing in this chapter shall be construed to exempt sources from meeting other applicable rules in this division and standards and requirement derived from or according to rules of this division, including, but not limited to, new source review requirements, permit conditions, and standards and requirements mutually agreed to or included in the State Implementation Plan.
- (4) No owner or operator subject to these regulations may build, erect, install, or use any article, machine, equipment, process, or other method the use of which conceals emissions that would otherwise constitute non-compliance with an applicable regulation. This includes, but is not limited to, the use of gaseous diluents to achieve compliance, and the piecemeal carrying

(Rule 1200-03-27-.02, continued)

out of an operating to avoid coverage by a regulation that applies only to operations larger than a specified size.

- (5) The owner or operator of a source for which legal notice must be published to effect a source-specific compliance method, compliance demonstration method, record keeping record, reporting record, etc., shall be responsible for all costs associated with publishing the required legal notice.
- (6) The owner or operator of any facility in Anderson, Blount, Davidson, Knox, Rutherford, Shelby, Sumner, Williamson, or Wilson County which has actual emissions from stationary sources of 25 tons or more of volatile organic compounds (VOCs) and/or nitrogen oxides during a calendar year shall report to their permitting authority information and data concerning these emissions. This information and data shall be in the form prescribed by the Technical Secretary, and shall be submitted before March 31 of the year following the calendar year for which the information and data is reported. The first report shall be for the 1993 calendar year, and shall be submitted before March 31, 1994. Each report shall be signed by an official of the company, certifying that the information and data contained in the report is accurate to the best knowledge of the individual certifying the report.

**Authority:** T.C.A. §§ 4-5-201, et seq.; 68-201-101, et seq.; and 68-201-105. **Administrative History:** Original rule filed March 5, 1993; effective, April 19, 1993. Amendment filed April 18, 1994; effective July 2, 1994. Amendment filed May 10, 1994; effective July 24, 1994. Amendment filed August 14, 1995; effective October 28, 1995. Amendment filed September 9, 1996; effective November 23, 1996. Amendments filed June 6, 2018; effective September 4, 2018.

#### **1200-03-27-.03 STANDARDS AND REQUIREMENTS.**

- (1) Emission standards for sources of nitrogen oxides apply as follows:
  - (a) Any owner or operator of a stationary source in Davidson, Rutherford, Sumner, Williamson, or Wilson County which emits or has the potential to emit 100 tons per year or more of nitrogen oxides (NO<sub>x</sub>) before control shall apply reasonably available control technology (RACT) to control NO<sub>x</sub> emissions from that source; and
  - (b) Specifically, the owner or operator of a tangentially fired coal burning boiler having heat input capacity in excess of 600 million BTU per hour in Davidson, Rutherford, Sumner, Williamson, or Wilson County shall not allow emissions of nitrogen oxides from that boiler in excess of 0.45 pound per million BTU (30-day rolling average) (RACT).
- (2) In calculation to determine whether the 100-ton-per-year threshold specified in subparagraph (1)(a) of this rule is met, the nitrogen oxides contribution from all process emissions sources and fuel burning equipment, including those sources and that equipment listed for exemption in paragraph (4) of this rule, shall be totaled.
- (3) Compliance schedules apply as follows:
  - (a) The owner or operator of a boiler subject to the requirements of subparagraph (1)(b) of this rule shall:
    1. Submit a final control plan, acceptable to the Technical Secretary, for the installation of nitrogen oxides emission control systems and/or modifications of fuel burning equipment to the Technical Secretary by April 26, 1994;
    2. Complete construction or installation of equipment by May 31, 1995; and

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3. Demonstrate full compliance with nitrogen oxides reasonably available control technology by July 31, 1995, using approved test methods and procedures; and
  - (b) The owner or operator of any process emission source or fuel burning equipment subject to the requirements of subparagraph (1)(a) but not subparagraph (1)(b) of this rule shall either:
    1. Satisfy the schedule as follows:
      - (i) Submit a demonstration of appropriate reasonably available control technology by February 25, 1994;
      - (ii) Submit a final control plan, acceptable to the Technical Secretary, for the installation of nitrogen oxides emission control systems and/or modifications of the source or equipment to the Technical Secretary by April 26, 1994;
      - (iii) Complete construction or installation of equipment by May 31, 1995; and
      - (iv) Demonstrate full compliance with nitrogen oxides reasonably available control technology by July 31, 1995, using approved test methods and procedures; or
    2. In lieu of satisfying the schedule specified in part 1. of this subparagraph, satisfy the schedule as follows:
      - (i) By February 25, 1994, submit a demonstration, acceptable to the Technical Secretary, that reasonably available control technology for nitrogen oxides from the process emission source or fuel burning equipment according to the schedule specified in part 1. of this subparagraph is not practicable, for example, due to equipment unavailability or system unreliability;
      - (ii) Within 60 days after approval by the Technical Secretary of this demonstration, submit a schedule, acceptable to the Technical Secretary, containing dates for accomplishment on the process emission source or fuel burning equipment of the steps listed in the schedule specified in part 1. of this subparagraph; and
      - (iii) Satisfy the schedule approved by the Technical Secretary.
- (4) The reasonably available control technology requirements of this rule shall not apply to any of the following:
  - (a) A process emission source or fuel burning installation which neither emits nor has the potential to emit one ton or more per year of nitrogen oxides before control;
  - (b) Fuel burning equipment or a component of a process emission source which does not operate between April 1 and October 31; or
  - (c) An air pollution control device which is installed to effect compliance with a requirement of other chapters of Division 1200-03.

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-201-105. **Administrative History:** Original rule filed September 7, 1993; effective November 27, 1993.

**1200-03-27-.04 STANDARDS FOR CEMENT KILNS.**

- (1) The requirements of this rule apply only to kilns with process rates of at least the following:
  - (a) Long dry kilns-----12 tons per hour (TPH);
  - (b) Long wet kilns-----10 TPH;
  - (c) Preheater kilns-----16 TPH; and
  - (d) Precalciner and preheater/precalciner kilns-----22 TPH.
- (2) For the purpose of this rule, definitions apply as follows:
  - (a) "Clinker" means the product of a Portland cement kiln from which finished cement is manufactured by milling and grinding.
  - (b) "Long dry kiln" means a kiln 14 feet or larger in diameter, 400 feet or greater in length, which employs no preheating of the feed. The inlet feed to the kiln is dry.
  - (c) "Long wet kiln" means a kiln 14 feet or larger in diameter, 400 feet or greater in length, which employs no preheating of the feed. The inlet feed to the kiln is a slurry.
  - (d) "Low-NO<sub>x</sub> burners" means combustion equipment designed to reduce flame turbulence, delay fuel/air mixing, and establish fuel-rich zones for initial combustion.
  - (e) "Mid-kiln system firing" means secondary firing in kiln systems by injecting fuel at an intermediate point in the kiln system using a specially designed fuel injection mechanism for the purpose of decreasing nitrogen oxide (NO<sub>x</sub>) emissions through:
    1. Burning part of the fuel at a lower temperature; and
    2. Reducing conditions at the fuel injection point that may destroy some of the NO<sub>x</sub> formed upstream in the kiln burning zone.
  - (f) "Portland cement" means a hydraulic cement produced by essentially of hydraulic calcium silicates, usually containing one or more of the forms of calcium sulfate as an interground addition.
  - (g) "Portland cement kiln" means a system, including any solid, gaseous or liquid fuel combustion equipment, used to calcine and fuse raw materials, including limestone and clay, to produce Portland cement clinker.
  - (h) "Precalciner kiln" means a kiln system where the feed to the kiln is preheated in cyclone chambers and utilizes a second burner to calcine material in a separate vessel attached to the preheater prior to the final fusion in a kiln which forms clinker.
  - (i) "Preheater kiln" means a kiln system where the feed to the kiln is preheated in cyclone chambers prior to the final fusion in a kiln which forms clinker.
- (3) After May 31, 2004, the owner or operator of any Portland cement kiln subject to this rule shall not operate the kiln during May 1 through September 30 unless the kiln has installed and operates during May 1 to September 30 with at least one of the following:
  - (a) Low-NO<sub>x</sub> burners;

(Rule 1200-03-27-.04, continued)

- (b) Mid-kiln system firing;
  - (c) Alternative control techniques approved by the Technical Secretary and the EPA as achieving at least the same emissions decreases as with low-NO<sub>x</sub> burners or mid-kiln system firing; or
  - (d) Reasonably available control technology approved by the Technical Secretary and the EPA.
- (4) The owner or operator subject to the requirements of paragraph (3) of this rule shall comply with the requirements as follows:
- (a) By May 31, 2004, submit to the Technical Secretary the identification number and type of each kiln subject to this rule, the name and address of the facility where the kiln is located, and the name and telephone number of the person responsible for demonstrating compliance with paragraph (3); and
  - (b) By October 31, 2004, submit to the Technical Secretary a report documenting for that kiln the total NO<sub>x</sub> emissions from May 31, 2004, through September 30, 2004, and beginning in 2005 submit by October 31 of each year to the Technical Secretary a report documenting NO<sub>x</sub> emissions from May 1 through September 30 of that year.
- (5) By May 31, 2004, the owner or operator of a kiln subject to this rule shall submit to the Technical Secretary a demonstration of compliance with the requirements of paragraph (3). If compliance is being achieved by use of prescribed equipment, for example low-NO<sub>x</sub> burners or mid-kiln system firing, the demonstration of compliance shall be written certification to the Technical Secretary that this equipment is installed and is in use. If compliance is being achieved by use of alternative control techniques approved by the Technical Secretary and the EPA, demonstration of compliance shall as specified by the Technical Secretary and the EPA. In the case of compliance proposed to be achieved by use of alternative control techniques, a plan for compliance demonstration shall be submitted to the Technical Secretary by May 1, 2003. Upon receipt the Technical Secretary shall immediately forward a copy of the plan to the EPA. By November 1, 2003, the Technical Secretary shall specify in writing to the owner or operator of the kiln how compliance shall be demonstrated, this specification consistent with methods and requirements specified by the EPA following its review of the submitted plan.
- (6) By December 31 of each year, beginning in 2004, the owner or operator of a kiln subject to this rule shall submit to the Technical Secretary a written certification that compliance with the requirements of paragraph (3) has been maintained during that year's five-month period May 1 through September 30, except for 2004 when compliance is to be maintained from May 31 through September 30. The methods of determining that this compliance has been maintained shall be as specified on the major source operating permit issued for the facility at which the kiln is operated.
- (7) Beginning May 31, 2004, the owner or operator of a kiln subject to this rule shall maintain records for May 31 through September 30 of that year, and in subsequent years for May 1 through September 30, that include the data as follows:
- (a) The date, time, and duration of any startup, shutdown, or malfunction in the operation of the cement kiln or its emissions monitoring equipment or of any scheduled maintenance activity that affects NO<sub>x</sub> emissions or emissions monitoring;
  - (b) The results of any compliance testing; and

(Rule 1200-03-27-.04, continued)

- (c) Other data required by permit to be maintained.
- (8) The records listed in paragraph (7) of this rule shall be retained on-site for a minimum of 2 years following the calendar year for which they are made and shall be made available to the Technical Secretary for his review upon request.
- (9) The requirements of this rule shall not apply to periods of scheduled maintenance activities that affect NOx emissions.
- (10) The requirements of this rule shall not apply to periods of malfunctions, startups, and shutdowns. These periods are subject to the requirements of Chapter 1200-03-20.

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-201-105. **Administrative History:** Original rule filed July 9, 2001; effective September 22, 2001.

**1200-03-27-.05 RESERVED.**

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-201-105. **Administrative History:** Original rule filed July 9, 2001; effective September 22, 2001.

**1200-03-27-.06 RESERVED.**

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-201-101, et seq. **Administrative History:** Original rule filed July 9, 2001; effective September 22, 2001. Amendment filed May 13, 2003; effective July 27, 2003. Amendment filed August 5, 2003; effective October 19, 2003. Amendment filed October 10, 2012; effective January 8, 2013.

**1200-03-27-.07 VOLUNTARY NO<sub>x</sub> EMISSIONS REDUCTION PROGRAM.**

- (1) The purpose of this rule is to provide a method by which sources that emit NO<sub>x</sub> but are not subject to the requirements of Rule .06 of this chapter can voluntarily make emission reductions and thereby earn marketable NO<sub>x</sub> allowances for use in the EPA's NO<sub>x</sub> Budget Trading Program.
- (2) Terms used in this rule shall have the meanings given in Rule .06 of this chapter, Rule .02 of this chapter, and other rules of Division 1200-03, in this order of precedence.
- (3) Any owner or operator of a stationary source may submit to the Technical Secretary a NO<sub>x</sub> emission reduction proposal, as described in paragraph (6) below, for reducing NO<sub>x</sub> emissions during control periods, if each emission unit from which NO<sub>x</sub> reductions at the source will be obtained meets the following criteria at the time a NO<sub>x</sub> emission reduction proposal is submitted and during each control period thereafter for which creditable emission reductions are claimed:
  - (a) Discharges NO<sub>x</sub> emissions through a stack;
  - (b) Is fossil fuel-fired;
  - (c) Has a major source operating permit issued under Chapter 1200-03-09-.02 or a comparable local program rule;
  - (d) Is not subject to the requirements of Rule .06 of this chapter, including opt-in units;
  - (e) Is in compliance with all NO<sub>x</sub> emission requirements applicable to the source and unit so that any NO<sub>x</sub> reductions made pursuant to this rule are surplus to those requirements;



(Rule 1200-03-27-.07, continued)

- (f) Installed or implemented a NOx emission control strategy after July 1, 2002;
  - (g) Conducted an emission baseline determination using the protocol described in paragraph (5) below prior to initiating the NOx emission control strategy;
  - (h) Makes emission reductions that are not the result of shutting down; and
  - (i) Is not an IC engine that according to EPA's final NOx SIP Call inventory had actual average daily NOx emissions of one ton or more during the five-month period May 1 through September 30, 1995.
- (4) Any owner or operator of an eligible unit may participate by:
- (a) Submitting a NOx emission reduction proposal in accordance with paragraph (6) below;
  - (b) Making NOx emission reductions during a control period that are federally enforceable, quantifiable, and surplus to regulatory requirements; and
  - (c) Submitting a quantification report, in accordance with paragraph (7) below, after any control period for which creditable reductions are claimed.
- (5) Emission reductions made at a participating unit shall be quantified using an emission reduction quantification protocol approved by the EPA or approved by the Technical Secretary and submitted to EPA for approval. The emissions measurements recorded and reported in accordance with this protocol shall be used to determine the emission reductions made by the source under this rule and eligible to be issued as allowances for use in the EPA's NOx Budget Trading Program. Each participating unit shall comply with the applicable monitoring requirements prescribed by the approved protocol.
- (6) Each NOx emission reduction proposal shall contain the elements and be processed as follows:
- (a) Each NOx emission reduction proposal shall include the following:
    1. Information identifying each emission reduction unit from which NOx emission reductions have been or will be achieved, including the name, location, operating permit number, and identification number of the source and unit;
    2. Description of the NOx controls present on the unit prior to making emission reductions;
    3. Explanation of the methods used to achieve the NOx emission reductions;
    4. Identification of the emission reduction quantification protocol, approved by the EPA or approved by the Technical Secretary and submitted to EPA for approval, that will be used to calculate the proposed emission reductions; and
    5. Emissions baseline determination for each unit made in accordance with the approved protocol described in paragraph (5) above.
  - (b) The Technical Secretary shall notify in writing the owner or operator submitting a NOx emission reduction proposal of his decision with respect to the proposal. If the Technical Secretary disapproves a proposal, this written notice shall include a statement of the specific reasons for the disapproval of the proposal. Following such a

(Rule 1200-03-27-.07, continued)

disapproval the owner or operator may submit an amended or a different NOx emissions reduction proposal for the unit.

- (7) Each NOx emission reduction quantification report shall be submitted and processed as follows:
- (a) By October 30 following the control period during which the emission reductions were made, the owner or operator of the participating unit must submit a quantification report to the Technical Secretary stating the reductions achieved during the control period.
  - (b) The quantification report shall include the following:
    - 1. The amount in tons of the NOx emission reductions made during the control season, calculated based on the approved quantification protocol and including supporting calculations and documentation;
    - 2. Certification by the owner or operator that the NOx reductions achieved during the control period were calculated based on the approved protocol; and
    - 3. A written statement signed by the owner or operator certifying the following:

Based on information and belief formed after reasonable inquiry, I believe the statements and information in this document are true, accurate and complete.
  - (c) The Technical Secretary shall review the quantification report and either approve the emission reductions as being in accordance with the quantification protocol or disapprove them. If they are approved, the Technical Secretary shall notify the EPA of such approval in accordance with paragraph (8) below. If they are disapproved, the Technical Secretary shall notify the source in writing and shall state the specific reasons for the disapproval. The source may rectify the deficiencies in its quantification report and submit an amended report.
- (8) Upon approval of a quantification report, the Technical Secretary shall notify the EPA of the number of allowances to be transferred from the state's general account into an account of the source or its designee for use in the federal NOx Budget Trading Program. The total number of allowances to be transferred shall be ninety percent (90%) of the creditable NOx emission reductions achieved by the unit. The remaining ten percent (10%) shall be retired by the state. The Administrator shall record the transfer.
- (9) Each NOx allowance issued for NOx emission reductions meeting the requirements of this rule is an authorization to emit one ton of NOx in accordance with the federal NOx Budget Trading Program.
- (10) Within 90 days after the NOx allowance transfer deadline for the NOx Budget Trading Program, the Technical Secretary shall provide the Administrator a report reconciling the allowances transferred for the purpose of this rule, including:
- (a) The number of allowances deposited into the state's general account for the control period immediately preceding such deadline;
  - (b) The number of allowances earned by sources pursuant to this rule; and
  - (c) The number of unused allowances, which shall be retired.

(Rule 1200-03-27-.07, continued)

- (11) The owner or operator of a source submitting a quantification report that contains an error that affects an allocation must notify the Technical Secretary in writing within 30 days of the error.
- (12) If the owner or operator of a unit has submitted a quantification report that incorrectly overstated the amount of emission reductions achieved and, as a result of this report, allowances in excess of those that should have been have been transferred from the state's general account were transferred into another account for use in the federal NO<sub>x</sub> Budget Trading Program, the owner or operator shall place into the state's general account an amount of allowances equal to three times the amount of the overstatement within 30 days of discovery of the overstatement by the owner or operator.
- (13) The owner or operator of a source, or its designee, shall maintain all records used to calculate the emission reductions in accordance with the quantification protocol. Each record shall be maintained for five (5) years following the date the record is created and shall be made available for inspection by the Technical Secretary or his representative immediately upon request.
- (14) After the third control period this program has been in effect, and every three years thereafter, the Technical Secretary shall evaluate the program and submit a report to the board, summarizing the results of the evaluation.

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-201-105. **Administrative History:** Original rule filed September 11, 2003; effective November 25, 2003.

**1200-03-27-.08 RESERVED.**

**1200-03-27-.09 COMPLIANCE PLANS FOR NO<sub>x</sub> EMISSIONS FROM STATIONARY INTERNAL COMBUSTION (IC) ENGINES.**

- (1) For the purposes of this rule, the following definitions shall apply:
  - (a) "Affected Engine" means any stationary IC engine that is a Large NO<sub>x</sub> SIP Call Engine, or other stationary IC engine that is subject to NO<sub>x</sub> control under a compliance plan established pursuant to paragraph (3) of this rule.
  - (b) "Engine Seasonal NO<sub>x</sub> 2007 Tonnage Reduction" means the year 2007 seasonal NO<sub>x</sub> emissions reductions value (tons) for a Large NO<sub>x</sub> SIP Call Engine which is calculated as the difference between the 2007 Ozone Season Base NO<sub>x</sub> Emissions and the 2007 Ozone Season Budget NO<sub>x</sub> Emissions contained in the NO<sub>x</sub> SIP Call Engine Inventory.
  - (c) "Facility Seasonal NO<sub>x</sub> 2007 Tonnage Reduction" means the total of the Engine Seasonal NO<sub>x</sub> 2007 Tonnage Reductions attributable to all of an owner/operator's Large NO<sub>x</sub> SIP Call Engines.
  - (d) "Large NO<sub>x</sub> SIP Call Engine" means a stationary IC engine identified and designated as "large" in the NO<sub>x</sub> SIP Call Engine Inventory as emitting more than one ton of NO<sub>x</sub> per average ozone season day in 1995.
  - (e) "NO<sub>x</sub> SIP Call Engine Inventory" means the inventory of IC engines compiled by EPA as part of the NO<sub>x</sub> SIP Call Rule, including the Technical Amendments (*Federal Register*/Vol. 65, No. 42/March 2, 2000, Technical Amendment to the Finding of Significant Contribution and Rulemaking for Certain States for Purposes of Reducing Regional Transport of Ozone), and the adjustment of the 2007 Budget NO<sub>x</sub> Control Efficiency to 82 percent for large gas-fired engines (*Federal Register*/Vol. 69, No.

(Rule 1200-03-27-.09, continued)

77/April 21, 2004, Interstate Ozone Transport: Response to Court Decisions on the NOx SIP Call, NOx SIP Call Technical Amendments, and Section 126 Rules).

- (f) "Past NOx Emission Rate" means the emission rate of an Affected Engine in grams per brake horsepower-hour (g/bhp-hr) as determined by performance testing consistent with the requirements of 40 CFR part 60, Appendix A. Where such performance test data are not available, the Past NOx Emission Rate may be determined by the Technical Secretary on a case-by-case basis using, for example, appropriate emission factors or data from the NOx SIP Call Engine Inventory. For Large NOx SIP Call Engines, the Past NOx Emission Rate is the uncontrolled emission rate.
  - (g) "Projected Operating Hours" means the projected actual number of hours of operation per ozone season for an Affected Engine.
  - (h) "Projected NOx Emission Rate" means the projected emission rate in g/bhp-hr after installation of controls on an Affected Engine.
  - (i) "Stationary internal combustion engine" means any internal combustion engine of the reciprocating type that is either attached to a foundation at a facility or is designed to be capable of being carried or moved from one location to another and remains at a single site at a building, structure, facility, or installation for more than 12 consecutive months. Any engine (or engines) that replaces an engine at a site that is intended to perform the same or similar function as the engine replaced is included in calculating the consecutive time period.
  - (j) "Ozone season" means the period from May 1 through September 30.
- (2) The requirements of this rule apply to the owner or operator of any Large NOx SIP Call Engine.
- (3) (a) After May 1, 2007, an owner or operator of a Large NOx SIP Call Engine shall not operate the engine in the period May 1 through September 30 of 2007 and any subsequent year unless the owner or operator complies with the requirements of a compliance plan which meets the provisions listed below.
- 1. The compliance plan must be approved by the Technical Secretary.
  - 2. The compliance plan must demonstrate enforceable emission reductions from one or more stationary internal combustion engines equal to or higher than the Facility Seasonal NOx 2007 Tonnage Reduction.
  - 3. The compliance plan may cover some or all engines at an individual facility or at several facilities or at all facilities in Tennessee that are in control of the same owner/operator.
  - 4. The compliance plan must be submitted to the Technical Secretary by May 1, 2006.
  - 5. The compliance plan may include credit for decreases in NOx emissions from Large NOx SIP Call Engines in Tennessee due to NOx control equipment. Credit may also be included for decreases in NOx emissions from other engines in Tennessee due to NOx control equipment not reflected in the 2007 Ozone Season Base NOx Emissions in the NOx SIP Call Engine Inventory.
  - 6. The compliance plan must include the following items:

(Rule 1200-03-27-.09, continued)

- (i) List of engines subject to the plan, including the engine's manufacturer, model, facility location address, and facility identification number.
  - (ii) The projected ozone season hours of operation for each engine and supporting documentation.
  - (iii) A description of the NO<sub>x</sub> emissions control installed, or to be installed, on each engine and documentation to support the Projected NO<sub>x</sub> Emission Rates.
  - (iv) The Past and Projected NO<sub>x</sub> Emission Rates for each Affected Engine in g/bhp-hr.
  - (v) A numerical demonstration that the emission reductions obtained from all engines included under the plan will be equivalent to or greater than the owner/operator's Facility Seasonal NO<sub>x</sub> 2007 Tonnage Reduction, based on the difference between the Past NO<sub>x</sub> Emission Rate and the Projected NO<sub>x</sub> Emission Rate multiplied by the Projected Operating Hours for each Affected Engine, and taking into account any credit under part (3)(a)5. of this paragraph.
  - (vi) Provisions for monitoring, reporting and recordkeeping for each Affected Engine.
- (b) The Projected NO<sub>x</sub> Emission Rate in g/bhp-hr or lb/hr for each Affected Engine must be included in a federally enforceable permit.
- (4) Any owner or operator subject to the requirements of paragraph (3) shall comply with the following reporting, monitoring, and recordkeeping requirements:
- (a) Monitoring requirements. Each Affected Engine subject to this rule shall comply with the following requirements:
    - 1. Complete an initial performance test consistent with the requirements of 40 CFR part 60, Appendix A, following installation of emission controls required to achieve the emission rate limit specified in subparagraph (3)(b) of this rule.
    - 2. Perform periodic monitoring sufficient to yield reliable data from the relevant time period that is representative of a source's compliance with the emission rate limit specified in subparagraph (3)(b) of this rule. Such periodic monitoring may include either:
      - (i) Performance tests consistent with the requirements of 40 CFR part 60, Appendix A, or portable monitors using ASTM D6522-00;
      - (ii) A parametric monitoring program that specifies operating parameters, and their ranges, that will provide reasonable assurance that each engine's emissions are consistent with the requirements of paragraph (3) of this rule;
      - (iii) A predictive emissions measurement system that relies on automated data collection from instruments; or

(Rule 1200-03-27-.09, continued)

- (iv) A continuous emission monitoring system that complies with 40 CFR parts 60 or 75.
- (b) Recordkeeping requirements.
- 1. Maintain all records necessary to demonstrate compliance with the requirements of this rule for a period of 2 calendar years at the plant at which the subject engine is located. The records shall be made available to the Technical Secretary and EPA upon request.
  - 2. For each engine subject to the requirements of this rule, the owner or operator shall maintain records of:
    - (i) Identification and location of each engine subject to the requirements of this rule.
    - (ii) Calendar date of record.
    - (iii) The number of hours the unit is operated during each ozone season compared to the Projected Operating Hours.
    - (iv) Type and quantity of fuel used.
    - (v) The results of all compliance tests.
- (c) Reporting requirements. Any owner or operator subject to the requirements of this rule shall submit results of all compliance tests to the Technical Secretary.

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-201-105. **Administrative History:** Original rule filed August 31, 2005; effective November 14, 2005.

#### **1200-03-27-.10 RESERVED.**

**Authority:** T.C.A. §§ 4-5-201, et seq.; 68-201-101, et seq.; and 68-201-105. **Administrative History:** New rule filed August 10, 2006; effective October 24, 2006. Amendments filed November 21, 2016; effective February 19, 2017.

#### **1200-03-27-.11 RESERVED.**

**Authority:** T.C.A. §§ 4-5-201, et seq.; 68-201-101, et seq.; and 68-201-105. **Administrative History:** New rule filed August 10, 2006; effective October 24, 2006. Amendment filed July 6, 2009; effective October 4, 2009. Amendments filed November 21, 2016; effective February 19, 2017.

#### **1200-03-27-.12 NO<sub>x</sub> SIP CALL REQUIREMENTS FOR STATIONARY BOILERS AND COMBUSTION TURBINES.**

- (1) Definitions. The terms used in this rule shall have the meanings set forth in this paragraph as follows:
- (a) “Administrator” means the Administrator of the United States Environmental Protection Agency or the Administrator’s duly authorized representative.
  - (b) “Affected facility” means the group of all affected units at a facility.

(Rule 1200-03-27-.12, continued)

- (c) 1. "Affected unit" means any unit identified as an existing affected unit in subparagraph (n) of this paragraph and any unit that has the following characteristics:
- (i) The unit's maximum design heat input is greater than 250 MMBtu/hr;
  - (ii) The unit combusts, or will combust during any year, fossil fuel in the following amounts:
    - (I) Alone or in combination with any other fuel, where fossil fuel actually combusted comprises more than 50 percent of the annual heat input on a Btu basis during any year starting in 1995 or, if a unit had no heat input starting in 1995, during the last year of operation of the unit prior to 1995; or
    - (II) Alone or in combination with any other fuel, where fossil fuel is projected to comprise more than 50 percent of the annual heat input on a Btu basis during any year; and
  - (iii) The unit:
    - (I) Does not serve a generator producing electricity for sale at any time; or
    - (II) Serves a generator producing electricity for sale at any time and qualifies under 40 CFR § 72.6(b)(4) as an unaffected unit under the Acid Rain Program.
2. Notwithstanding part 1. of this subparagraph, any unit subject to 40 CFR 97 subpart EEEEE (CSAPR NO<sub>x</sub> Ozone Season Group 2 Trading Program) shall not be an affected unit.
- (d) "Allocate" or "allocation" means the determination by the Technical Secretary of the amount of allowances to be credited to an affected facility.
- (e) "Allowance" (or "NO<sub>x</sub> allowance") means a limited authorization issued by the Technical Secretary to emit one ton of nitrogen oxides ("NO<sub>x</sub>") during a control period of a specified calendar year or of any calendar year thereafter.
- (f) "Boiler" means an enclosed fossil- or other-fuel-fired combustion device used to produce heat and to transfer heat to recirculating water, steam, or other medium.
- (g) "Clean Air Act" or "CAA" means the Clean Air Act, 42 U.S.C. § 7401, et seq.
- (h) "Combustion turbine" means:
- 1. An enclosed device comprising a compressor, a combustor, and a turbine and in which the flue gas resulting from the combustion of fuel in the combustor passes through the turbine, rotating the turbine; and
  - 2. If the enclosed device under part 1. of this subparagraph is combined cycle, any associated duct burner, heat recovery steam generator, and steam turbine.
- (i) "Commence operation" means the later of November 15, 1990, or the date the unit begins any mechanical, chemical, or electronic process, including, with regard to a unit, start-up of a unit's combustion chamber.

(Rule 1200-03-27-.12, continued)

1. For a unit that commences operation as defined in this subparagraph, and that subsequently undergoes a physical change (other than replacement of the unit by a unit at the same source), such date shall remain the date of commencement of operation of the unit, which shall continue to be treated as the same unit.
  2. For a unit that commences operation as defined in this subparagraph, and that is subsequently replaced by a unit at the same source (e.g., repowered), such date shall remain the replaced unit's date of commencement of operation, and the replacement unit shall be treated as a separate unit with a separate date for commencement of operation.
- (j) "Compliance deadline" means, for a control period, midnight of December 1 (if it is a business day), or midnight of the first business day thereafter (if December 1 is not a business day) immediately following the control period.
- (k) "Control period" or "ozone season" means the period beginning May 1 of a calendar year and ending on September 30 of the same year, inclusive.
- (l) "Emissions" means air pollutants exhausted from a unit or source into the atmosphere, as measured, recorded, and reported to the Technical Secretary by the Responsible Official in accordance with paragraph (11) of this rule.
- (m) "Excess emissions" means any ton of nitrogen oxides emitted by an affected facility during a control period that exceeds the total number of allowances allocated to an affected facility for a control period.
- (n) "Existing affected unit" means the following units:

|  |  |
|--|--|
| Packaging Corporation of America             | Unit 17  |
| Tate & Lyle, Loudon                          | Units 34 and 35  |
| Resolute FP US, Inc.                         | Units 11 and 12  |
| Eastman Chemical Company                     | Units 83-23 and 83-24; Units 253-25, Units 253-26, Units 253-27, Units 253-28, and Units 253-29; Units 325-30 and 325-31 |
| The Valero Refining Company - Tennessee, LLC | Unit P049  |
| TVA Cumberland                               | Startup Boilers A1 and A2  |

- (o) "Fossil-fuel-fired" means, with regard to an affected unit, combusting any amount of fossil fuel (coal, natural gas, petroleum, or any form of solid, liquid, or gaseous fuel derived from such material) in any calendar year.
- (p) "Heat input" means, with regard to a specified period of time, the product of the gross calorific value of the fuel (in Btu/lb) divided by 1,000,000 Btu/MMBtu and multiplied by the fuel feed rate into a combustion device (in pounds of fuel per unit of time), as measured and recorded in accordance with paragraph (11) of this rule. Heat input does not include the heat derived from preheated combustion air, recirculated flue gases, or exhaust from other sources.
- (q) "Maximum design heat input" means the maximum amount of fuel per hour (in MMBtu/hr) that a unit is capable of combusting on a steady state basis as of the initial installation of the unit as specified by the manufacturer of the unit.



(Rule 1200-03-27-.12, continued)

- (r) "Most stringent state or federal NO<sub>x</sub> emissions limitation" means, with regard to a unit, the lowest NO<sub>x</sub> emissions limitation (in terms of lb/MMBtu) that is applicable to the unit under state or federal law, regardless of the averaging period to which the emissions limitation applies.
- (s) "New affected unit" means any affected unit that is not an existing affected unit.
- (t) "Operator" means any person who operates, controls, or supervises an affected unit or an affected facility and shall include, but not be limited to, any holding company, utility system, or plant manager of such a unit or source.
- (u) "Owner" means any of the following persons:
  - 1. Any holder of any portion of the legal or equitable title in an affected facility or an affected unit; or
  - 2. Any holder of a leasehold interest in an affected facility or an affected unit.
- (v) "Receive" or "receipt of" means, when referring to the Technical Secretary or the Administrator, to come into possession of a document, information, or correspondence (whether sent in hard copy or by authorized electronic transmission), as indicated in an official log, or by a notation made on the document, information, or correspondence, by the Technical Secretary or the Administrator in the regular course of business.
- (w) "Replacement", "replace", or "replaced" means, with regard to a unit, the demolishing of a unit, or the permanent shutdown and permanent disabling of a unit, and the construction of another unit (the replacement unit) to be used instead of the demolished or shutdown unit (the replaced unit).
- (x) "Responsible Official" has the same meaning as defined by Rule 1200-03-09-.02(11); however, a designated representative as defined by 40 CFR part 72, relative to actions, standards, requirements, or prohibitions under Title IV of the Clean Air Act or the regulations promulgated thereunder, including 40 CFR part 75, may also serve as the Responsible Official for any purposes under this rule.
- (y) "Source" means all buildings, structures, or installations located in one or more contiguous or adjacent properties under common control of the same person or persons. For purposes of section 502(c) of the Clean Air Act, a "source," including a "source" with multiple units, shall be considered a single "facility."
- (z)
  - 1. "Submit" or "serve" means to send or transmit a document, information, or correspondence to the person specified in accordance with the applicable rule:
    - (i) In person;
    - (ii) By United States Postal Service; or
    - (iii) By other means of dispatch or transmission and delivery.
  - 2. Compliance with any "submission" or "service" deadline shall be determined by the date of dispatch, transmission, or mailing and not the date of receipt.
- (aa) "Technical Secretary" means the Technical Secretary of the Tennessee Air Pollution Control Board or a duly authorized representative.

(Rule 1200-03-27-.12, continued)

- (bb) "Ton" means 2,000 pounds. For the purpose of determining compliance with the ozone season NO<sub>x</sub> emissions limitation, total tons of nitrogen oxides emissions for a control period shall be calculated as the sum of all recorded hourly emissions (or the mass equivalent of the recorded hourly emission rates) in accordance with paragraph (11) of this rule, but with any remaining fraction of a ton equal to or greater than 0.50 tons deemed to equal one ton and any remaining fraction of a ton less than 0.50 tons deemed to equal zero tons.
- (cc) "Unit" means a stationary, fossil-fuel fired boiler or combustion turbine or other stationary, fossil-fuel-fired combustion device.
- (2) Measurements, abbreviations, and acronyms. Measurements, abbreviations, and acronyms used in this rule are defined as follows:
- Btu - British thermal unit  
CO<sub>2</sub> - carbon dioxide  
H<sub>2</sub>O - water  
hr - hour  
lb - pound  
MMBtu - million Btu  
NO<sub>x</sub> - nitrogen oxides  
O<sub>2</sub> - oxygen  
ppm - parts per million  
scfh - standard cubic feet per hour  
SO<sub>2</sub> - sulfur dioxide
- (3) Applicability. Except as otherwise exempted by this rule, the provisions of this rule shall apply to each affected unit and each affected facility.
- (4) Retired unit exemption.
- (a) 1. Any affected unit that is permanently retired shall be exempt from this rule, except for the provisions of this paragraph and paragraphs (1), (2), (3), (6), subparagraphs (7)(c) through (f), and paragraphs (8) and (9) of this rule.
2. The exemption under part 1. of this subparagraph shall become effective the day on which the affected unit is permanently retired. Within 30 days of the unit's permanent retirement, the Responsible Official shall submit a report to the Technical Secretary and shall submit a copy of the statement to the Administrator. The report shall state, in a format prescribed by the Technical Secretary, that the unit was permanently retired on a specific date and that the unit will comply with the requirements of subparagraph (b) of this paragraph. The report shall include a signed statement by the Responsible Official certifying the truth, accuracy, and completeness of the information provided in the report.
- (b) Special provisions.
1. An affected unit exempt under subparagraph (a) of this paragraph shall not emit any nitrogen oxides during a control period, starting on the date that the exemption takes effect.
2. For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under subparagraph (a) of this paragraph shall retain, at the source that includes the unit, records demonstrating that the unit is permanently retired. The 5-year period for keeping records may be extended for cause, at any time before the end of the period, in writing by the Technical

(Rule 1200-03-27-.12, continued)

Secretary or the Administrator. The owners and operators of the unit bear the burden of proof that the unit is permanently retired.

3. Owners and operators shall comply with the requirements of this rule during all periods for which the exemption is not in effect.
- (c) An exempt unit shall lose its exemption on the date on which the unit resumes operation.
  - (d) For the purpose of applying the monitoring, recordkeeping, and reporting requirements of paragraph (11) of this rule, a unit that loses its exemption under subparagraph (a) of this paragraph shall be treated as a unit that commences operation on the first date on which the unit resumes operation.
- (5) State emissions budget. The state emissions budget for allowance allocations to affected units is 5,666 tons per control period for the control period in 2017 and thereafter.
  - (6) Allowance allocations for affected units:
    - (a) For each control period in 2017 and thereafter, the Technical Secretary will allocate NO<sub>x</sub> allowances in the amounts specified in the State Implementation Plan to all existing affected units.
    - (b) For new affected units, the heat input (in MMBtu) used for calculating NO<sub>x</sub> allowance allocations shall be determined in accordance with 40 CFR part 75, to the extent that the unit was subject to the requirements of 40 CFR part 75 for the year, or based on the best available data reported to the Technical Secretary for the unit.
    - (c) For each control period in 2017 and thereafter, the Technical Secretary will allocate allowances to new affected units in accordance with the following procedures:
      1. The Technical Secretary will establish a new unit set-aside for each control period. For each control period, the new unit set-aside is established as the State emission budget established in paragraph (5) of this rule minus the number of NO<sub>x</sub> allowances allocated in subparagraph (a) of this paragraph.
      2. The Responsible Official of a new affected unit may request NO<sub>x</sub> allowances from the Technical Secretary starting with the later of the control period in 2017 or the first control period in which the affected unit commences operation as provided in this part.
        - (i) The Responsible Official may request allowances for a control period in an amount not exceeding any of the following emission rates:
          - (I) The allowable NO<sub>x</sub> emission rate under any applicable provision of 40 CFR part 60;
          - (II) The allowable NO<sub>x</sub> emission rate under any state or federal construction or operating permit; and
          - (III) The allowable NO<sub>x</sub> emission rate under any provision in Tennessee's State Implementation Plan.
        - (ii) The emission rates indicated in items (i)(I) through (III) of this part shall be converted to tons as follows:

(Rule 1200-03-27-.12, continued)

- (I) For units with four years of heat input data, the emission rate shall be multiplied by the average of the three highest years of heat input (of the most recent four-year period) as indicated in subparagraph (b) of this paragraph divided by 2,000, and rounded to the nearest whole number as appropriate.
  - (II) For units with less than four years of heat input data, the emission rate shall be multiplied by the unit's maximum design heat input in MMBtu/hr, multiplied by 3,672 hours per control period, divided by 2,000, and rounded to the nearest whole number as appropriate.
3. The Technical Secretary will review each allowance allocation request and allocate NO<sub>x</sub> allowances for each control period as follows:
- (i) The Technical Secretary will accept an allowance allocation request only if the request meets, or is adjusted by the Technical Secretary as necessary to meet, the requirements of part 2. of this subparagraph.
  - (ii) On or after February 1 before the control period, the Technical Secretary will determine the sum of NO<sub>x</sub> allowances requested under subpart (i) of this part for the control period.
  - (iii) If the amount of NO<sub>x</sub> allowances in the new unit set-aside for the control period is greater than or equal to the sum of NO<sub>x</sub> allowances requested, then the Technical Secretary will allocate the amount of NO<sub>x</sub> allowances requested to each new affected unit.
  - (iv) If the amount of NO<sub>x</sub> allowances in the new unit set-aside for the control period is less than the sum of NO<sub>x</sub> allowances requested, then the Technical Secretary will allocate to each new affected unit the amount of allowances requested, multiplied by the amount of allowances in the new unit set-aside for the control period, divided by the sum of NO<sub>x</sub> allowances requested, and rounded to the nearest whole allowance as appropriate.
  - (v) The Technical Secretary will notify each Responsible Official that submitted an allowance allocation request of the amount of allowances (if any) allocated for the control period to the affected unit covered by the request.
  - (vi) After completion of the procedures specified in subparts (i) through (v) of this part, the Technical Secretary will allocate NO<sub>x</sub> allowances remaining in the new unit set-aside to existing affected units, using the following formula and rounding to the nearest whole NO<sub>x</sub> allowance as appropriate:  
  
$$\text{Unit's share of NO}_x \text{ allowances} = (\text{Total NO}_x \text{ allowances remaining in new unit set-aside}) \times (\text{Unit's NO}_x \text{ allowance allocation}) \div (\text{State trading program budget excluding new unit set-aside}).$$
- (d) Adjustment of allowance allocations for new and existing affected units. The Technical Secretary may, after appropriate notice and comment, adjust the allowance allocations for new and existing affected units as necessary to comply with applicable requirements promulgated by the Administrator or to provide additional allowances for new construction.
- (7) NO<sub>x</sub> emission requirements.

(Rule 1200-03-27-.12, continued)

- (a) As of the compliance deadline for a control period, the tons of total nitrogen oxides emissions for the control period from all affected units at an affected facility, as determined in accordance with paragraph (11) of this rule, shall not exceed the number of allowances allocated to the affected facility.
  1. Allowances are available to an affected facility for a given control period only if the allowances were allocated to the affected facility for the same control period.
  2. An affected unit shall be subject to the requirements of this paragraph for the control period starting on the later of May 1, 2017, or the deadline for meeting the unit's monitor certification requirements under paragraph (11) of this rule, and for each control period thereafter.
- (b) Recordkeeping and reporting requirements.
  1. The owners, operators, and Responsible Official of each affected facility and each affected unit shall comply with the recordkeeping and reporting requirements of this subparagraph.
  2. The emissions measurements recorded and reported in accordance with paragraph (11) of this rule shall be used to determine compliance of each affected facility with the requirements of this paragraph.
  3. Unless otherwise provided, the owners and operators of the affected facility shall maintain the following documents at the affected facility location for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the Technical Secretary or the Administrator.
    - (i) All emissions monitoring information, in accordance with paragraph (11) of this rule, provided that to the extent that paragraph (11) of this rule provides for a 3-year period for recordkeeping, the 3-year period shall apply.
    - (ii) Copies of all reports, compliance certifications, and other submissions and all records made or required under this paragraph.
    - (iii) Copies of any other submission used to demonstrate compliance with this paragraph.
  4. Reserved.
- (c) Excess emissions requirements. If an affected facility emits nitrogen oxides during any control period in excess of the number of allowances allocated to the affected facility, then:
  1. The Technical Secretary may deduct allowances from the affected facility's allocation for the following control period, in an amount up to 3 times the number of tons of the facility's excess emissions;
  2. The affected facility shall pay any fine, penalty, or assessment, or comply with any other remedy imposed, for the same violations, under the Clean Air Act or applicable state law; and

(Rule 1200-03-27-.12, continued)

3. Each ton of such excess emissions and each day of such control period shall constitute a separate violation of this rule, the Clean Air Act, and applicable state law.
- (d) Liability.
1. Each affected facility and each affected unit shall meet the requirements of this rule.
  2. Any provision of this rule that applies to an affected facility, an affected unit, or a Responsible Official shall also apply to the owners and operators of such affected facility or affected unit.
  3. Any person who knowingly violates any requirement or prohibition of this rule shall be subject to enforcement pursuant to applicable state or federal law.
  4. Any person who knowingly makes a false material statement in any record, submission, or report required by this rule shall be subject to criminal enforcement pursuant to the applicable state or federal law.
- (e) Effect on other authorities. No provision of this rule shall be construed as exempting or excluding the owners and operators and the Responsible Official of an affected facility or an affected unit from compliance with any other provision of the applicable, approved State Implementation Plan, a federally enforceable permit, or the Clean Air Act.
- (f) An allowance does not constitute a property right.
- (8) Computation of time.
- (a) Unless otherwise stated, any time period scheduled under this rule to begin on the occurrence of an act or event shall begin on the day the act or event occurs.
  - (b) Unless otherwise stated, any time period scheduled under this rule to begin before the occurrence of an act or event shall be computed so that the period ends the day before the act or event occurs.
  - (c) Unless otherwise stated, if the final day of any time period under this rule falls on a weekend or a state or federal holiday, the time period shall be extended to the next business day.
- (9) Technical Secretary's action on submissions.
- (a) The Technical Secretary may review and conduct independent audits concerning any submission under this rule and make appropriate adjustments of the information in the submissions.
  - (b) The Technical Secretary may deduct allowances from or transfer allowances to an affected facility based on the information in the submissions.
- (10) The Technical Secretary may, at his or her sole discretion and on his or her own motion, correct any error in the allocation of any affected facility. Within 10 business days of making such correction, the Technical Secretary will notify the Responsible Official for the affected facility.
- (11) Monitoring and reporting.

(Rule 1200-03-27-.12, continued)

- (a) Owners, operators, and Responsible Officials of affected units shall implement a monitoring and reporting system sufficient to attribute ozone season NO<sub>x</sub> mass emissions to each unit. The applicable monitoring, recordkeeping, and reporting requirements set out in 40 CFR Part 75 Subpart H, shall be the required monitoring method for all affected units unless and until an approved alternative monitoring method is incorporated into a federally enforceable construction or operating permit issued for the affected unit, at which time that approved monitoring method shall be the required monitoring method for the unit. NO<sub>x</sub> mass emissions measurements recorded and reported in accordance with an approved monitoring method implemented pursuant to this subparagraph shall be used to determine compliance with the NO<sub>x</sub> budgets allocated in accordance with paragraph (6) of this rule. For sources that monitor in accordance with 40 CFR Part 75 Subpart H, or a monitoring alternative for which EPA authorizes direct reporting to EPA pursuant to 40 CFR Part 75, the Responsible Official shall be authorized as provided in, and shall certify each submission and may delegate the Responsible Official's authority in accordance with, 40 CFR 72 subpart B. The approved alternative monitoring methods are:
1. 40 CFR 60 Subpart D to determine NO<sub>x</sub> emission rate in lb/MMBtu, multiplied by measured fuel consumption in MMBtu to determine NO<sub>x</sub> mass emissions;
  2. 40 CFR 60 Subpart Db to determine NO<sub>x</sub> emission rate in lb/MMBtu, multiplied by measured fuel consumption in MMBtu to determine NO<sub>x</sub> mass emissions; or
  3. An alternative monitoring method approved by EPA in a revision to the State Implementation Plan. Alternative methodologies must address monitoring, recordkeeping, and reporting procedures, including direct reporting of NO<sub>x</sub> emissions to the Technical Secretary for each control period.
- (b) Reserved.
- (c) An application submitted to the Technical Secretary for a construction or operating permit requesting to use an alternative monitoring method listed in part (a)1. or (a)2. of this paragraph shall include a description of the overall monitoring program for conducting continuous in-stack monitoring for NO<sub>x</sub> mass emissions. To be approvable, the program must address the following:
1. Specifications demonstrating that the proposed monitoring instruments will meet the requirements of 40 CFR 60, Appendix B;
  2. Specifications for the proposed fuel flow meter and a discussion of how the fuel Btu content will be determined;
  3. Proposed location(s) of the monitoring instruments in the effluent gas stream;
  4. Proposed procedures for conducting performance specification testing of the monitoring instruments in units of the applicable standard;
  5. Proposed ongoing monitoring instrument quality assurance procedures;
  6. Procedures for addressing missing data; and
  7. Proposed format for the reporting of data.
- (d) An affected facility or affected unit monitoring in accordance with parts (a)1., (a)2., or (a)3. of this paragraph must directly report NO<sub>x</sub> emissions to the Technical Secretary

(Rule 1200-03-27-.12, continued)

for each control period and may not report directly to EPA under 40 CFR Part 75 unless EPA expressly authorizes such reporting when approving a source-specific SIP revision.

- (e) For each control period, the approved monitoring method in effect at midnight on the first day (May 1) of a control period shall be used for the entire control period.
- (f) No later than January 31 following the end of each control period, the Technical Secretary will report to the Administrator the total NO<sub>x</sub> mass emissions (in tons) from affected units subject to this rule and certify compliance with the NO<sub>x</sub> budget established by paragraph (5) of this rule and the allowances allocated to each affected unit as specified in paragraph (6) of this rule.
- (g) References to the Code of Federal Regulations in this paragraph (11) are to be regulations as published in the July 1, 2021, edition of the Code of Federal Regulations.

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-201-101, et seq. **Administrative History:** New rule filed November 21, 2016; effective February 19, 2017. Amendments filed September 13, 2019; effective December 12, 2019. Amendments filed August 26, 2022; effective November 24, 2022.



**RULES  
OF  
TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
BUREAU OF ENVIRONMENT  
DIVISION OF AIR POLLUTION CONTROL**

**CHAPTER 1200-3-28  
RESERVED**

**RULES  
OF  
TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
DIVISION OF AIR POLLUTION CONTROL**

**CHAPTER 1200-03-29  
LIGHT-DUTY MOTOR VEHICLE INSPECTION AND MAINTENANCE**

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| 1200-03-29-.04 | Exemption from Motor Vehicle Inspection Requirements | 1200-03-29-.10 | Motor Vehicle Inspection Fee                     |
| 1200-03-29-.05 | Motor Vehicle Emission Performance Test Criteria     | 1200-03-29-.11 | Waiver Provisions                                |
| 1200-03-29-.06 | Motor Vehicle Anti-Tampering Test Criteria           | 1200-03-29-.12 | Reserved   |

**1200-03-29-.01 PURPOSE AND APPLICABILITY.**

- (1) The purpose of this chapter is to reduce the air pollution produced by the operation of light-duty motor vehicles.
- (2) This chapter shall apply in the following areas of Tennessee as designated by the Tennessee Air Pollution Control Board:
  - (a) Davidson County
  - (b) Hamilton County
  - (c) Rutherford County
  - (d) Sumner County
  - (e) Williamson County
  - (f) Wilson County
- (3) For the counties specified in paragraph (2) of this rule, the requirements of this chapter shall become effective as follows:
  - (a) For EPA designated nonattainment counties classified as Basic, the effective date is April 1, 2006.
  - (b) For EPA designated nonattainment counties with an EPA approved Early Action Compact classified as Basic, the effective date is April 1, 2005.
  - (c) For EPA designated nonattainment areas classified as Marginal, the effective date is July 1, 2005.
  - (d) For EPA designated nonattainment areas classified as Moderate, the effective date is April 1, 2007.
- (4) For the counties specified in paragraph (2) of this rule, the requirements of this chapter shall remain in effect until 120 days following EPA final approval of State Implementation Plan revisions eliminating the requirement for Light-Duty Motor Vehicle Inspection programs in the

(Rule 1200-03-29-.01, continued)

State of Tennessee; provided, however, that if on this date a contract exists between the department and a contractor providing inspection and maintenance services, the requirements of this chapter shall continue to apply until the contract's termination or expiration.

- (5) If the requirement for a Light-Duty Motor Vehicle Inspection Program is eliminated from the State Implementation Plan, Davidson County having had a local air pollution control program and implemented its own inspection and maintenance program before May 15, 2018, and having been authorized by the governing body within 30 days of May 15, 2018, can continue its own inspection and maintenance program. The dates of applicability, technical guidelines, enforcement, and fees for county- or municipality-specific vehicle inspection programs that are not required by the State or EPA will be determined by Davidson County.

**Authority:** T.C.A. §§ 4-5-201, et seq.; 55-4-130; 68-201-101, et seq.; and 68-201-105. **Administrative History:** Original rule filed February 14, 1994; effective April 30, 1994. Stay of effective date filed April 15, 1994; effective June 14, 1994. Repeal and new rule filed September 28, 2004; effective December 12, 2004. Amendments filed January 11, 2021; effective April 11, 2021.

### 1200-03-29-.02 DEFINITIONS.

As used in this Chapter, all terms not defined herein shall have the meaning given them in Chapter 1200-03-02:

- (1) Air Pollution is any particulate matter or any gas or vapor other than water or any combination thereof including any physical, chemical, biological, radioactive substance or matter which is emitted into or otherwise enters the ambient air.
- (2) Antique motor vehicle is any motor vehicle over twenty-five years old which is owned solely as a collectors' item and is used for participation in club activities, exhibits, tours, parades and similar uses, but in no event for general transportation.
- (3) Carbon dioxide is a compound consisting of the chemical formula (CO<sub>2</sub>).
- (4) Carbon monoxide is a compound consisting of the chemical formula (CO).
- (5) Catalytic converter is a pollution control device containing a catalyst for converting automobile exhaust into mostly harmless products.
- (6) Centralized Network means that motor vehicle inspections are conducted by the State and/or a single contractor in an area.
- (7) Certificate of Compliance is a certification issued by a Department vehicle inspector or a fleet vehicle inspector that the motor vehicle identified on the certificate complies with the emission performance and anti-tampering criteria appropriate to the vehicle as specified in this regulation.
- (8) Check Engine Light: for the definition see Malfunction Indicator Light (MIL).
- (9) Contractor is a person (as defined in 1200-03-02) with whom the Department has a contract that provides for the operation of one or more Official Inspection Stations.
- (10) Department means the Tennessee Department of Environment and Conservation, Division of Air Pollution Control.

(Rule 1200-03-29-.02, continued)

- (11) Department Vehicle Inspector is any person employed by the Tennessee Division of Air Pollution Control and/or contractor who is designated by the Technical Secretary as qualified to perform vehicle emissions performance and anti-tampering inspections.
- (12) Diagnostic Trouble Codes (DTCs) is an alphanumeric code which is set in a vehicle's onboard computer when a monitor detects a condition likely to lead to (or has already produced) a component or system failure or otherwise contribute to exceeding emissions standards by 1.5 times the certification FTP standard.
- (13) Diesel powered motor vehicle is a motor vehicle powered by a compression-ignition internal combustion engine.
- (14) Electric powered motor vehicle is a motor vehicle which uses a propulsive unit powered exclusively by electricity.
- (15) Exhaust emissions are substances emitted into the atmosphere from any opening downstream from the exhaust ports of a motor vehicle engine.
- (16) Exhaust gas analyzer is a device for sensing the amount of air pollutants, including carbon monoxide and hydrocarbons, in the exhaust emissions of a motor vehicle. For the purpose of this regulation, this shall mean analyzing devices of the nondispersive infrared type or any other analyzing devices that provide equal or greater accuracy as approved by the Technical Secretary.
- (17) Factory-Installed Motor Vehicle Pollutant Control System is a motor vehicle pollution control system installed by the vehicle or engine manufacturer to comply with the United States government motor vehicles emission control laws and regulations.
- (18) Federal Test Procedure (FTP) is the test procedure used to determine the compliance of vehicles with federal emission standards.
- (19) Fleet means 50 or more light-duty motor vehicles owned by the same person or business entity which are in-use, registered in any county that has been designated by the Board to have a motor vehicle inspection and maintenance program in order to attain and maintain compliance with national ambient air quality standards within any area of Tennessee or an adjoining state and not owned or held primarily for the purpose of resale.
- (20) Fleet Inspection Location is any motor vehicle inspection facility operated by a fleet operator holding a valid fleet inspection permit.
- (21) Fleet Inspection Permit is a certificate issued by the Technical Secretary authorizing a fleet operator to conduct motor vehicle inspections in accordance with this regulation and other requirements as determined by the Department.
- (22) Fleet Operator is the person owning a group of motor vehicles which constitute a fleet as defined in this regulation.
- (23) Fleet Vehicle Inspector is any person retained by a fleet operator holding a valid fleet inspection permit and who is certified by the Technical Secretary as qualified to perform vehicle emissions performance and anti-tampering inspections.
- (24) Fuel inlet restrictor is the leaded fuel nozzle restrictor installed on motor vehicles which was designed for the use of unleaded gasoline only.
- (25) Gasoline powered motor vehicle is any motor vehicle powered by spark-ignition internal combustion engine.

(Rule 1200-03-29-.02, continued)

- (26) Gross Vehicle Weight Rating (GVWR) is a term defining the gross vehicle weight as determined from the combined manufacturer vehicle and maximum load rating.
- (27) Heavy-duty motor vehicle is any motor vehicle having a combined manufacturer vehicle and maximum load rating (GVWR) to be carried thereon in excess of 10,500 pounds (4,773 kilograms).
- (28) Hydrocarbon is any organic compound consisting predominantly of carbon and hydrogen.
- (29) Idle speed means the unloaded engine speed of a motor vehicle when the accelerator pedal is fully released. In a vehicle equipped with an automatic transmission, this is with the drive selector in neutral or park. In a vehicle equipped with a manual transmission, this is with the gear selector in neutral and the clutch fully engaged. In all vehicles, the engine operated accessories shall be turned off.
- (30) Internal combustion engine is any engine in which the combustion of gaseous, liquid or pulverized solid fuel takes place within one or more cylinders, or any engine with one or more combustion chambers.
- (31) Light-duty motor vehicle is any motor vehicle having a combined manufacturer vehicle and maximum load rating (GVWR) to be carried thereon of 10,500 pounds (4,773 kilograms) or less.
- (32) Malfunction Indicator Light (MIL) is known as the Check Engine light. The Malfunction Indicator Light is illuminated on the dashboard when conditions exist likely to result in emissions exceeding FTP standards by 1.5 time or worse. Alternatives include "Service Engine Soon," as well as an unlabeled icon of an engine.
- (33) Manufacturers Idle-speed Specification is the engine idle speed specified for a particular motor vehicle as printed on the engine compartment emissions system data plate or in the owners manual.
- (34) Model Year means the annual production period of new motor vehicles or new motor vehicle engines designated by the calendar year in which such production ends. If the manufacturer does not designate a production period, the year with respect to such vehicle or engines shall mean the twelve (12) month period beginning January of the year in which production thereof begins. The model year for a motor vehicle constructed by other than the original manufacturer shall be assigned by the Technical Secretary.
- (35) Motor vehicle is any self-propelled vehicle used for transporting persons or commodities on public roads.
- (36) Motor Vehicle Regulatory License is the annual motor vehicle license required as a condition for legal operation of certain classes of motor vehicles.
- (37) Motorcycle is any motor vehicle having a seat or saddle for the use of the rider and designed to travel on not more than three wheels in contact with the ground, and having a curb weight of 2000 pounds (907 kilograms) or less.
- (38) New motor vehicle is any motor vehicle that has never been previously titled or registered in this or any other jurisdiction and whose ownership document remains as a manufacturer's certificate of origin.
- (39) Official Inspection Station means a facility operated by the Department and/or contractor to conduct test only vehicle inspections pursuant to this regulation, in a Centralized Network.

(Rule 1200-03-29-.02, continued)

- (40) Onboard Diagnostics (OBD) is a system of vehicle component and condition monitors controlled by a central, onboard computer designed to signal the motorist when conditions exist which could lead to a vehicle's exceeding its certification standards by 1.5 times the FTP standard.
- (41) OBD Data Link Connector (DLC) serves as an interface between a vehicle's OBD computer and the OBD scanner and is usually located under the dashboard on the driver's side. Connecting an OBD scanner to the DLC allows inspectors and vehicle repair technicians to read the readiness status of vehicle's onboard monitors as well as any diagnostic trouble codes.
- (42) Pollution Control Device is the equipment designed by the manufacturer for installation on a motor vehicle for the purpose of reducing pollutants emitted from the vehicle, or a system or engine modification on a motor vehicle which causes a reduction of pollutants emitted from the motor vehicle.
- (43) Readiness codes are status flags stored by a vehicle's onboard computer which is different from the DTC in that it does not indicate a vehicle fault, but rather whether or not a given monitor has been run (i.e. whether or not the component or system in question has been checked to determine if it is functioning properly).
- (44) RPM is a term describing the engine crankshaft revolutions per minute.
- (45) Tampering means to remove, render inoperative, cause to be removed, or make less operative any emission control device, unless such removal or act to render inoperative or less operative is for the purpose of motor vehicle disposal or salvage operation.
- (46) Technical Secretary is the Technical Secretary of the Air Pollution Control Board of the State of Tennessee or his designated representative.
- (47) Vehicle Exhaust System means all devices, equipment and systems which transport exhaust emissions from the exhaust ports of the motor vehicle engine to the atmosphere.
- (48) Wheel Tax is the annual commercial vehicle tax required as a condition for the legal operation of certain classes of motor vehicles.
- (49) Opacity is the degree to which emissions reduce the transmission of light and obscure the view of an object in the background.
- (50) Low-speed vehicle means a four-wheeled vehicle manufactured as a non-road vehicle with a gross vehicle weight of less than 3,000 pounds, capable of twenty miles per hour (20 mph) but not capable of exceeding twenty-five miles per hour (25 mph) on a paved level surface.
- (51) Medium-speed vehicle means any four-wheeled vehicle manufactured as a non-road vehicle with a gross vehicle weight of less than 3,000 pounds, capable of thirty miles per hour (30 mph) but not capable of exceeding thirty-five miles per hour (35 mph) on a paved level surface.

**Authority:** T.C.A. §§ 4-5-201, et seq.; 68-201-101, et seq.; and 68-201-105. **Administrative History:** Original rule filed February 14, 1994; effective April 30, 1994. Stay of effective date filed April 15, 1994; effective June 14, 1994. Amendment filed July 18, 2001; effective October 1, 2001. Amendment filed September 19, 2001; effective December 3, 2001. Repeal and new rule filed September 28, 2004; effective December 12, 2004. Amendment filed November 9, 2010; effective February 7, 2011.

**1200-03-29-.03 MOTOR VEHICLE INSPECTION REQUIREMENTS.**

- (1) All of the light-duty motor vehicles registered in any county that has been designated by the Board to have a motor vehicle inspection and maintenance program or directly with the motor vehicle division of the Tennessee Department of Revenue pursuant to T.C.A. § 55-4-207 and used within or assigned to a user within that county, except those exempted by Rule 1200-03-29-.04, are required to be inspected annually for compliance with emissions performance and anti-tampering test criteria in Rules 1200-03-29-.05 and 1200-03-29-.06. Owners of vehicles so inspected are required to obtain a Certificate of Compliance. A Certificate of Compliance shall be valid for 90 days following the date of issuance, except for those registered pursuant to T.C.A. § 55-4-207, which shall be valid for one year.
- (2) Any light-duty vehicle which is owned or operated by an agency of the federal government and which is operated on a federal installation located in any county that has been designated by the Board to have a motor vehicle inspection and maintenance program is required to be inspected annually for compliance with emissions performance and anti-tampering criteria in Rules 1200-03-29-.05 and 1200-03-29-.06. This requirement shall not apply to a vehicle which is on the facility for less than a total of 60 days during the calendar year.
- (3) A Certificate of Compliance shall be issued only by the Department and/or contractor vehicle inspector or a licensed fleet vehicle inspector and only after the vehicle demonstrates compliance with the test criteria established in Rules 1200-03-29-.05 and 1200-03-29-.06.
- (4) All light-duty motor vehicles required to obtain a Certificate of Compliance except those vehicles contained in a fleet which has a valid fleet inspection permit and those vehicles registered in any county that has been designated by the Board to have a motor vehicle inspection and maintenance program but not subject to either the Wheel Tax or the Motor Vehicle Regulatory License requirements shall obtain a valid Certificate of Compliance within 90 days prior to the required date for payment of the wheel tax or the motor vehicle regulatory license fee as appropriate to the class of motor vehicle.
- (5) All light-duty motor vehicles required to obtain a Certificate of Compliance that are contained in a fleet having a valid fleet inspection permit, operated on a Federal installation registered in any county that has been designated by the Board to have a motor vehicle inspection and maintenance program or vehicles registered in any county that has been designated by the Board to have a motor vehicle inspection and maintenance program in order to attain and maintain compliance with national ambient air quality standards within any area of Tennessee or an adjoining state but exempt from the Wheel Tax and Motor Vehicle Regulatory License requirements shall obtain a valid Certificate of Compliance within 90 days prior to a compliance date for that particular motor vehicle. The Technical Secretary shall establish a schedule of compliance dates for such vehicles. A copy of the Certificate of Compliance for each fleet vehicle shall be submitted to the Technical Secretary within 90 days of the compliance date. A list of all subject vehicles shall be submitted to the Technical Secretary or his designee on an annual basis as directed by the division. Additionally, notification of any changes to the list of subject vehicles shall be made to the division within 30 days of such changes.
- (6) The Certificate of Compliance must be presented to the County Clerks' office prior to the issuance of the Wheel Tax or the Vehicle Regulatory License.
- (7) The requirements contained in this Chapter shall become effective July 1, 1994. The provisions concerning OBD testing shall become effective July 1, 2002.

**Authority:** T.C.A. §§ 4-5-201, et seq., and 68-201-105. **Administrative History:** Original rule filed February 14, 1994; effective April 30, 1994. Stay of effective date filed April 15, 1994; effective June 14,

(Rule 1200-03-29-.03, continued)

1994. Amendment filed October 12, 1998; effective December 26, 1998. Amendment filed July 18, 2001; effective October 1, 2001. Repeal and new rule filed September 28, 2004; effective December 12, 2004.

**1200-03-29-.04 EXEMPTION FROM MOTOR VEHICLE INSPECTION REQUIREMENTS.**

- (1) The following classes of motor vehicles are exempt from the requirements established in Rule 1200-03-29-.03 of this Chapter:
  - (a) Antique motor vehicles
  - (b) Electric powered light-duty vehicles
  - (c) Light-duty motor vehicles with a designated model year prior to 1975
  - (d) Motorcycles
  - (e) Heavy-duty motor vehicles
  - (f) New motor vehicles being registered for the first time or one year from initial registration
  - (g) Tactical military vehicles
  - (h) Low-speed and medium-speed vehicles

**Authority:** T.C.A. §§ 4-5-201, et seq.; 68-201-101, et seq.; and 68-201-105. **Administrative History:** Original rule filed February 14, 1994; effective April 30, 1994. Stay of effective date filed April 15, 1994; effective June 14, 1994. Amendment filed September 19, 2001; effective December 3, 2001. Repeal and new rule filed September 28, 2004; effective December 12, 2004. Amendment filed November 9, 2010; effective February 7, 2011.

**1200-03-29-.05 MOTOR VEHICLE EMISSION PERFORMANCE TEST CRITERIA.**

- (1) Vehicles shall not be allowed to complete emission performance testing if one or more of the following conditions exist when the vehicle is presented for testing:
  - (a) For 1975 through 1995 model gasoline powered motor vehicles, if the vehicle exhaust system leaks in such a way as to dilute the exhaust emissions being sampled by the exhaust gas analyzer, the sum of carbon monoxide and carbon dioxide concentrations recorded for idle speed reading from an exhaust outlet must not be less than 6%.
  - (b) For 1975 through 2001 model diesel powered motor vehicles, if the vehicle's exhaust system leaks in such a way as to dilute the exhaust emissions being sampled.
  - (c) The visible emissions from the motor vehicle are such that it would interfere with operation of the testing equipment.
- (2) Gasoline powered motor vehicle models 1975 through 1995 which have idle speed emission values that exceed the test standards specified in Table I shall fail the emission performance test.



(Rule 1200-03-29-.05, continued)

TABLE I  
 MAXIMUM IDLE SPEED EMISSIONS ALLOWABLE  
 DURING IDLE SPEED EMISSIONS TEST

| VEHICLE<br>MODEL<br>YEAR | CO (%)   |   | HC (PPM)   |   |
|--------------------------|--|---|--|---|
|                          | LIGHT-DUTY<br>VEHICLES LESS<br>THAN OR EQUAL<br>TO 6000 LBS GVWR | LIGHT-DUTY<br>VEHICLES<br>GREATER THAN<br>6000 LBS GVWR | LIGHT-DUTY<br>VEHICLES LESS<br>THAN OR EQUAL<br>TO 6000 LBS GVWR | LIGHT-DUTY<br>VEHICLES<br>GREATER THAN<br>6000 LBS GVWR |
| 1975                     | 5.0  | 6.5   | 500  | 750   |
| 1976                     | 5.0  | 6.5   | 500  | 750   |
| 1977                     | 5.0  | 6.5   | 500  | 750   |
| 1978                     | 4.0  | 6.0   | 400  | 600   |
| 1979                     | 4.0  | 6.0   | 400  | 600   |
| 1980                     | 3.0  | 4.5   | 300  | 400   |
| 1981-<br>1995            | 1.2  | 4.0   | 220  | 400   |

- (3) Light-duty diesel powered motor vehicle models 1975 through 2001 shall be subject to the curb idle test as follows:
  - (a) A diesel vehicle shall not emit visible emissions in excess of ten (10) percent opacity for ten (10) or more consecutive seconds, as measured at idle engine speed.
- (4) All 1996 and newer gasoline powered motor vehicles and all 2002 and newer diesel powered motor vehicles shall be subject to an OBD inspection. An OBD check shall consist of two parts: a visual check of the MIL and an electronic examination of the OBD computer. The vehicle is required to pass a MIL command on test and a bulb check test. After the vehicle has passed the MIL command on test and the bulb check test, it must not have any DTCs set and all of the required readiness codes must be set in order to pass an OBD inspection.
- (5) When a motor vehicle is equipped with other than the original engine or when a motor vehicle has been constructed, modified, customized or altered in such a way so that the model year cannot be clearly determined, the vehicle shall be classified for purposes of the emission performance test by the model year of the chassis.

**Authority:** T.C.A. §§ 4-5-201, et seq., and 68-201-105. **Administrative History:** Original rule filed February 14, 1994; effective April 30, 1994. Stay of effective date filed April 15, 1994; effective June 14, 1994. Amendment filed September 19, 2001; effective December 3, 2001. Repeal and new rule filed September 28, 2004; effective December 12, 2004.

**1200-03-29-.06 MOTOR VEHICLE ANTI-TAMPERING TEST CRITERIA.**

- (1) Each gasoline powered motor vehicle subject to an emission performance test is also subject to a visual anti-tampering inspection under this rule and shall comply with the following minimum anti-tampering requirements:

(Rule 1200-03-29-.06, continued)

- (a) At a minimum, the emissions control devices subject to an inspection are the catalytic converter, and fuel filler cap. If emission control devices are found in a tampered condition, such devices shall be repaired or replaced prior to any retesting or reinspection as provided for in Rule 1200-03-29-.10.
  - (b) Nothing in this Rule shall be construed as to relieve a motor vehicle owner from complying with the provisions of Rule 1200-03-29-.05.
- (2) Each gasoline powered motor vehicle subject to an OBD inspection is also subject to an anti-tampering test, and shall comply with a DLC check, and a fuel cap pressure test.
  - (3) Each diesel powered motor vehicle subject to an emission performance test is also subject to an anti-tampering test and shall comply at a minimum with a catalytic converter check, if applicable, and a fuel capcheck.
  - (4) Each diesel powered motor vehicle subject to an OBD inspection is also subject to an anti-tampering test, and shall comply with a DLC check and a fuel capcheck.

**Authority:** T.C.A. §§ 4-5-201, et seq., and 68-201-105. **Administrative History:** Original rule filed February 14, 1994; effective April 30, 1994. Stay of effective date filed April 15, 1994; effective June 14, 1994. Amendment filed September 19, 2001; effective December 3, 2001. Repeal and new rule filed September 28, 2004; effective December 12, 2004.

#### 1200-03-29-.07 MOTOR VEHICLE EMISSIONS PERFORMANCE TEST METHODS.

- (1) For gasoline powered motor vehicles, the motor vehicle emissions performance test shall consist of the sampling of exhaust emissions at idle speed and measurement of CO<sub>2</sub> dilution, CO concentration and HC concentration.
- (2) For gasoline powered motor vehicles, sampling of exhaust emissions shall consist of measurement of CO<sub>2</sub> dilution, CO concentration and HC concentration during idle operation using an approved exhaust gas analyzer. Measurements taken during the initial idle phase may be succeeded by measurements taken during a second idle phase which has followed an engine conditioning phase consisting of engine operation at approximately 2500 RPM for approximately 20 seconds. The lowest emission readings from either of these idle speed test phases shall be used to determine pass or failure of the emissions performance test.
- (3) For diesel powered motor vehicles, the motor vehicle emissions performance test shall consist of the Curb Idle test procedures for diesel vehicles:
  - (a) Diesel-powered vehicles shall be inspected with an opacity meter that is a full-flow, direct reading, continuous reading light extinction type using a collimated light source and photo-electric cell, accurate to within plus or minus five (5) percent.
  - (b) Separate measurements shall be made on each exhaust outlet on diesel vehicles equipped with multiple exhaust outlets. The reading taken from the outlet giving the highest reading shall be used for comparison with the standard for the vehicle being tested.
- (4) For gasoline powered motor vehicles with a model year of 1996 and newer and for diesel powered motor vehicles with a model year of 2002 and newer, an onboard diagnostic test shall be performed. All vehicles that have a readily accessible OBD system shall be tested. The results of the test shall be used to determine pass or failure of the vehicle.

**Authority:** T.C.A. §§ 4-5-201, et seq., and 68-201-105. **Administrative History:** Original rule filed February 14, 1994; effective April 30, 1994. Stay of effective date filed April 15, 1994; effective June 14,

(Rule 1200-03-29-.07, continued)

1994. Amendment filed September 19, 2001; effective December 3, 2001. Repeal and new rule filed September 28, 2004; effective December 12, 2004.

**1200-03-29-.08 MOTOR VEHICLE ANTI-TAMPERING TEST METHODS.**

- (1) For vehicles 1975 to 1995, the motor vehicle anti-tampering test shall be verified by the Department vehicle inspector and consist of the following elements:
  - (a) The vehicle shall be checked by the vehicle inspector to see that the appropriate fuel cap is securely in place. If the appropriate fuel cap is not in place, it shall result in the failure of the anti-tampering test.
  - (b) The vehicle shall be checked visually (with a mirror or otherwise) to see if the catalytic converter is the correct type for the certified vehicle configuration and is properly connected. If the catalytic converter has been tampered with, removed or is the incorrect configuration, it shall result in the failure of the anti-tampering test.
- (2) Each gasoline powered motor vehicle with a model year of 1996 and newer is subject to an anti-tampering test, and shall comply with the DLC and a fuel cap pressure test. The anti-tampering test shall consist of the following elements:
  - (a) Vehicle shall be visually checked to see if the appropriate fuel cap is securely in place.
  - (b) If the fuel cap is present, it shall be removed and a fuel cap pressure test shall be performed to assure the cap is working properly. (F.T.P. 26-21 Pass/Fail Standard). If the fuel cap fails the pressure test, it shall result in a failure of the anti-tampering test.
  - (c) If the DLC has been tampered with or is missing, it must be repaired or replaced prior to any retesting or reinspection. If the vehicle is incompatible with the OBD test equipment or if the DLC is readily unavailable, then the vehicle is required to pass the idle speed emission values as specified in Paragraph 1200-03-29-.05.
- (3) Each diesel powered motor vehicle with a model year of 2002 and newer is subject to an anti-tampering test, and shall comply at a minimum with a DLC check and a fuel cap pressure test. The anti-tampering test shall consist of the following elements:
  - (a) Vehicle shall be visually checked to see if the appropriate fuel cap is securely in place.
  - (b) If the DLC has been tampered with or is missing, it must be repaired or replaced prior to any retesting or reinspection. If the vehicle is incompatible with the OBD test equipment or if the DLC is readily unavailable, then the vehicle is subject to the Curb Idle test as specified in Paragraph 1200-03-29-.05.
- (4) Pass/fail determination. A pass or fail determination shall be made for each of the test elements in Paragraph 1200-03-29-.08(1), (2), or (3). If a vehicle fails any of the anti-tampering elements in Paragraph 1200-03-29-.08(1), (2), or (3), it shall result in the failure of the motor vehicle inspection test and a Certificate of Compliance shall not be issued until the repairs have been made to the vehicle.

**Authority:** T.C.A. §§ 4-5-201, et seq., and 68-201-105. **Administrative History:** Original rule filed February 14, 1994; effective April 30, 1994. Stay of effective date filed April 15, 1994; effective June 14, 1994. Amendment filed September 19, 2001; effective December 3, 2001. Repeal and new rule filed September 28, 2004; effective December 12, 2004.

**1200-03-29-.09 MOTOR VEHICLE INSPECTION PROGRAM.**

- (1) The motor vehicle inspection program shall be operated by the Tennessee Department of Environment and Conservation, Division of Air Pollution Control, the State approved local government and/or the State approved contractor.
- (2) All motor vehicle inspections shall be conducted at official or mobile inspection stations operated by the Department, local government and/or contractor except those fleet inspections provided for in Paragraph 1200-03-29-.09(3) of this regulation.
- (3) In lieu of the requirement in Paragraph 1200-03-29-.09(2) of this regulation, vehicles owned or operated by a fleet operator to whom a fleet inspection permit has been issued may be inspected by a licensed fleet vehicle inspector at a site other than an official inspection station.
- (4) A light-duty fleet vehicle operator may make application to the Technical Secretary for a fleet inspection permit. Minimum requirements for issuance of a permit shall be:
  - (a) Possession of an approved analyzer, tools and testing equipment determined by the Technical Secretary to be adequate for conducting the required emissions inspections;
  - (b) Demonstration of knowledge of methods and procedures for conducting the required emissions performance and anti-tampering inspections according to criteria developed by the Technical Secretary;
  - (c) Provisions of appropriate facility for vehicle testing and appropriate secure storage facility for storage of Certificates of Compliance and records of inspections;
  - (d) Agreement to supply inspection and Certificate of Compliance issuance information as requested by the Technical Secretary and to allow access to testing facility, testing equipment, testing personnel, testing data, Certificate of Compliance inventory and fleet vehicles as requested by the Technical Secretary;
  - (e) Retention of licensed fleet vehicle inspector to conduct fleet vehicle inspections.
- (5) A fleet inspection permit shall be valid for one year from the date of issuance and may be renewed through application to the Technical Secretary within 30 days prior to the date of expiration. A fleet inspection permit is not transferable and may be denied, suspended or revoked by the Technical Secretary for failure to comply with this regulation and other requirements as determined by the Department.
- (6) A person employed or retained by a fleet operator holding a valid fleet inspection permit may make application to the Technical Secretary for a fleet vehicle inspector's license. Minimum requirements for issuance of this license shall be:
  - (a) Successful completion of a vehicle inspector training course prepared and offered by the Department;
  - (b) Successful completion of the mechanics training course approved by the Technical Secretary;
  - (c) Agreement to participate in additional training activities from time to time as specified by the Technical Secretary;
  - (d) Provision of written evidence that applicant is employed or retained by the fleet operator.

(Rule 1200-03-29-.09, continued)

- (7) A fleet inspector's license shall be valid for one year from the date of issuance and may be renewed through application to the Technical Secretary within thirty (30) days prior to the date of expiration. A fleet vehicle inspector's license is not transferable and may be denied, suspended or revoked by the Technical Secretary for failure to comply with this regulation and other requirements as determined by the Department.
- (8) All vehicles issued a Certificate of Compliance under the provision of Paragraph 1200-03-29-.09(3) of this regulation shall be subject to retesting at either the fleet inspection location or an official inspection station as deemed necessary by the Technical Secretary in order to maintain compliance with the intent of this regulation.

**Authority:** T.C.A. §§ 4-5-201, et seq., and 68-201-105. **Administrative History:** Original rule filed February 14, 1994; effective April 30, 1994. Stay of effective date filed April 15, 1994; effective June 14, 1994. Repeal and new rule filed September 28, 2004; effective December 12, 2004.

#### 1200-03-29-.10 MOTOR VEHICLE INSPECTION FEE.

- (1) There shall be a fee set by the Tennessee Air Pollution Control Board for the Inspection & Maintenance program. The fee shall be for each emission test and payable at the time of inspection by the operator of the vehicle subject to the testing.
- (2) There shall be a fee of five dollars (\$5.00) for each Certificate of Compliance generated by licensed fleet inspectors for issuance to motor vehicles which comply with the testing provisions of this regulation.
- (3) Each vehicle which fails its initial inspection is entitled to one (1) reinspection at no charge if the vehicle is accompanied by the entire initial inspection report.
- (4) Motor vehicle owners or operator shall be given in writing the results of all inspection procedures carried out at any official inspection station.
- (5) There shall be a fee of One Hundred Dollars (\$100.00) for each annual Fleet Inspection Permit issued to fleet vehicle operators.
- (6) There shall be a fee of One Hundred Dollars (\$100.00) for each initial annual Fleet Vehicle Inspector's License issued to a fleet vehicle inspector; there shall be a fee of Twenty-Five Dollars (\$25.00) for each annual renewal of a Fleet Vehicle Inspector's License.

**Authority:** T.C.A. §§ 4-5-201, et seq., and 68-201-105. **Administrative History:** Original rule filed February 14, 1994; effective April 30, 1994. Stay of effective date filed April 15, 1994; effective June 14, 1994. Amendment filed July 18, 2001; effective October 1, 2001. Amendment filed September 19, 2001; effective December 3, 2001. Repeal and new rule filed September 28, 2004; effective December 12, 2004.

#### 1200-03-29-.11 WAIVER PROVISIONS.

- (1) The purpose of this rule is to allow a person to operate a motor vehicle that fails to meet the applicable motor vehicle emission performance test criteria as specified in Rule 1200-03-29-.05, provided the department has issued to the owner of the motor vehicle a waiver.
- (2) A waiver issued pursuant to this rule shall relieve the owner of a motor vehicle from responsibility for taking any further action to reduce exhaust emissions from the motor vehicle until the motor vehicle is next due for inspection, pursuant to Rule 1200-03-29-.03.

(Rule 1200-03-29-.11, continued)

- (3) Any owner of a motor vehicle may be eligible and may apply to the department for a waiver pursuant to this rule if:
  - (a) An application for a waiver is submitted to a representative at an inspection site designated by the department;
  - (b) The vehicle passed the tampering portion of the vehicle inspection;
  - (c) All of the exhaust emissions components appropriate to make, model, year, series, and engine size are in place and visually operating;
  - (d) The vehicle failed the first initial emissions test and subsequent retest after repairs;
  - (e) The owner of the vehicle has spent the required amount, pursuant to part 1., 2., or 3. of this subparagraph, in parts and/or labor as an attempt to bring the vehicle into compliance with the motor vehicle emission performance test criteria as specified in Rule 1200-03-29-.05.
    1. For 1975 through 1980 model year vehicles – the minimum expenditure requirement is \$75.00. All repairs must be appropriate and/or related to the cause of the test failure. This expenditure includes parts and labor, as specified in part 4.
    2. For 1981 through 1995 model year vehicles – the minimum expenditure requirement is \$200.00. All repairs must be appropriate and/or related to the cause of the test failure. This expenditure includes parts and labor, as specified in part 4.
    3. For 1996 and newer model year vehicles – the minimum expenditure requirement is \$650.00. All repairs must be appropriate and/or related to the cause of the test failure. This expenditure includes parts and labor, as specified in part 4.
    4. The cost of labor can be applied towards the expenditure amount only if the repairs were performed by a certified repair technician (National Institute for Automotive Service Excellence [ASE] certified in engine repair and engine performance). Repairs performed by non-technicians (e.g., owners) may only apply the cost of parts towards the expenditure.
  - (f) Documentation of repairs must be provided to the department. Documentation shall include dated receipts itemized with the name of each part, part number, and manufacturer.
  - (g) Emission related repairs were performed on the vehicle sixty (60) days before or after the initial failed exhaust emissions inspection; and
  - (h) Proof of county residence is provided to the department. (Example: Driver's License and/or vehicle registration).
- (4) The owner of a motor vehicle still within the failed vehicle's warranty period shall use all available warranty coverage to have repairs made that are directed toward correcting the cause of the motor vehicle's inspection failure prior to applying for a waiver and provide support documentation pursuant to subparagraph (a) or (b) of this paragraph.

(Rule 1200-03-29-.11, continued)

- (a) Documentation indicating that any available warranty coverage has been used to have the repairs made that are directed toward correcting the cause of the motor vehicle's failure to pass the motor vehicle inspection shall be provided to the Department; or
  - (b) A written denial of warranty coverage for the needed repairs from the manufacturer or authorized dealer shall be provided to the Department.
- (5) Prior to the issuance of a waiver, Division staff shall perform a visual (underhood) inspection of the motor vehicle. This inspection will be performed to determine that emission related repairs have been completed and verify that the minimum expenditure has been met. If during the visual inspection any motor vehicle tampering, as defined in Division Rule 1200-03-36, is discovered, a waiver cannot be granted.
  - (6) The waiver shall be valid for one year or until the next registration expiration date, whichever is sooner.
  - (7) A waiver shall be granted to the owner of a motor vehicle provided the requirements of this rule have been fulfilled.
  - (8) Upon receiving a waiver from the department, the motor vehicle owner shall be exempt from the requirements of paragraph (6) in rule 1200-03-29-.03 within the time period prescribed in paragraph (6) of rule 1200-03-29-.11.

**Authority:** T.C.A. §§ 4-5-201, et seq.; 55-4-128; and 68-201-105. **Administrative History:** Original rule filed August 30, 2001; effective November 13, 2001. Repeal and new rule filed September 28, 2004; effective December 12, 2004.

**1200-03-29-.12 RESERVED.**

**Authority:** T.C.A. §§ 4-5-201 through 4-5-231, 55-4-128, 55-4-130, and 68-201-101 through 68-201-121. **Administrative History:** Original rule filed September 28, 2004; effective date December 12, 2004. Amendments filed January 11, 2021; effective April 11, 2021.

**RULES  
OF  
TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
BUREAU OF ENVIRONMENT  
DIVISION OF AIR POLLUTION CONTROL**

**CHAPTER 1200-3-30  
ACIDIC PRECIPITATION CONTROL**

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**1200-3-30-.01 ACID RAIN PROGRAM GENERAL PROVISIONS (40 CFR PART 72, SUBPART A)**

The provisions of the chapter are promulgated in order to implement the Acid Rain Program jointly with the United States Environmental Protection Agency. The Program involves the national trading of emission allowances, thus requiring federal administration. The Department's role in this national program is one of permit writing and emissions monitoring. The Federal Rules pertaining to acid rain are voluminous. To assist the reader of Chapter 1200-3-30 in reconciling this Chapter with Federal Acid Rain Rules, the corresponding Federal cite has been placed in parenthesis beside each rule and paragraph of the Chapter as they are the major subdivisions of Chapter 1200-3-30.

(1) Definitions. (40 CFR 72.2)

The terms used in this regulation shall have the meanings set forth in Title IV of the Clean Air Act, 42 U.S.C 7401, et seq. as amended by the Clean Air Act Amendments of 1990, 42 U.S.C. 7651, et seq. (November 15, 1990) and in this section as follows:

- (a) "Acid Rain compliance option" means one of the methods of compliance used by an affected unit under the Acid Rain Program as described in a compliance plan submitted and approved in accordance with Rule 1200-3-30-.04 of this regulation or regulations implementing section 407 of the Act.
- (b) "Acid Rain emissions limitation" means:
  - 1. For the purposes of sulfur dioxide emissions:
    - (i) The tonnage equivalent of the basic Phase II allowance allocations authorized to be allocated to an affected unit for use in a calendar year; and
    - (ii) As adjusted:
      - (I) By allowances allocated by the Administrator pursuant to section 403, section 405 (a)(2), (a)(3), (b)(2), (c)(4), (d)(3), and (h)(2), and section 406 of the Act;
      - (II) By allowances allocated by the Administrator pursuant to subpart D of 40 CFR part 72; and thereafter
      - (III) By allowance transfers to or from the compliance subaccount for that unit that were recorded or properly submitted for recordation by the allowance



(Rule 1200-3-30-.01, continued)

transfer deadline as provided in 40 CFR 73.35, after deductions and other adjustments are made pursuant to 40 CFR 73.34(c); and

2. For purposes of nitrogen oxides emissions, the applicable limitation established by regulations promulgated by the Administrator pursuant to section 407 of the Act, as modified by an Acid Rain permit application submitted to the Technical Secretary, and an Acid Rain permit issued by Technical Secretary, in accordance with regulations implementing section 407 of the Act.
- (c) “Acid Rain emissions reduction requirement” means a requirement under the Acid Rain Program to reduce the emissions of sulfur dioxide or nitrogen oxides from a unit to a specified level or by a specified percentage.
  - (d) “Acid Rain permit or permit” means the legally binding written document, or portion of such document, issued by Technical Secretary (following an opportunity for appeal pursuant to 40 CFR part 78 or Part 1200-3-9-.02(11)(a)3, including any permit revisions, specifying the Acid Rain Program requirements applicable to an affected source, to each affected unit at an affected source, and to the owners and operators and the designated representative of the affected source or the affected unit.
  - (e) “Acid Rain Program” means the national sulfur dioxide and nitrogen oxides air pollution control and emissions reduction program established in accordance with title IV of the Act, Rule 1200-3-30-.01 through Rule 1200-3-30-.10, 40 CFR parts 72, 73, 75, 77, and 78, and regulations implementing sections 407 and 410 of the Act.
  - (f) “Act” means the Clean Air Act, 42 U.S.C. 7401, et seq. as amended by Public Law No. 101-549 (November 15, 1990).
  - (g) “Actual SO<sub>2</sub> emissions rate” means the annual average sulfur dioxide emissions rate for the unit (expressed in lb/mmBtu), for the specified calendar year; provided that, if the unit is listed in the NADB, the “1985 actual SO<sub>2</sub> emissions rate” for the unit shall be the rate specified by the Administrator in the NADB under the data field “SO<sub>2</sub>RTE.”
  - (h) “Administrator” means the Administrator of the United States Environmental Protection Agency or the Administrator’s duly authorized representative.
  - (i) “Affected source” means a source that includes one or more affected units.
  - (j) “Affected unit” means a unit that is subject to any Acid Rain emissions reduction requirement or Acid Rain emissions limitation.
  - (k) “Affiliate” shall have the meaning set forth in section 2(a)(11) of the Public Utility Holding Company Act of 1935, 15 U.S.C. 79b(a)(11), as of November 15, 1990.
  - (l) “Allocate or allocation” means the initial crediting of an allowance by the Administrator to an Allowance Tracking System unit account or general account.
  - (m) “Allowance” means an authorization by the Administrator under the Acid Rain Program to emit up to one ton of sulfur dioxide during or after a specified calendar year.
  - (n) “Allowance deduction, or deduct when referring to allowances”, means the permanent withdrawal of allowances by the Administrator from an Allowance Tracking System compliance subaccount to account for the number of the tons of SO<sub>2</sub> emissions from an affected unit for the calendar year, for tonnage emissions estimates calculated for periods of missing data

(Rule 1200-3-30-.01, continued)

as provided in 40 CFR part 75, or for any other allowance surrender obligations of the Acid Rain Program.

- (o) “Allowances held or hold allowances” means the allowances recorded by the Administrator, or submitted to the Administrator for recordation in accordance with 40 CFR 73.50, in an Allowance Tracking System account.
- (p) “Allowance Tracking System or ATS” means the Acid Rain Program system by which the Administrator allocates, records, deducts, and tracks allowances.
- (q) “Allowance Tracking System account” means an account in the Allowance Tracking System established by the Administrator for purposes of allocating, holding, transferring, and using allowances.
- (r) “Allowance transfer deadline” means midnight of January 30 or, if January 30 is not a business day, midnight of the first business day thereafter and is the deadline by which allowances may be submitted for recordation in an affected unit’s compliance subaccount for the purposes of meeting the unit’s Acid Rain emissions limitation requirements for sulfur dioxide for the previous calendar year.
- (s) “Authorized account representative” means a responsible natural person who is authorized, in accordance with 40 CFR part 73, to transfer and otherwise dispose of allowances held in an Allowance Tracking System general account; or, in the case of a unit account, the designated representative of the owners and operators of the affected unit.
- (t) “Basic Phase II allowance allocations” means: (1) For calendar years 2000 through 2009 inclusive, allocations of allowances made by the Administrator pursuant to section 403 and section 405 (b)(1), (3), and (4); (c)(1), (2), (3), and (5); (d)(1), (2), (4), and (5); (e); (f); (g)(1), (2), (3), (4), and (5); (h)(1); (i); and (j). (2) For each calendar year beginning in 2010, allocations of allowances made by the Administrator pursuant to section 403 and section 405 (b)(1), (3), and (4); (c)(1), (2), (3), and (5); (d)(1), (2), (4), and (5); (e); (f); (g)(1), (2), (3), (4), and (5); (h)(1) and (3); (i); and (j).
- (u) “Boiler” means an enclosed fossil or other fuel-fired combustion device used to produce heat and to transfer heat to recirculating water, steam, or any other medium.
- (v) “Certificate of representation” means the completed and signed submission required by 40 CFR 72.20, for certifying the appointment of a designated representative for an affected source or a group of identified affected sources authorized to represent the owners and operators of such source(s) and of the affected units at such source(s) with regard to matters under the Acid Rain Program.
- (w) “Certifying Official” means:
  - 1. For a corporation, a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation;
  - 2. For partnership or sole proprietorship, a general partner or the proprietor, respectively; and
  - 3. For a local government entity or State, federal, or other public agency, either a principal executive officer or ranking elected official.

(Rule 1200-3-30-.01, continued)

- (x) “Coal” means all solid fuels classified as anthracite, bituminous, subbituminous, or lignite by the American Society for Testing and Materials Designation ASTM D388-92 “Standard Classification of Coals by Rank.”
- (y) “Coal-derived fuel” means any fuel, whether in a solid, liquid, or gaseous state, produced by the mechanical, thermal, or chemical processing of coal (e.g., pulverized coal, coal refuse, liquified or gasified coal, washed coal, chemically cleaned coal, coal-oil mixtures, and coke).
- (z) “Coal-fired” means the combustion of fuel consisting of coal or any coal-derived fuel (except a coal-derived gaseous fuel with a sulfur content no greater than natural gas), alone or in combination with any other fuel, where a unit is “coal-fired” if it uses coal or coal-derived fuel as its primary fuel (expressed in mMBtu); provided that, if the unit is listed in the NADB, the primary fuel is the fuel listed in the NADB under the data field “PRIMEFUEL”.
- (aa) “Cogeneration unit” means a unit that has equipment used to produce electric energy and forms of useful thermal energy (such as heat or steam) for industrial, commercial, heating or cooling purposes, through the sequential use of energy.
- (bb) “Commence commercial operation” means to have begun to generate electricity for sale, including the sale of test generation.
- (cc) “Commence construction” means that an owner or operator has either undertaken a continuous program of construction or has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction.
- (dd) “Commence operation” means to have begun any mechanical, chemical, or electronic process, including start-up of an emissions control technology or emissions monitor or of a unit's combustion chamber.
- (ee) “Common stack” means the exhaust of emissions from two or more units through a single flue.
- (ff) “Compliance certification” means a submission to the Administrator or Technical Secretary that is required by Rule 1200-3-30-.01 through Rule 1200-3-30-.10, by 40 CFR part 72, 73, 75, 77, or 78, or by regulations implementing sections 407 or 410 of the Act to report an affected source or an affected unit's compliance or non-compliance with a provision of the Acid Rain Program and that is signed and verified by the designated representative in accordance with subpart B of 40 CFR part 72, Rule 1200-3-30.08, and the Acid Rain Program regulations generally.
- (gg) “Compliance plan,” for purposes of the Acid Rain Program, means the document submitted for an affected source in accordance with Paragraph 1200-3-30-.03(1) and Paragraph 1200-3-30-.03(2) specifying the method(s) (including one or more Acid Rain compliance options under Paragraph 1200-3-30-.04(2) or regulations implementing section 407 of the Act) by which each affected unit at the source will meet the applicable Acid Rain emissions limitation and Acid Rain emissions reduction requirements.
- (hh) “Compliance subaccount” means the subaccount in an affected unit's Allowance Tracking System account, established pursuant to 40 CFR 73.31 (a) or (b), in which are held, from the date that allowances for the current calendar year are recorded under 40 CFR 73.34(a) until December 31, allowances available for use by the unit in the current calendar year and, after December 31 until the date that deductions are made under 40 CFR 73.35(b), allowances available for use by the unit in the preceding calendar year, for the purpose of meeting the unit's Acid Rain emissions limitation for sulfur dioxide.
- (ii) “Compliance use date” means the first calendar year for which an allowance may be used for purposes of meeting a unit's Acid Rain emissions limitation for sulfur dioxide.

(Rule 1200-3-30-.01, continued)

- (jj) “Construction” means fabrication, erection, or installation of a unit or any portion of a unit.
- (kk) “Designated” representative means a responsible natural person authorized by the owners and operators of an affected source and of all affected units at the source, as evidenced by a certificate of representation submitted in accordance with subpart B of 40 CFR part 72, to represent and legally bind each owner and operator, as a matter of federal law, in matters pertaining to the Acid Rain Program. Whenever the term "responsible official" is used in 40 CFR part 70 or in any other regulations implementing title V of the Act, it shall be deemed to refer to the "designated representative" with regard to all matters under the Acid Rain Program.
- (ll) “Diesel fuel” means a low sulfur fuel oil of grades 1-D or 2-D, as defined by the American Society for Testing and Materials ASTM D975-91, “Standard Specification for Diesel Fuel Oils.”
- (mm) “Direct public utility ownership” means direct ownership of equipment and facilities by one or more corporations, the principal business of which is sale of electricity to the public at retail. Percentage ownership of such equipment and facilities shall be measured on the basis of book value.
- (nn) “Draft Acid Rain permit or draft permit” means the version of the Acid Rain permit, or the Acid Rain portion of an operating permit, that the Technical Secretary offers for public comment.
- (oo) “Emissions” means air pollutants exhausted from a unit or source into the atmosphere, as measured, recorded, and reported to the Administrator by the designated representative and as determined by the Administrator, in accordance with the emissions monitoring requirements of 40 CFR part 75.
- (pp) “EPA” means the United States Environmental Protection Agency.
- (qq) “Excess emissions” means:
1. Any tonnage of sulfur dioxide emitted by an affected unit during a calendar year that exceeds the Acid Rain emissions limitation for sulfur dioxide for the unit; and
  2. Any tonnage of nitrogen oxide emitted by an affected unit during a calendar year that exceeds the annual tonnage equivalent of the Acid Rain emissions limitation for nitrogen oxides applicable to the affected unit taking into account the unit's heat input for the year.
- (rr) “Existing unit” means a unit (including a unit subject to section 111 of the Act) that commenced commercial operation before November 15, 1990 and that on or after November 15, 1990 served a generator with a nameplate capacity of greater than 25 MWe. "Existing unit" does not include simple combustion turbines or any unit that on or after November 15, 1990 served only generators with a nameplate capacity of 25 MWe or less. Any “existing unit” that is modified, reconstructed, or repowered after November 15, 1990 shall continue to be an “existing unit.”
- (ss) “Facility” means any institutional, commercial, or industrial structure, installation, plant, source, or building.
- (tt) “Fossil fuel” means natural gas, petroleum, coal, or any form of solid, liquid, or gaseous fuel derived from such material.
- (uu) “Fossil fuel-fired” means the combustion of fossil fuel or any derivative of fossil fuel, alone or in combination with any other fuel, independent of the percentage of fossil fuel consumed in any calendar year.

(Rule 1200-3-30-.01, continued)

- (vv) "Fuel oil" means any petroleum-based fuel (including diesel fuel or petroleum derivatives such as oil tar) as defined by the American Society for Testing and Materials in ASTM D396-90a, "Standard Specification for Fuel Oils," and any recycled or blended petroleum products or petroleum by-products used as a fuel whether in a liquid, solid or gaseous state.
- (ww) "Gas-fired" means the combustion of natural gas, or a coal-derived gaseous fuel with a sulfur content no greater than natural gas, for at least 90 percent of the average annual heat input during the previous three calendar years and for at least 85 percent of the annual heat input in each of those calendar years; and any fuel other than coal or any other coal-derived fuel for the remaining heat input, if any.
- (xx) "General Account" means an Allowance Tracking System account that is not a unit account.
- (yy) "Generator" means a device that produces electricity and was or would have been required to be reported as a generating unit pursuant to the United States Department of Energy Form 860 (1990 edition).
- (zz) "Generator output capacity" means the full-load continuous rating of a generator under specific conditions as designed by the manufacturer.
- (aaa) "Heat input" means the product (expressed in mmBtu/time) of the gross calorific value of the fuel (expressed in Btu/lb) and the fuel feed rate into the combustion device (expressed in mass of fuel/time) and does not include the heat derived from preheated combustion air, recirculated flue gases, or exhaust from other sources.
- (bbb) "Independent power production facility (IPP)" means a source that:
  - 1. Is nonrecourse project financed, as defined by the Secretary of Energy at 10 CFR part 715;
  - 2. Is used for the generation of electricity, eighty percent or more of which is sold at wholesale; and
  - 3. Is a new unit required to hold allowances under title IV of the Act;
  - 4. Provided that direct public utility ownership of the equipment comprising the facility does not exceed 50 percent.
- (ccc) "Life-of-the-unit, firm power contractual arrangement" means a unit participation power sales agreement under which a utility or industrial customer reserves, or is entitled to receive, a specified amount or percentage of nameplate capacity and associated energy generated by any specified generating unit and pays its proportional amount of such unit's total costs, pursuant to a contract:
  - 1. For the life of the unit;
  - 2. For a cumulative term of no less than 30 years, including contracts that permit an election for early termination; or
  - 3. For a period equal to or greater than 25 years or 70 percent of the economic useful life of the unit determined as of the time the unit was built, with option rights to purchase or release some portion of the nameplate capacity and associated energy generated by the unit at the end of the period.

(Rule 1200-3-30-.01, continued)

- (ddd) "Nameplate capacity" means the maximum electrical generating output (expressed in MWe) that a generator can sustain over a specified period of time when not restricted by seasonal or other deratings, as listed in the NADB under the data field "NAMECAP" if the generator is listed in the NADB or as measured in accordance with the United States Department of Energy standards if the generator is not listed in the NADB.
- (eee) "National Allowance Data Base or NADB" means the data base established by the Administrator under section 402(4)(C) of the Act.
- (fff) "Natural gas" means a naturally occurring fluid mixture of hydrocarbons containing little or no sulfur (e.g., methane, ethane, or propane), produced in geological formations beneath the Earth's surface, and maintaining a gaseous state at standard atmospheric temperature and pressure conditions under ordinary conditions.
- (ggg) "New unit" means a unit that commences commercial operation on or after November 15, 1990, including any such unit that serves a generator with a nameplate capacity of 25 MWe or less or that is a simple combustion turbine.
- (hhh) "Offset plan" means a plan pursuant to 40 CFR part 77 for offsetting excess emissions of sulfur dioxide that have occurred at an affected unit in any calendar year.
- (iii) "Oil-fired" means the combustion of: fuel oil for more than 10 percent of the average annual heat input during the previous three calendar years or for more than 15 percent of the annual heat input in any one of those calendar years; and any solid, liquid, or gaseous fuel, other than coal or any other coal-derived fuel (except a coal-derived gaseous fuel with a sulfur content no greater than natural gas), for the remaining heat input, if any.
- (jjj) "Operating permit" means a permit issued under 40 CFR part 70, Paragraph 1200-3-9-.02(11), and any other regulations implementing title V of the Act.
- (kkk) "Owner" means any of the following persons:
1. Any holder of any portion of the legal or equitable title in an affected unit; or
  2. Any holder of a leasehold interest in an affected unit; or
  3. Any purchaser of power from an affected unit under a life-of-the-unit, firm power contractual arrangement. However, unless expressly provided for in a leasehold agreement, owner shall not include a passive lessor, or a person who has an equitable interest through such lessor, whose rental payments are not based, either directly or indirectly, upon the revenues or income from the affected unit; or
  4. With respect to any Allowance Tracking System general account, any person identified in the submission required by 40 CFR 73.31(c) that is subject to the binding agreement for the authorized account representative to represent that person's ownership interest with respect to allowances.
- (lll) "Owner or operator" means any person who is an owner or who operates, controls, or supervises an affected unit or affected source and shall include, but not be limited to, any holding company, utility system, or plant manager of an affected unit or affected source.
- (mmm) "Permit revision" means a permit modification, fast track modification, administrative permit amendment, or automatic permit amendment, as provided in Rule 1200-3-30-.07 of this regulation.

(Rule 1200-3-30-.01, continued)

- (nnn) "Phase II" means the Acid Rain Program period beginning January 1, 2000, and continuing into the future thereafter.
- (ooo) "Potential electrical output capacity" means the MWe capacity rating for the units which shall be equal to 33 percent of the maximum design heat input capacity of the steam generating unit, as calculated according to appendix D of 40 CFR part 72.
- (ppp) "Power distribution system" means the portion of an electricity grid owned or operated by a utility that is dedicated to delivering electric energy to customers.
- (qqq) "Power purchase commitment" means a commitment or obligation of a utility to purchase electric power from a facility pursuant to:
1. A power sales agreement;
  2. A State regulatory authority order requiring a utility to:
    - (i) Enter into a power sales agreement with the facility;
    - (ii) Purchase from the facility; or
    - (iii) Enter into arbitration concerning the facility for the purpose of establishing terms and conditions of the utility's purchase of power;
  3. A letter of intent or similar instrument committing to purchase power (actual electrical output or generator output capacity) from the source at a previously offered or lower price and a power sales agreement applicable to the source is executed within the time frame established by the terms of the letter of intent but no later than November 15, 1992 or, where the letter of intent does not specify a time frame, a power sales agreement applicable to the source is executed on or before November 15, 1992; or
  4. A utility competitive bid solicitation that has resulted in the selection of the qualifying facility of independent power production facility as the winning bidder.
- (rrr) "Power sales agreement" is a legally binding agreement between a QF, IPP, or firm associated with such facility and a regulated electric utility that establishes the terms and conditions for the sale of power from the facility to the utility.
- (sss) "Primary fuel or primary fuel supply" means the main fuel type (expressed in mmBtu) consumed by an affected unit for the applicable calendar year.
- (ttt) "Proposed Acid Rain permit or proposed permit" means the version of an Acid Rain permit that the Technical Secretary submits to the Administrator after the public comment period, but prior to completion of the EPA permit review period under 40 CFR 70.8(c).
- (uuu) "Qualifying facility (QF)" means a "qualifying small power production facility" within the meaning of section 3(17)(C) of the Federal Power Act or a "qualifying cogeneration facility" within the meaning of section 3(18)(B) of the Federal Power Act.
- (vvv) "Qualifying power purchase commitment" means a power purchase commitment in effect as of November 15, 1990 without regard to changes to that commitment so long as:
1. The identity of the electric output purchaser, the identity of the steam purchaser and the location of the facility, remain unchanged as of the date the facility commences commercial operation; and

(Rule 1200-3-30-.01, continued)

2. The terms and conditions of the power purchase commitment are not changed in such a way as to allow the costs of compliance with the Acid Rain Program to be shifted to the purchaser.

(www) “Qualifying repowering technology” means:

1. Replacement of an existing coal-fired boiler with one of the following clean coal technologies: atmospheric or pressurized fluidized bed combustion, integrated gasification combined cycle, magnetohydrodynamics, direct and indirect coal-fired turbines, integrated gasification fuel cells, or as determined by the Administrator, in consultation with the Secretary of Energy, a derivative of one or more of these technologies, and any other technology capable of controlling multiple combustion emissions simultaneously with improved boiler or generation efficiency and with significantly greater waste reduction relative to the performance of technology in widespread commercial use as of November 15, 1990; or
2. Any oil-or gas-fired unit that has been awarded clean coal technology demonstration funding as of January 1, 1991, by the Department of Energy.

(xxx) “Receive or receipt of” means the date the Administrator or Technical Secretary comes into possession of information or correspondence (whether sent in writing or by authorized electronic transmission), as indicated in an official correspondence log, or by a notation made on the information or correspondence, by the Administrator or Technical Secretary in the regular course of business.

(yyy) “Recordation, record, or recorded” means, with regard to allowances, the transfer of allowances by the Administrator from one Allowance Tracking System account or subaccount to another.

(zzz) “Schedule of compliance” means an enforceable sequence of actions, measures, or operations designed to achieve or maintain compliance, or correct non-compliance, with an applicable requirement of the Acid Rain Program, including any applicable Acid Rain permit requirement.

(aaaa) “Secretary of Energy” means the Secretary of the United States Department of Energy or the Secretary's duly authorized representative.

(bbbb) “Simple combustion turbine” means a unit that is a rotary engine driven by a gas under pressure that is created by the combustion of any fuel. This term includes combined cycle units without auxiliary firing. This term excludes combined cycle units with auxiliary firing, unless the unit did not use the auxiliary firing from 1985 through 1987 and does not use auxiliary firing at any time after November 15, 1990.

(cccc) “Solid waste incinerator” means a source as defined in section 129(g)(1) of the Act.

(dddd) “Source” means any governmental, institutional, commercial, or industrial structure, installation, plant, building, or facility that emits or has the potential to emit any regulated air pollutant under the Act. For purposes of section 502(c) of the Act, a “source”, including a “source” with multiple units, shall be considered a single “facility.”

(eeee) “Stack” means a structure that includes one or more flues and the housing for the flues.

(ffff) “State” means one of the 48 contiguous States and the District of Columbia and includes any non-federal authorities, including local agencies, interstate associations, and State-wide agencies with approved State operating permit programs. The term "State" shall have its conventional meaning where such meaning is clear from the context.



(Rule 1200-3-30-.01, continued)

(gggg) “State operating permit program” means an operating permit program that the Administrator has approved as meeting the requirements of titles IV and V of the Act and 40 CFR parts 70 and 72.

(hhhh) “Submit or serve” means to send or transmit a document, information, or correspondence to the person specified in accordance with the applicable regulation:

1. In person;
2. By United States Postal Service certified mail with the official postmark or, if service is by the Administrator or the Technical Secretary, by any other mail service by the United States Postal Service; or
3. By other means with an equivalent time and date mark used in the regular course of business to indicate the date of dispatch or transmission and a record of prompt delivery. Compliance with any "submission", "service", or "mailing" deadline shall be determined by the date of dispatch, transmission, or mailing and not the date of receipt.

(iiii) “Ton or tonnage” means any "short ton" (i.e., 2,000 pounds). For the purpose of determining compliance with the Acid Rain emissions limitations and reduction requirements, total tons for a year shall be calculated as the sum of all recorded hourly emissions (or the tonnage equivalent of the recorded hourly emissions rates) in accordance with 40 CFR part 75, with any remaining fraction of a ton equal to or greater than 0.50 ton deemed to equal one ton and any fraction of a ton less than 0.50 ton deemed not to equal any ton.

(jjjj) “Total planned net output capacity” means the planned generator output capacity, excluding that portion of the electrical power which is designed to be used at the power production facility, as specified under one or more qualifying power purchase commitments or contemporaneous documents as of November 15, 1990. "Total installed net output capacity" shall be the generator output capacity, excluding that portion of the electrical power actually used at the power production facility, as installed.

(kkkk) “Unit” means a fossil fuel-fired combustion device.

(llll) “Unit account” means an Allowance Tracking System account, established by the Administrator for an affected unit pursuant to 40 CFR 73.31 (a) or (b).

(mmmm) “Utility” means any person that sells electricity.

(nnnn) “Utility competitive bid solicitation” is a public request from a regulated utility for offers to the utility for meeting future generating needs. A qualifying facility, independent power production facility may be regarded as having been “selected” in such solicitation if the utility has named the facility as a project with which the utility intends to negotiate a power sales agreement.

(oooo) “Utility regulatory authority” means an authority, board, commission, or other entity (limited to the local-, State-, or federal-level, whenever so specified) responsible for overseeing the business operations of utilities located within its jurisdiction, including, but not limited to, utility rates and charges to customers.

(pppp) “Utility unit” means a unit owned or operated by a utility:

1. That serves a generator that produces electricity for sale, or
2. That during 1985, served a generator that produced electricity for sale.

(Rule 1200-3-30-.01, continued)

3. Notwithstanding part 1 and 2 of this definition, a unit that was in operation during 1985, but did not serve a generator that produced electricity for sale during 1985, and did not commence commercial operation on or after November 15, 1990 is not a utility unit for purposes of the Acid Rain Program.
4. Notwithstanding parts 1 and 2 of this definition, a unit that cogenerates steam and electricity is not a utility unit for purposes of the Acid Rain Program, unless the unit is constructed for the purpose of supplying, or commences construction after November 15, 1990 and supplies, more than one-third of its potential electrical output capacity and more than 25 MWe output to any power distribution system for sale.

(2) MEASUREMENTS, ABBREVIATIONS, AND ACRONYMS. (40 CFR 72.3)

Measurements, abbreviations, and acronyms used in this regulation are defined as follows:

ASTM- American Society for Testing and Materials  
Btu-British thermal unit.  
CFR-Code of Federal Regulations  
DOE-Department of Energy.  
mmBtu-million Btu.  
MWe-megawatt electrical.  
SO<sub>2</sub>-sulfur dioxide.

(3) APPLICABILITY. (40 CFR 72.6)

- (a) Each of the following units shall be an affected unit, and any source that includes such a unit shall be an affected source, subject to the requirements of the Acid Rain Program:
  1. A unit listed in Table 1 of 40 CFR 73.10(a).
  2. An existing unit that is identified in Table 2 or 3 of 40 CFR 73.10 and any other existing utility unit, except a unit under paragraph (b) of this section.
  3. A utility unit, except a unit under subparagraph (b) of this paragraph, that:
    - (i) Is a new unit;
    - (ii) Did not serve a generator with a nameplate capacity greater than 25 MWe on November 15, 1990 but serves such a generator after November 15, 1990.
    - (iii) Was a simple combustion turbine on November 15, 1990 but adds or uses auxiliary firing after November 15, 1990;
    - (iv) Was an exempt cogeneration facility under part (b)4 of this paragraph but during any three calendar year period after November 15, 1990 sold, to a utility power distribution system, an annual average of more than one-third of its potential electrical out-put capacity and more than 219,000 MWe-hrs electric output, on a gross basis;
    - (v) Was an exempt qualifying facility under part (b)5 of this paragraph but, at any time after the later of November 15, 1990 or the date the facility commences commercial operation, fails to meet the definition of qualifying facility;
    - (vi) Was an exempt independent power production facility under part (b)6 but, at any time after the later of November 15, 1990 or the date the facility commences

(Rule 1200-3-30-.01, continued)

- commercial operation, fails to meet the definition of independent power production facility; or
- (vii) Was an exempt solid waste incinerator under part (b)7 of this paragraph but during any three calendar year period after November 15, 1990 consumes 20 percent or more (on a Btu basis) fossil fuel.
- (b) The following types of units are not affected units subject to the requirements of the Acid Rain Program:
1. A simple combustion turbine that commenced operation before November 15, 1990.
  2. Any unit that commenced commercial operation before November 15, 1990 and that did not, as of November 15, 1990, and does not currently, serve a generator with a nameplate capacity of greater than 25 MWe.
  3. Any unit that, during 1985, did not serve a generator that produced electricity for sale and that did not, as of November 15, 1990, and does not currently, serve a generator that produces electricity for sale.
  4. A cogeneration facility which:
    - (i) For a unit that commenced construction on or prior to November 15, 1990, was constructed for the purpose of supplying equal to or less than one-third its potential electrical output capacity or equal to or less than 219,000 MWe-hrs actual electric output on an annual basis to any utility power distribution system for sale (on a gross basis). If the purpose of construction is not known, it will be presumed to be consistent with the actual operation from 1985 through 1987. However, if in any three calendar year period after November 15, 1990, such unit sells to a utility power distribution system an annual average of more than one-third of its potential electrical output capacity and more than 219,000 MWe-hrs actual electric output (on a gross basis), that unit shall be an affected unit, subject to the requirements of the Acid Rain Program; or
    - (ii) For units that commenced construction after November 15, 1990, supplies equal to or less than one-third its potential electrical output capacity or equal to or less than 219,000 MWe-hrs actual electric output on an annual basis to any utility power distribution system for sale (on a gross basis). However, if in any three calendar year period after November 15, 1990, such unit sells to a utility power distribution system an annual average of more than one-third of its potential electrical output capacity and more than 219,000 MWe-hrs actual electric output (on a gross basis), that unit shall be an affected unit, subject to the requirements of the Acid Rain Program.
  5. A qualifying facility that:
    - (i) Has, as of November 15, 1990, one or more qualifying power purchase commitments to sell at least 15 percent of its total planned net output capacity; and
    - (ii) Consists of one or more units designated by the owner or operator with total installed net output capacity not exceeding 130 percent of the total planned net output capacity. If the emissions rates of the units are not the same, the Administrator may exercise discretion to designate which units are exempt.
  6. An independent power production facility that:

(Rule 1200-3-30-.01, continued)

- (i) Has, as of November 15, 1990, one or more qualifying power purchase commitments to sell at least 15 percent of its total planned net output capacity; and
    - (ii) Consists of one or more units designated by the owner or operator with total installed net output capacity not exceeding 130 percent of its total planned net output capacity. If the emissions rates of the units are not the same, the Administrator may exercise discretion to designate which units are exempt.
  - 7. A solid waste incinerator, if more than 80 percent (on a Btu basis) of the annual fuel consumed at such incinerator is other than fossil fuels. For a solid waste incinerator which began operation before January 1, 1985, the average annual fuel consumption of non-fossil fuels for calendar years 1985 through 1987 must be greater than 80 percent for such an incinerator to be exempt. For a solid waste incinerator which began operation after January 1, 1985, the average annual fuel consumption of non-fossil fuels for the first three years of operation must be greater than 80 percent for such an incinerator to be exempt. If, during any three calendar year period after November 15, 1990, such incinerator consumes 20 percent or more (on a Btu basis) fossil fuel, such incinerator will be an affected source under the Acid Rain Program.
  - 8. A non-utility unit.
  - (c) A certifying official of any unit may petition the Administrator for a determination of applicability under 40 CFR 72.6(c). The Administrator's determination of applicability shall be binding upon the Technical Secretary, unless the petition is found to have contained significant errors or omissions.
- (4) New units exemption. (40 CFR 72.7)
- (a) Applicability. This paragraph applies to any new utility unit that serves one or more generators with total nameplate capacity of 25 MWe or less and burns only fuels with a sulfur content of 0.05 percent or less by weight, as determined in accordance with part (d)1 of this paragraph.
  - (b) Petition for Written Exemption. The designated representative, authorized in accordance with subpart B of 40 CFR part 72, of a source that includes a unit under subparagraph (a) of this paragraph may petition the Technical Secretary for a written exemption, or to renew a written exemption, for the unit from certain requirements of the Acid Rain Program. The petition shall be submitted on a form approved by the Technical Secretary which includes the following elements:
    - 1. Identification of the unit.
    - 2. The nameplate capacity of each generator served by the unit.
    - 3. A list of all fuels currently burned by the unit and their percentage sulfur content by weight, determined in accordance with subparagraph (a) of this paragraph.
    - 4. A list of all fuels that are expected to be burned by the unit and their sulfur content by weight.
    - 5. The special provisions in subparagraph (d) of this paragraph.
  - (c) Technical Secretary's Action.

(Rule 1200-3-30-.01, continued)

1. (i) The Technical Secretary will issue, for any unit meeting the requirements of subparagraphs (a) and (b) of this paragraph, a written exemption from the requirements of the Acid Rain Program except for the requirements specified in this section, 40 CFR 72.2 through 72.7, and 40 CFR 72.10 through 72.13; provided that no unit shall be exempted unless the designated representative of the unit surrenders, and the Administrator deducts from the unit's Allowances Tracking System account, allowances pursuant to 40 CFR 72.7(c)(1)(i) and (d)(1).
  - (ii) The exemption shall take effect on January 1 of the year immediately following the date on which the written exemption is issued as a final agency action subject to judicial review, in accordance with part (c)2 of this paragraph; provided that the owners and operators, and, to the extent applicable, the designated representative, shall comply with the requirements of the Acid Rain Program concerning all years for which the unit was not exempted, even if such requirements arise, or must be complied with, after the exemption takes effect. The exemption shall not be a defense against any violation of such requirements of the Acid Rain Program whether the violation occurs before or after the exemption takes effect.
  2. In considering and issuing or denying a written exemption under part (c)1 of this paragraph, the Technical Secretary will apply the permitting procedures in Rule 1200-3-30-.06 by:
    - (i) Treating the petition as an Acid Rain permit application under such provisions;
    - (ii) Issuing or denying a draft written exemption that is treated as the issuance or denial of a draft permit under such provisions; and
    - (iii) Issuing or denying a proposed written exemption that is treated as the issuance or denial of a proposed permit under such provisions; provided that no provision under Rule 1200-3-30-.06 concerning the content, effective date, or term of an Acid Rain permit shall apply to the written exemption or proposed written exemption under this paragraph.
  3. A written exemption issued under this paragraph shall have a term of 5 years from its effective date, except as provided in part (d)3 of this paragraph.
- (d) Special Provisions.
1. The owners and operators of each unit exempted under this paragraph shall determine the sulfur content by weight of its fuel as follows:
    - (i) For petroleum or petroleum products that the unit burns starting on the first day on which the exemption takes effect until the exemption terminates, a sample of each delivery of such fuel shall be tested using ASTM methods ASTM D4057-88 and ASTM D129-91, ASTM D2622-92, or ASTM D4294-90.
    - (ii) For natural gas that the unit burns starting on the first day on which the exemption takes effect until the exemption terminates, the sulfur content shall be assumed to be 0.05 per cent or less by weight.
    - (iii) For gaseous fuel (other than natural gas) that the unit burns starting on the first day on which the exemption takes effect until the exemption terminates, a sample of each delivery of such fuel shall be tested using ASTM methods ASTM D1072-90 and ASTM D1265-92; provided that if the gaseous fuel is delivered by pipeline to the unit, a sample of the fuel shall be tested, at least once every quarter in which

(Rule 1200-3-30-.01, continued)

the unit operates during any year for which the exemption is in effect, using ASTM method ASTM D1072-90.

2. The owners and operators of each unit exempted under this paragraph shall retain at the source that includes the unit, the records of the results of the tests performed under subparts (d)1(i) and (iii) of this paragraph and a copy of the purchase agreements for the fuel under part (d)1 of this paragraph, stating the sulfur content of such fuel. Such records and documents shall be retained for 5 years from the date they are created.
  3. On the earlier of the date the written exemption expires, the date a unit exempted under this paragraph burns any fuel with a sulfur content in excess of 0.05 percent by weight (as determined in accordance with part (d)1 of this paragraph), or 24 months prior to the date the unit first serves one or more generators with total nameplate capacity in excess of 25 MWe, the unit shall no longer be exempted under this paragraph and shall be subject to all requirements of the Acid Rain Program, except that:
    - (i) Notwithstanding subparagraphs 1200-3-30-.03(1) (b) and (c), the designated representative of the source that includes the unit shall submit a complete Acid Rain permit application on the later of January 1, 1998 or the date the unit is no longer exempted under this paragraph.
    - (ii) For purposes of applying monitoring requirements under 40 CFR part 75, the unit shall be treated as a new unit that commenced commercial operation on the date the unit no longer meets the requirements of subparagraph (a) of this paragraph.
- (5) Retired units exemption. (40 CFR 72.8)
- (a) Applicability. This paragraph applies to any affected unit that is retired prior to the issuance (including renewal) of an Acid Rain permit for the unit as a final agency action.
  - (b) Petition for Written Exemption.
    1. The designated representative, authorized in accordance with subpart B of 40 CFR part 72, of a source that includes a unit under subparagraph (a) of this paragraph may petition the Technical Secretary for a written exemption, or to renew a written exemption, for the unit from certain requirements of the Acid Rain Program.
    2. A petition under this paragraph shall be submitted on or before:
      - (i) The deadline for submitting an Acid Rain permit application for Phase II; or
      - (ii) If the unit has a Phase II Acid Rain permit, the deadline for reapplying for such permit.
    3. The petition under this paragraph shall be submitted on a form approved by the Technical Secretary which includes the following elements:
      - (i) Identification of the unit;
      - (ii) The applicable deadline under part (b)2 of this paragraph;
      - (iii) The actual or expected date of retirement of the unit;

(Rule 1200-3-30-.01, continued)

- (iv) The following statement: "I certify that this unit ['is' or 'will be', as applicable] permanently retired on the date specified in this petition and will not emit any sulfur dioxide or nitrogen oxides after such date;"
  - (v) A description of any actions that have been or will be taken and provide the basis for the certification in subpart (b)(3)(iv) of this paragraph; and
  - (vi) The special provisions in subparagraph (d) of this paragraph.
- (c) Technical Secretary's Action.
1. (i) The Technical Secretary will issue, for any unit meeting the requirements of subparagraphs (a) and (b) of this paragraph, a written exemption from the requirements of Rule 1200-3-30-.01 through Rule 1200-3-30-.08 and 40 CFR part 72 except for the requirements specified in this paragraph and 40 CFR 72.1 through 72.6, 40 CFR 72.8, and 40 CFR 72.10 through 72.13.
  - (ii) The exemption shall take effect on January 1 of the year following the date on which the written exemption is issued as a final agency action subject to judicial review, in accordance with part (c)2 of this paragraph; provided that the owners and operators, and, to the extent applicable, the designated representative, shall comply with the requirements of Rule 1200-3-30-.01 through Rule 1200-3-30-.08 and 40 CFR part 72 concerning all years for which the unit was not exempted, even if such requirements arise or must be complied with after the exemption takes effect. The exemption shall not be a defense against any violation of such requirements of the Acid Rain Program whether the violation occurs before or after the exemption takes effect.
2. In considering and issuing or denying a written exemption under part (c)1 of this paragraph, the Technical Secretary will apply the procedures in Rule 1200-3-30-.06 by:
    - (i) Treating the petition as an Acid Rain permit application under such provisions;
    - (ii) Issuing or denying a draft written exemption that is treated as the issuance or denial of a draft permit under such provisions; and
    - (iii) Issuing or denying a proposed written exemption that is treated as a proposed permit under such provisions; provided that no provision under Rule 1200-3-30-.06 concerning, the content, effective date, or term of an Acid Rain permit shall apply to the written exemption or proposed written exemption under this paragraph.
  3. A written exemption issued under this paragraph shall have a term of 5 years, except as provided in part (d)3 of this paragraph.
- (d) Special Provisions.
1. A unit exempted under this paragraph shall not emit any sulfur dioxide and nitrogen dioxide starting on the date it is exempted.
  2. The owners and operators of a unit exempted under this paragraph shall comply with monitoring requirements in accordance with 40 CFR part 75 and will be allocated allowances in accordance with 40 CFR part 73.

(Rule 1200-3-30-.01, continued)

3. A unit exempted under this paragraph shall not resume operation unless the designated representative of the source that includes the unit submits an Acid Rain permit application for the unit not less than 24 months prior to the later of January 1, 2000 or the date the unit is to resume operation. On the earlier of the date the written exemption expires or the date an Acid Rain permit application is submitted or is required to be submitted under this part, the unit shall no longer be exempted under this paragraph and shall be subject to all requirements of Rule 1200-3-30-.01 through 1200-3-30-.08 and 40 CFR part 72.

(6) Standard requirements. (40 CFR 72.9)

(a) Permit Requirements.

1. The designated representative of each affected source and each affected unit at the source shall:
  - (i) Submit a complete Acid Rain permit application under this chapter in accordance with the deadlines specified in paragraph 1200-3-30-.03(1)
  - (ii) Submit in a timely manner any supplemental information that the Technical Secretary determines is necessary in order to review an Acid Rain permit application and issue or deny an Acid Rain permit.
2. The owners and operators of each affected source and each affected unit at the source shall:
  - (i) Operate the unit in compliance with a complete Acid Rain permit application or a superseding Acid Rain permit issued by the Technical Secretary; and
  - (ii) Have an Acid Rain Permit.

(b) Monitoring Requirements.

1. The owners and operators and, to the extent applicable, designated representative of each affected source and each affected unit at the source shall comply with the monitoring requirements as provided in 40 CFR part 75 and section 407 of the Act and regulations implementing section 407 of the Act.
2. The emissions measurements recorded and reported in accordance with 40 CFR part 75 and section 407 of the Act and regulations implementing section 407 of the Act shall be used to determine compliance by the unit with the Acid Rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the Acid Rain Program.
3. The requirements of 40 CFR part 75 and regulations implementing section 407 of the Act shall not affect the responsibility of the owners and operators to monitor emissions of other pollutants or other emissions characteristics at the unit under other applicable requirements of the Act and other provisions of the operating permit for the source.

(c) Sulfur Dioxide Requirements.

1. The owners and operators of each source and each affected unit at the source shall:



(Rule 1200-3-30-.01, continued)

- (i) Hold allowances, as of the allowance transfer deadline, in the unit's compliance subaccount (after deductions under 40 CFR 73.34(c)) not less than the total annual emissions of sulfur dioxide for the previous calendar year from the unit; and
    - (ii) Comply with the applicable Acid Rain emissions limitation for sulfur dioxide.
  2. Each ton of sulfur dioxide emitted in excess of the Acid Rain emissions limitations for sulfur dioxide shall constitute a separate violation of the Act.
  3. An affected unit shall be subject to the requirements under part (c)1 of this paragraph as follows:
    - (i) Starting January 1, 2000, an affected unit under part 1200-3-30-.01(3)(a)2; or
    - (ii) Starting on the later of January 1, 2000 or the deadline for monitor certification under 40 CFR part 75, an affected unit under part 1200-3-30-.01(3)(a)3.
  4. Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program.
  5. An allowance shall not be deducted, in order to comply with the requirements under subpart (c)1(i) of this paragraph, prior to the calendar year for which the allowance was allocated.
  6. An allowance allocated by the Administrator under the Acid Rain Program is a limited authorization to emit sulfur dioxide in accordance with the Acid Rain Program. No provision of the Acid Rain Program, the Acid Rain permit application, the Acid Rain permit, or the written exemption under paragraph 1200-3-30-.01(4) and paragraph 1200-3-30-.01(5) and no provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization.
  7. An allowance allocated by the Administrator under the Acid Rain Program does not constitute a property right.
- (d) Nitrogen Oxides Requirements. The owners and operators of the source and each affected unit at the source shall comply with the applicable Acid Rain emissions limitation for nitrogen oxides.
- (e) Excess Emissions Requirements.
  1. The designated representative of an affected unit that has excess emissions in any calendar year shall submit a proposed offset plan to the Administrator, as required under 40 CFR part 77, and submit a copy to the Technical Secretary.
  2. The owners and operators of an affected unit that has excess emissions in any calendar year shall:
    - (i) Pay to the Administrator without demand the penalty required, and pay to the Administrator upon demand the interest on that penalty, as required by 40 CFR part 77; and
    - (ii) Comply with the terms of an approved offset plan, as required by 40 CFR part 77.
- (f) Recordkeeping and Reporting Requirements.

(Rule 1200-3-30-.01, continued)

1. Unless otherwise provided, the owners and operators of the source and each affected unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time prior to the end of 5 years, in writing by the Administrator or Technical Secretary.
    - (i) The certificate of representation for the designated representative for the source and each affected unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation, in accordance with 40 CFR 72.24; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation changing the designated representative.
    - (ii) All emissions monitoring information, in accordance with 40 CFR part 75.
    - (iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the Acid Rain Program.
    - (iv) Copies of all documents used to complete an Acid Rain permit application and any other submission under the Acid Rain Program or to demonstrate compliance with the requirements of the Acid Rain Program.
  2. The designated representative of an affected source and each affected unit at the source shall submit the reports and compliance certifications required under the Acid Rain Program, including those under Rule 1200-3-30-.08 and 40 CFR part 75.
- (g) Liability.
1. Any person who knowingly violates any requirement or prohibition of the Acid Rain Program, a complete Acid Rain permit application, an Acid Rain permit, or a written exemption under paragraph 1200-3-30-.01(4) or paragraph 1200-3-30-.01(5), including any requirement for the payment of any penalty owed to the United States, shall be subject to enforcement by the Administrator pursuant to section 113(c) of the Act and by the Technical Secretary pursuant to T.C.A. 68-201-112 and 68-201-116.
  2. Any person who knowingly makes a false, material statement in any record, submission, or report under the Acid Rain Program shall be subject to criminal enforcement by the Administrator pursuant to section 113(c) of the Act and 18 U.S.C. 1001 and by the Technical Secretary pursuant to T.C.A. 68-201-112 and 68-201-116.
  3. No permit revision shall excuse any violation of the requirements of the Acid Rain Program that occurs prior to the date that the revision takes effect.
  4. Each affected source and each affected unit shall meet the requirements of the Acid Rain Program.
  5. Any provision of the Acid Rain Program that applies to an affected source (including a provision applicable to the designated representative of an affected source) shall also apply to the owners and operators of such source and of the affected units at the source.
  6. Any provision of the Acid Rain Program that applies to an affected unit (including a provision applicable to the designated representative of an affected unit) shall also apply to the owners and operators of such unit. Except as provided under paragraph 1200-3-30-.04(2) (Phase II repowering extension plans), section 407 of the Act and

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regulations implementing section 407 of the Act, and except with regard to the requirements applicable to units with a common stack under 40 CFR part 75 (including 40 CFR 75.16, 75.17, and 75.18), the owners and operators and the designated representative of one affected unit shall not be liable for any violation by any other affected unit of which they are not owners or operators or the designated representative and that is located at a source of which they are not owners or operators or the designated representative.

7. Each violation of a provision of Rule 1200-3-30-.01 through Rule 1200-3-30-.10 and 40 CFR parts 72, 73, 75, 77, and 78, and regulations implementing sections 407 and 410 of the Act by an affected source or affected unit, or by an owner or operator or designated representative of such source or unit, shall be a separate violation of the Act.
- (h) Effect on Other Authorities. No provision of the Acid Rain Program, an Acid Rain permit application, an Acid Rain permit, or a written exemption under paragraph 1200-3-30-.01(4) or paragraph 1200-3-30-.01(5) shall be construed as:
1. Except as expressly provided in title IV of the Act, exempting or excluding the owners and operators and, to the extent applicable, the designated representative of an affected source or affected unit from compliance with any other provision of the Act, including the provisions of title I of the Act relating to applicable National Ambient Air Quality Standards or State Implementation Plans;
  2. Limiting the number of allowances a unit can hold; provided, that the number of allowances held by the unit shall not affect the source's obligation to comply with any other provisions of the Act;
  3. Requiring a change of any kind in any State law regulating electric utility rates and charges, affecting any State law regarding such State regulation, or limiting such State regulation, including any prudence review requirements under such State law;
  4. Modifying the Federal Power Act or affecting the authority of the Federal Energy Regulatory Commission under the Federal Power Act; or
  5. Interfering with or impairing any program for competitive bidding for power supply in a State in which such program is established.

**Authority:** T.C.A. §§668-201-105 and 4-5-202. **Administrative History:** Original rule filed June 30, 1994; effective September 15, 1994.

**1200-3-30-.02 DESIGNATED REPRESENTATIVE. (40 CFR PART 72, SUBPART B)**

- (1) Submissions. (40 CFR 72.21)
  - (a) The designated representative shall submit a certificate of representation, and any superseding certificate of representation, to the Administrator in accordance with subpart B of 40 CFR part 72 and, concurrently, shall submit a copy to the Technical Secretary. Whenever the term "designated representative" is used in this regulation, the term shall be construed to include the alternate designated representative.
  - (b) Each submission under the Acid Rain Program shall be submitted, signed, and certified by the designated representative for all sources on behalf of which the submission is made.
  - (c) In each submission under the Acid Rain Program, the designated representative shall certify, by his or her signature:

(Rule 1200-3-30-.02, continued)

1. The following statement, which shall be included verbatim in such submission: "I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made."
  2. The following statement, which shall be included verbatim in such submission: "I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment."
- (d) The Technical Secretary will accept or act on a submission made on behalf of owners or operators of an affected source and an affected unit only if the submission has been made, signed, and certified in accordance with subparagraphs (b) and (c) of this paragraph.
- (e) 1. The designated representative of a source shall serve notice on each owner and operator of the source and of an affected unit at the source:
- (i) By the date of submission, of any Acid Rain Program submissions by the designated representative;
  - (ii) Within 10 business days of receipt of a determination, of any written determination by the Administrator or the Technical Secretary; and
  - (iii) Provided that the submission or determination covers the source or the unit.
2. The designated representative of a source shall provide each owner and operator of an affected unit at the source a copy of any submission or determination under part (e)1 of this paragraph, unless the owner or operator expressly waives the right to receive such a copy.
- (2) Objections. (40 CFR 72.25)
- (a) Except as provided in 40 CFR 72.23, no objection or other communication submitted to the Administrator or the Technical Secretary concerning the authorization, or any submission, action or inaction, of the designated representative shall affect any submission, action, or inaction of the designated representative, or the finality of any decision by the Technical Secretary, under the Acid Rain Program. In the event of such communication, the Technical Secretary is not required to stay any submission or the effect of any action or inaction under the Acid Rain Program.
  - (b) The Technical Secretary will not adjudicate any private legal dispute concerning the authorization or any submission, action, or inaction of any designated representative, including private legal disputes concerning the proceeds of allowance transfers.

**Authority:** T.C.A. §§668-201-105 and 4-5-202. **Administrative History:** Original rule filed June 30, 1994; effective September 15, 1994.

**1200-3-30-.03 ACID RAIN PERMIT APPLICATIONS. (40 CFR PART 72, SUBPART C)**

- (1) Requirement to apply. (40 CFR 72.30)
  - (a) Duty to apply. The designated representative of any source with an affected unit shall submit a complete Acid Rain permit application by the applicable deadline in subparagraphs (b) and (c) of this paragraph, and the owners and operators of such source and any affected unit at the source shall not operate the source or unit without a permit that states its Acid Rain Program requirements.
  - (b) Deadlines.
    1. For any source with an existing unit described under part 1200-3-30-.01(3)(a)2, the designated representative shall submit a complete Acid Rain permit application governing such unit to the Technical Secretary on or before January 1, 1996.
    2. For any source with a new unit described under subpart 1200-3-30-.01(3)(a)3(i), the designated representative shall submit a complete Acid Rain permit application governing such unit to the Technical Secretary at least 24 months before the later of January 1, 2000 or the date on which the unit commences operation.
    3. For any source with a unit described under subpart 1200-3-30-.01(3)(a)3(ii), the designated representative shall submit a complete Acid Rain permit application governing such unit to the Technical Secretary at least 24 months before the later of January 1, 2000 or the date on which the unit begins to serve a generator with a nameplate capacity greater than 25 MWe.
    4. For any source with a unit described under subpart 1200-3-30-.01(3)(a)3(iii), the designated representative shall submit a complete Acid Rain permit application governing such unit to the Technical Secretary at least 24 months before the later of January 1, 2000 or the date on which the auxiliary firing commences operation.
    5. For any source with a unit described under subpart 1200-3-30-.01(3)(a)3(iv), the designated representative shall submit a complete Acid Rain permit application governing such unit to the Technical Secretary before the later of January 1, 1998 or March 1 of the year following the three calendar year period in which the unit sold to a utility power distribution system an annual average of more than one-third of its potential electrical output capacity and more than 219,000 MWe-hrs actual electric output (on a gross basis).
    6. For any source with a unit described under subpart 1200-3-30-.01(3)(a)3(v), the designated representative shall submit a complete Acid Rain permit application governing such unit to the Technical Secretary before the later of January 1, 1998 or March 1 of the year following the calendar year in which the facility fails to meet the definition of qualifying facility.
    7. For any source with a unit described under subpart 1200-3-30-.01(3)(a)3(vi), the designated representative shall submit a complete Acid Rain permit application governing such unit to the Technical Secretary before the later of January 1, 1998 or March 1 of the year following the calendar year in which the facility fails to meet the definition of an independent power production facility.
    8. For any source with a unit described under subpart 1200-3-30-.01(3)(a)3(vii), the designated representative shall submit a complete Acid Rain permit application governing such unit to the Technical Secretary before the later of January 1, 1998 or

(Rule 1200-3-30-.03, continued)

March 1 of the year following the three calendar year period in which the incinerator consumed 20 percent or more fossil fuel (on a Btu basis).

- (c) Duty to Reapply. The designated representative shall submit a complete Acid Rain permit application for each source with an affected unit at least 6 months or such longer time as may be approved under 40 CFR part 70 prior to the expiration of an existing Acid Rain permit governing the unit.]
  - (d) The original and three copies of all permit applications shall be submitted to the Technical Secretary.
- (2) Information requirements for Acid Rain permit applications. (40 CFR 72.31) A complete Acid Rain permit application shall be submitted on a form approved by the Technical Secretary, which includes the following elements:
- (a) Identification of the affected source for which the permit application is submitted;
  - (b) Identification of each affected unit at the source for which the permit application is submitted;
  - (c) A complete compliance plan for each unit, in accordance with Rule 1200-3-30-.04.
  - (d) The standard requirements under paragraph 1200-3-30-.01(6); and
  - (e) If the unit is a new unit, the date that the unit has commenced or will commence operation and the deadline for monitor certification.
- (3) Permit application shield and binding effect of permit application. (40 CFR 72.32)
- (a) Once a designated representative submits a timely and complete Acid Rain permit application, the owners and operators of the affected source and the affected units covered by the permit application shall be deemed in compliance with the requirement to have an Acid Rain permit under part 1200-3-30-.01(6)(a)2 and subparagraph 1200-3-30-.03(1)(a); provided that any delay in issuing an Acid Rain permit is not caused by the failure of the designated representative to submit in a complete and timely fashion supplemental information, as required by the Technical Secretary, necessary to issue a permit.
  - (b) Prior to the earlier of the date on which an Acid Rain permit is issued as a final agency action subject to judicial review, an affected unit governed by and operated in accordance with the terms and requirements of a timely and complete Acid Rain permit application shall be deemed to be operating in compliance with the Acid Rain Program.
  - (c) A complete Acid Rain permit application shall be binding on the owners and operators and the designated representative of the affected source and the affected units covered by the permit application and shall be enforceable as an Acid Rain permit from the date of submission of the permit application until the issuance or denial of such permit as a final agency action subject to judicial review.

**Authority:** T.C.A. §§668-201-105 and 4-5-202. **Administrative History:** Original rule filed June 30, 1994; effective September 15, 1994.

**1200-3-30-.04 ACID RAIN COMPLIANCE PLAN AND COMPLIANCE OPTIONS (40 CFR PART 72, SUBPART D)**

- (1) General. (40 CFR 72.4)
  - (a) For each affected unit included in an Acid Rain permit application, a complete compliance plan shall include:
    1. For sulfur dioxide emissions, a certification that, as of the allowance transfer deadline, the designated representative will hold allowances in the unit's compliance subaccount (after deductions under 40 CFR 73.34(c)) not less than the total annual emissions of sulfur dioxide from the unit. The compliance plan may also specify, in accordance with Rule 1200-3-30-.04, one or more of the Acid Rain compliance options.
    2. For nitrogen oxides emissions, a certification that the unit will comply with the applicable limitation established by regulations implementing section 407 of the Act or shall specify one or more Acid Rain compliance options, in accordance with section 407 of the Act and regulations implementing section 407.
  - (b) The compliance plan may include a multi-unit compliance option under paragraph 1200-3-30-.04(2) or section 407 of the Act or regulations implementing section 407.
    1. A plan for a compliance option that includes units at more than one affected source shall be complete only if:
      - (i) Such plan is signed and certified by the designated representative for each source with an affected unit governed by such plan; and
      - (ii) A complete permit application is submitted covering each unit governed by such plan.
    2. Technical Secretary's approval of a plan under part (b)1 of this paragraph that includes units in more than one State shall be final only after every permitting authority with jurisdiction over any such unit has approved the plan with the same modifications or conditions, if any.
  - (c) Conditional Approval. In the compliance plan, the designated representative of an affected unit may propose, in accordance with Rule 1200-3-30-.04, any Acid Rain compliance option for conditional approval; provided that an Acid Rain compliance option under section 407 of the Act may be conditionally proposed only to the extent provided in regulations implementing section 407 of the Act.
    1. To activate a conditionally-approved Acid Rain compliance option, the designated representative shall notify the Technical Secretary in writing that the conditionally-approved compliance option will actually be pursued beginning January 1 of a specified year. Such notification shall be subject to the limitations on activation under paragraph 1200-3-30-.04(2) and regulations implementing section 407 of the Act. If the conditionally approved compliance option includes a plan described in part (b)1 of this paragraph, the designated representative of each source governed by the plan shall sign and certify the notification.
    2. The notification under part (c)1 of this paragraph shall specify the first calendar year and the last calendar year for which the conditionally approved Acid Rain compliance option is to be activated. A conditionally approved compliance option shall be activated, if at all, before the date of any enforceable milestone applicable to the compliance option. The date of activation of the compliance option shall not be a defense against failure to meet

(Rule 1200-3-30-.04, continued)

the requirements applicable to that compliance option during each calendar year for which the compliance option is activated.

3. Upon submission of a notification meeting the requirements of parts (c)1 and 2 of this paragraph, the conditionally-approved Acid Rain compliance option becomes binding on the owners and operators and the designated representative of any unit governed by the conditionally-approved compliance option.
4. A notification meeting the requirements of parts (c)1 and 2 of this paragraph will revise the unit's permit in accordance with paragraph 1200-3-30-.07(4) (administrative permit amendment).

(d) Termination of Compliance Option.

1. The designated representative for a unit may terminate an Acid Rain compliance option by notifying the Technical Secretary in writing that an approved compliance option will be terminated beginning January 1 of a specified year. Such notification shall be subject to the limitations on termination under paragraph 1200-3-30-.04(2) and regulations implementing section 407 of the Act. If the compliance option includes a plan described in part (b)1 of this paragraph, the designated representative for each source governed by the plan shall sign and certify the notification.
2. The notification under part (d)1 of this paragraph shall specify the calendar year for which the termination will take effect.
3. Upon submission of a notification meeting the requirements of parts (d)1 and 2 of this paragraph, the termination becomes binding on the owners and operators and the designated representative of any unit governed by the Acid Rain compliance option to be terminated.
4. A notification meeting the requirements of parts (d)1 and 2 of this paragraph will revise the unit's permit in accordance with paragraph 1200-3-30-.07(4) (administrative permit amendment).

(2) Repowering extensions. (40 CFR 72.44)

(a) Applicability.

1. This paragraph shall apply to the designated representative of:
  - (i) Any existing affected unit that is a coal-fired unit and has a 1985 actual SO<sub>2</sub> emissions rate equal to or greater than 1.2 lbs/mmBtu; or
  - (ii) Any new unit that will be a replacement unit, as provided in part (b)2 of this paragraph, for a unit meeting the requirements of subpart (a)1(i) of this paragraph; or
  - (iii) Any oil and/or gas-fired unit that has been awarded clean coal technology demonstration funding as of January 1, 1991 by the Secretary of Energy.
2. A repowering extension does not exempt the owner or operator for any unit governed by the repowering plan from the requirement to comply with such unit's Acid Rain emissions limitations for sulfur dioxide.



(Rule 1200-3-30-.04, continued)

- (b) The designated representative of any unit meeting the requirements of subpart (a)1(i) of this paragraph may include in the unit's Acid Rain permit application a repowering extension plan that includes a demonstration that:
  - 1. The unit will be repowered with a qualifying repowering technology in order to comply with the emissions limitations for sulfur dioxide; or
  - 2. The unit will be replaced by a new utility unit that has the same designated representative and that is located at a different site using a qualified repowering technology and the existing unit will be permanently retired from service on or before the date on which the new utility unit commences commercial operation.
- (c) In order to apply for a repowering extension, the designated representative of a unit under subparagraph (a) of this paragraph shall:
  - 1. Submit to the Technical Secretary, by January 1, 1996, a complete repowering extension plan;
  - 2. Submit to the Administrator before June 1, 1997, a complete petition for approval of repowering technology in accordance with 40 CFR 72.44(d) and submit a copy to the Technical Secretary; and
  - 3. If the repowering extension plan is submitted for conditional approval, submit to the Technical Secretary by December 31, 1997, a notification to activate the plan in accordance with subparagraph 1200-3-30-.04(1)(c).
- (d) Contents of Repowering Extension Plan. A complete repowering extension plan shall include the following elements:
  - 1. Identification of the existing unit governed by the plan.
  - 2. The unit's federally-approved State Implementation Plan sulfur dioxide emissions limitation.
  - 3. The unit's 1995 actual SO<sub>2</sub> emissions rate, or best estimate of the actual emissions rate; provided that the actual emissions rate is submitted to the Technical Secretary by January 30, 1996.
  - 4. A schedule for construction, installation, and commencement of operation of the repowering technology approved or submitted for approval under 40 CFR 72.44(d) with dates for the following milestones:
    - (i) Completion of design engineering;
    - (ii) For a plan under part (b)1 of this paragraph, removal of the existing unit from operation to install the qualified repowering technology;
    - (iii) Commencement of construction;
    - (iv) Completion of construction;
    - (v) Start-up testing;
    - (vi) For a plan under part (b)2 of this paragraph, shutdown of the existing unit; and

(Rule 1200-3-30-.04, continued)

- (vii) Commencement of commercial operation of the repowering technology.
5. For a plan under part (b)2 of this paragraph;
- (i) Identification of the new unit. A new unit shall not be included in more than one repowering extension plan.
  - (ii) Certification that the new unit will replace the existing unit.
  - (iii) Certification that the new unit has the same designated representative as the existing unit.
  - (iv) Certification that the existing unit will be permanently retired from service on or before the date the new unit commences commercial operation.
6. The special provisions of subparagraph (g) of this paragraph.
- (e) Technical Secretary's Action on Repowering Extension Plan.
- 1. The Technical Secretary will not approve a repowering extension plan until the Administrator makes a conditional determination that the technology is a qualified repowering technology, unless the Technical Secretary approves such plan subject to the conditional determination of the Administrator.
  - 2. Permit Issuance.
    - (i) Upon a conditional determination by the Administrator that the technology to be used in the repowering extension plan is a qualified repowering technology and a determination by the Technical Secretary that such plan meets the requirements of this section, the Technical Secretary will issue the Acid Rain portion of the operating permit including:
      - (I) The approved repowering extension plan; and
      - (II) A schedule of compliance with enforceable milestones for construction, installation, and commencement of operation of the repowering technology and other requirements necessary to ensure that emission reduction requirements under this paragraph will be met.
    - (ii) Except as otherwise provided in subparagraph (f) of this paragraph, the repowering extension shall be in effect starting January 1, 2000 and ending on the day before the date (specified in the Acid Rain permit) on which the existing unit will be removed from operation to install the qualifying repowering technology or will be permanently removed from service for replacement by a new unit with such technology; provided that the repowering extension shall end no later than December 31, 2003.
    - (iii) The portion of the operating permit specifying the repowering extension and other requirements under subpart (e)2(i) of this paragraph shall be subject to the Administrator's final determination, under 40 CFR 72.44(d)(4), that the technology to be used in the repowering extension plan is a qualifying repowering technology.
  - 3. Allowance Allocation. Allowances will be allocated in accordance with 40 CFR 72.44(f)(3) and (g).

(Rule 1200-3-30-.04, continued)

(f) Failed Repowering Projects.

1. (i) If, at any time before the end of the repowering extension under subpart (e)2(ii) of this paragraph, the designated representative of a unit governed by an approved repowering extension plan submits the notification under subparagraph 1200-3-30-.08(2)(d) that the owners and operators have decided to terminate efforts to properly design, construct, and test the repowering technology specified in the plan before completion of construction or start-up testing, the designated representative may submit to the Technical Secretary a proposed permit modification demonstrating that such efforts were in good faith. If such demonstration is to the satisfaction of the Administrator, the unit shall not be deemed in violation of the Act because of such a termination and the Technical Secretary will revise the operating permit in accordance with subpart (f)1(ii) of this paragraph.
- (ii) Regardless of whether notification under subpart (f)1(i) of this paragraph is given, the repowering extension will end beginning on the earlier of the date of such notification or the date by which the designated representative was required to give such notification under subparagraph 1200-3-30-.08(2)(d).
2. The designated representative of a unit governed by an approved repowering extension plan may submit to the Technical Secretary a proposed permit modification demonstrating that the repowering technology specified in the plan was properly constructed and tested on such unit but was unable to achieve the emissions reduction limitations specified in the plan and that it is economically or technologically infeasible to modify the technology to achieve such limits, the unit shall not be deemed in violation of the Act because of such failure to achieve the emissions reduction limitations. In order to be properly constructed and tested, the repowering technology shall be constructed at least to the extent necessary for direct testing of the multiple combustion emissions (including sulfur dioxide and nitrogen oxides) from such unit while operating the technology at nameplate capacity. If such demonstration is to the satisfaction of the Administrator,
  - (i) The unit shall not be deemed in violation of the Act because of such failure to achieve the emissions reduction limitations;
  - (ii) The Technical Secretary will revise the Acid Rain portion of the operating permit in accordance with subparts (f)2 (ii) and (iii) of this paragraph.
  - (iii) The existing unit may be retrofitted or repowered with another clean coal or other available control technology; and
  - (iv) The repowering extension will continue in effect until the earlier of the date the existing unit commences commercial operation with such control technology or December 31, 2003.

(g) Special Provisions.

1. Emissions Limitations.

- (i) Sulfur Dioxide. Allowances allocated during the repowering extension under part (e)2 and subparagraph (f) of this paragraph to a unit governed by an approved repowering extension plan shall not be transferred to any Allowance Tracking System account other than the unit accounts of other units at the same source as that unit.

(Rule 1200-3-30-.04, continued)

- (ii) Nitrogen Oxides. Any existing unit governed by an approved repowering extension plan shall be subject to the Acid Rain emissions limitations for nitrogen oxides in accordance with section 407 of the Act and regulations implementing section 407 of the Act beginning on the date that the unit is removed from operation to install the repowering technology or is permanently removed from service.
    - (iii) No existing unit governed by an approved repowering extension plan shall be eligible for a waiver under section 111(j) of the Act.
    - (iv) No new unit governed by an approved repowering extension plan shall receive an exemption from the requirements imposed under section 111 of the Act.
  2. Reporting Requirements. Each unit governed by an approved repowering extension plan shall comply with the special reporting requirements of paragraph 1200-3-30-.08(2).
  3. Liability.
    - (i) The owners and operators of a unit governed by an approved repowering plan shall be liable for any violation of the plan or this section at that or any other unit governed by the plan,
    - (ii) The units governed by the plan under part (b)2 of this paragraph shall continue to have a common designated representative until the existing unit is permanently retired under the plan.
  4. Terminations. Except as provided in subparagraph (f) of this paragraph, a repowering extension plan shall not be terminated after December 31, 1999.

**Authority:** T.C.A. §§668-201-105 and 4-5-202. **Administrative History:** Original rule filed June 30, 1994; effective September 15, 1994.

**1200-3-30-.05 ACID RAIN PERMIT. (40 CFR PART 72, SUBPART E)**

- (1) Contents. (40 CFR 72.50)
  - (a) Each Acid Rain permit (including any draft or proposed Acid Rain permit) will contain the following elements:
    1. All elements required for a complete Acid Rain permit application under paragraph 1200-3-30-.03(2), as approved or adjusted by the Technical Secretary;
    2. The applicable Acid Rain emissions limitation for sulfur dioxide; and
    3. The applicable Acid Rain emissions limitation for nitrogen oxides.
  - (b) Each Acid Rain permit is deemed to incorporate the definitions of terms under paragraph 1200-3-30-.01(1).
- (2) Permit shield. (40 CFR 72.51)

Each affected unit operated in accordance with the Acid Rain permit that governs the unit and that was issued in compliance with title IV of the Act, as provided in Rule 1200-3-30-.01 through Rule 1200-3-30-.08, 40 CFR parts 72, 73, 75, 77, and 78, and the regulations implementing section 407 of

(Rule 1200-3-30-.05, continued)

the Act, shall be deemed to be operating in compliance with the Acid Rain Program, except as provided in part 1200-3-30-.01(6)(g)6.

**Authority:** T.C.A. §§668-201-105 and 4-5-202. **Administrative History:** Original rule filed June 30, 1994; effective September 15, 1994.

**1200-3-30-.06 ACID RAIN PERMIT ISSUANCE PROCEDURES. (40 CFR PART 72, SUBPART G)**

- (1) General. (40 CFR 72.72(b)) The Technical Secretary will issue or deny all Acid Rain permits in accordance with paragraph 1200-3-9-.02(11), including the completeness determination, draft permit, administrative record, statement of basis, public notice and comment period, public hearing, proposed permit, permit issuance, permit revision, and appeal procedures as amended by Rule 1200-3-30-.06 and Rule 1200-3-30-.07.
- (2) Completeness. (40 CFR 72.72(b)(1)(i)(C)) The Technical Secretary will submit a written notice of application completeness to the Administrator within 10 working days following a determination by the Technical Secretary that the Acid Rain permit application is complete.
- (3) Statement of basis. (40 CFR 72.64)
  - (a) The statement of basis will briefly set forth significant factual, legal, and policy considerations on which the Technical Secretary relied in issuing or denying the draft permit.
  - (b) The statement of basis will include the reasons, and supporting authority, for approval or disapproval of any compliance options requested in the permit application, including references to applicable statutory or regulatory provisions and to the administrative record.
  - (c) The Technical Secretary will submit to the Administrator a copy of the draft Acid Rain permit and the statement of basis and all other relevant portions of the operating permit that may affect the draft Acid Rain permit. (40 CFR 72.72(b)(1)(ii))
- (4) Issuance of Acid Rain permits. (40 CFR 72.69)
  - (a) Proposed permit. After the close of the public comment period, the Technical Secretary will incorporate all necessary changes and issue or deny a proposed Acid Rain permit. (40 CFR 72.72(b)(1)(v))
  - (b) The Technical Secretary will submit the proposed Acid Rain permit or denial of a proposed Acid Rain permit to the Administrator in accordance with part 1200-3-9-.02(11)(g)1, the provisions of which shall be treated as applying to the issuance or denial of a proposed Acid Rain permit. (40 CFR 72.72(b)(1)(vi))
  - (c)
    1. Following the Administrator's review of the proposed Acid Rain permit or denial of a proposed Acid Rain permit, the Technical Secretary or, under part 1200-3-9-.02(11)(g)3 (treated as applying to the issuance or denial of an Acid Rain permit), the Administrator will incorporate any required changes and issue or deny the Acid Rain permit in accordance with 1200-3-30-.05. (40 CFR 72.72(b)(1)(vii))
    2. No Acid Rain permit (including a draft or proposed permit) shall be issued unless the Administrator has received a certificate of representation for the designated representative of the source in accordance with subpart B of 40 CFR part 72. (40 CFR 72.72(b)(1)(xii))
  - (d) Permit issuance deadline and effective date.

(Rule 1200-3-30-.06, continued)

1. On or before December 31, 1997, the Technical Secretary will issue an Acid Rain permit to each affected source whose designated representative submitted a timely and complete Acid Rain permit application by January 1, 1996 in accordance with paragraph 1200-3-30-.02(1) and meets the requirements of Rule 1200-3-30-.06 and paragraph 1200-3-9-.02(11).
  2. Nitrogen Oxides. Not later than January 1, 1999, the Technical Secretary will reopen the Acid Rain permit to add the Acid Rain Program nitrogen oxides requirements; provided that the designated representative of the affected source submitted a timely and complete Acid Rain permit application for nitrogen oxides in accordance with paragraph 1200-3-30-.02(1). Such reopening shall not affect the term of the Acid Rain portion of an operating permit. (40 CFR 72.72(b)(2))
  3. Each Acid Rain permit issued in accordance with part (d)1 of this paragraph shall take effect by the later of January 1, 2000, or, where the permit governs a unit under part 1200-3-30-.01(3)(a)3, the deadline for monitor certification under 40 CFR part 75. (40 CFR 72.73(b)(1)(ii))
  4. Each Acid Rain permit shall have a term of 5 years commencing on its effective date. (40 CFR 72.72(b)(1)(ii))
  5. An Acid Rain permit shall be binding on any new owner or operator or designated representative of any source or unit governed by the permit. (40 CFR 72.72(b)(1)(ix))
- (e)
1. Each Acid Rain permit shall contain all applicable Acid Rain requirements, shall be a portion of the operating permit that is complete and segregable from all other air quality requirements, and shall not incorporate information contained in any other documents, other than documents that are readily available. (40 CFR 72.72(b)(1)(x))
  2. Invalidation of the Acid Rain portion of an operating permit shall not affect the continuing validity of the rest of the operating permit, nor shall invalidation of any other portion of the operating permit affect the continuing validity of the Acid Rain portion of the permit. (40 CFR 72.72(b)(1)(xi))
- (5) Acid Rain Permit Appeal Procedures.
- (a) Appeals of the Acid Rain portion of an operating permit issued by the Technical Secretary that do not challenge or involve decisions or actions of the Administrator under 40 CFR part 72, 73, 75, 77 and 78 and sections 407 and 410 of the Act and regulations implementing sections 407 and 410 shall be conducted according to the procedures in part 1200-3-9-.02(11)(a)3. Appeals of the Acid Rain portion of such a permit that challenge or involve such decisions or actions of the Administrator shall follow the procedures under 40 CFR part 78 and section 307 of the Act. Such decisions or actions include, but are not limited to, allowance allocations, determinations concerning alternative monitoring systems, and determinations of whether a technology is a qualifying repowering technology. (40 CFR 72.72(b)(5)(i))
  - (b) No administrative appeal of the Acid Rain portion of an operating permit shall be allowed more than 30 days following respectively issuance of the Acid Rain portion that is subject to administrative appeal or issuance of the final agency action subject to judicial appeal. Judicial appeals must be filed within 60 days of the Board's final action. (40 CFR 72.72(b)(5)(ii))
  - (c) The Administrator may intervene as a matter of right in any State administrative appeal of an Acid Rain permit or denial of an Acid Rain permit. (40 CFR 72.72(b)(5)(iv))

(Rule 1200-3-30-.06, continued)

- (d) No administrative appeal concerning an Acid Rain requirement shall result in a stay of the following requirements: (40 CFR 72.72(b)(5)(vii) and 78.7)
  - 1. the allowance allocations for any year during which the appeal proceeding is pending or is being conducted;
  - 2. any standard requirement under paragraph 1200-3-30-.01(6).
  - 3. the emissions monitoring and reporting requirements applicable to the affected units at an affected source under 40 CFR part 75;
  - 4. uncontested provisions of the decision on appeal; and
  - 5. the terms of a certificate of representation submitted by a designated representative under subpart B of 40 CFR part 72.
- (e) The Technical Secretary will serve written notice on the Administrator of any State administrative or judicial appeal concerning an Acid Rain provision of any operating permit or denial of an Acid Rain portion of any operating permit within 30 days of the filing of the appeal. (40 CFR 72.72(b)(5)(iii))
- (f) The Technical Secretary will serve written notice on the Administrator of any determination or order in a State administrative or judicial proceeding that interprets, modifies, voids, or otherwise relates to any portion of an Acid Rain permit. Following any such determination or order, the Administrator will have an opportunity to review and veto the Acid Rain permit or revoke the permit for cause in accordance with subparagraph 1200-3-9-.02(11)(g). (40 CFR 72.72(b)(5)(v))

**Authority:** T.C.A. §§668-201-105 and 4-5-202. **Administrative History:** Original rule filed June 30, 1994; effective September 15, 1994.

**1200-3-30-.07 PERMIT REVISIONS. (40 CFR PART 72, SUBPART H)**

- (1) General. (40 CFR 72.80)
  - (a) Rule 1200-3-30-.07 shall govern revisions to any Acid Rain permit issued by the Technical Secretary.
  - (b) A permit revision may be submitted for approval at any time. No permit revision shall affect the term of the Acid Rain permit to be revised. No permit revision shall excuse any violation of an Acid Rain Program requirement that occurred prior to the effective date of the revision.
  - (c) The terms of the Acid Rain permit shall apply while the permit revision is pending.
  - (d) Any determination or interpretation by State (including the Technical Secretary or a State court) modifying or voiding any Acid Rain permit provision shall be subject to review by the Administrator in accordance with part 1200-3-9-.02(11)(g)3 as applied to permit modifications, unless the determination or interpretation is an administrative amendment approved in accordance with paragraph 1200-3-30-.07(4).
  - (e) The standard requirements of paragraph 1200-3-30-.01(6) shall not be modified or voided by a permit revision.
  - (f) Any permit revision involving incorporation of a compliance option that was not submitted for approval and comment during the permit issuance process, or involving a change in a

(Rule 1200-3-30-.07, continued)

compliance option that was previously submitted, shall meet the requirements for applying for such compliance option under paragraph 1200-3-30-.04(2) and section 407 of the Act and regulations implementing section 407 of the Act.

- (g) For permit revisions not described in paragraph 1200-3-30-.07(2) and paragraph 1200-3-30-.07(3), the Technical Secretary may, in his discretion, determine which of these paragraphs is applicable.
- (2) Permit modifications. (40 CFR 72.81)
- (a)
    - 1. Permit modifications shall follow the permit issuance requirements of Rule 1200-3-30-.06 and item 1200-3-9-.02(11)(f)5(iv)(II).
    - 2. For purposes of applying part (a)1 of this paragraph, a permit modification shall be treated as an Acid Rain permit application, to the extent consistent with Rule 1200-3-30-.07.
  - (b) The following permit revisions are permit modifications:
    - 1. Relaxation of an excess emission offset requirement after approval of the offset plan by the Administrator;
    - 2. Incorporation of a final nitrogen oxides alternative emission limitation following a demonstration period;
    - 3. Determinations concerning failed repowering projects under subpart 1200-3-30-.04(2)(f)1(i) and part 1200-3-30-.04(2)(f)2; and
    - 4. At the option of the designated representative submitting the permit revision, the permit revisions listed in subparagraph 1200-3-30-.07(3)(b).
- (3) Fast-track modifications. (40 CFR 72.82)
- (a) Fast-track modifications shall follow the following procedures:
    - 1. The designated representative shall serve a copy of the fast-track modification on the Administrator, the Technical Secretary, and any person entitled to a written notice under part 1200-3-9-.02(11)(f)8 and part 1200-3-9-.02(11)(g)2. Within 5 business days of serving such copies, the designated representative shall also give public notice by publication in a newspaper of general circulation in the area where the source is located or in a State publication designed to give general public notice.
    - 2. The public shall have a period of 30 days, commencing on the date of publication of the notice, to comment on the fast-track modification. Comments shall be submitted in writing to the Technical Secretary and to the designated representative.
    - 3. The designated representative shall submit the fast-track modification to the Technical Secretary on or before commencement of the public comment period.
    - 4. Within 30 days of the close of the public comment period, the Technical Secretary will consider the fast-track modification and the comments received and approve, in whole or in part or with changes or conditions as appropriate, or disapprove the modification. A fast-track modification shall be effective immediately upon issuance, in accordance with item 1200-3-9-.02(11)(f)1(i)(V) as applied to significant modifications.



(Rule 1200-3-30-.07, continued)

- (b) The following permit revisions are, at the option of the designated representative submitting the permit revision, either fast-track modifications under this section or permit modifications under paragraph 1200-3-30-.07(2):
  - 1. Incorporation of a compliance option that the designated representative did not submit for approval and comment during the permit issuance process;
  - 2. Addition of a nitrogen oxides averaging plan to a permit; and
  - 3. Changes in a repowering plan, nitrogen oxides averaging plan, or nitrogen oxides compliance deadline extension.
- (4) Administrative permit amendment. (40 CFR 72.83)
  - (a) Administrative amendments shall follow the procedures set forth at subpart 1200-3-9-.02(11)(f)4(iii). The Technical Secretary will submit the revised portion of the permit to the Administrator within 10 working days after the date of final action on the request for an administrative amendment.
  - (b) The following permit revisions are administrative amendments:
    - 1. Activation of a compliance option conditionally approved by the Technical Secretary; provided that all requirements for activation under subparagraph 1200-3-30-.04(1)(c) and paragraph 1200-3-30-.04(2) are met;
    - 2. Changes in the designated representative or alternative designated representative; provided that a new certificate of representation is submitted to the Administrator in accordance with subpart B of 40 CFR part 72;
    - 3. Correction of typographical errors;
    - 4. Changes in names, addresses, or telephone or facsimile numbers;
    - 5. Changes in the owners or operators; provided that a new certificate of representation is submitted within 30 days to the Administrator in accordance with subpart B of 40 CFR part 72;
    - 6. Termination of a compliance option in the permit; provided that all requirements for termination under subparagraph 1200-3-30-.04(1)(d) shall be met and this procedure shall not be used to terminate a repowering plan after December 31, 1999;
    - 7. Changes in the date, specified in a new unit's Acid Rain permit, of commencement of operation or the deadline for monitor certification, provided that they are in accordance with paragraph 1200-3-30-.01(6).
    - 8. The addition of or change in a nitrogen oxides alternative emissions limitation demonstration period, provided that the requirements of regulations implementing section 407 of the Act are met; and
    - 9. Incorporation of changes that the Administrator has determined to be similar to those in parts (a)1 through (8) of this paragraph.
- (5) Automatic permit amendment. (40 CFR 72.84)

(Rule 1200-3-30-.07, continued)

The following permit revisions shall be deemed to amend automatically, and become a part of the affected unit's Acid Rain permit by operation of law without any further review:

- (a) Upon recordation by the Administrator under 40 CFR part 73, all allowance allocations to, transfers to, and deductions from an affected unit's Allowance Tracking System account; and
  - (b) Incorporation of an offset plan that has been approved by the Administrator under 40 CFR part 77.
- (6) Permit reopenings. (40 CFR 72.85)
- (a) As provided in part 1200-3-9-.02(11)(f)6, the Technical Secretary will reopen an Acid Rain permit for cause, including whenever additional requirements become applicable to any affected unit governed by the permit.
  - (b) In reopening an Acid Rain permit for cause, the Technical Secretary will issue a draft permit changing the provisions, or adding the requirements, for which the reopening was necessary. The draft permit shall be subject to the requirements of Rule 1200-3-30-.05 and Rule 1200-3-30-.06.
  - (c) Any reopening of an Acid Rain permit shall not affect the term of the permit.

**Authority:** T.C.A. §§668-201-105 and 4-5-202. **Administrative History:** Original rule filed June 30, 1994; effective September 15, 1994.

#### **1200-3-30-.08 COMPLIANCE CERTIFICATION (40 CFR PART 72, SUBPART I)**

- (1) Annual compliance certification report. (40 CFR 72.90)
  - (a) Applicability and Deadline. For each calendar year in which a unit is subject to the Acid Rain emissions limitations, the designated representative of the source at which the unit is located shall submit to the Administrator and to the Technical Secretary, within 60 days after the end of the calendar year, an annual compliance certification report for the unit in compliance with 40 CFR 72.90.
  - (b) The submission of complete compliance certifications in accordance with subparagraph (a) of this paragraph and 40 CFR part 75 shall be deemed to satisfy the requirement to submit compliance certifications under item 1200-3-9-.02(11)(e)3(v)(III) with regard to the Acid Rain portion of the source's operating permit.
- (2) Units with repowering extension plans. (40 CFR 72.94)
  - (a) Design and Engineering and Contract Requirements. No later than January 1, 2000, the designated representative of a unit governed by an approved repowering plan shall submit to the Administrator and the Technical Secretary:
    - 1. Satisfactory documentation of a preliminary design and engineering effort.
    - 2. A binding letter agreement for the executed and binding contract (or for each in a series of executed and binding contracts) for the majority of the equipment to repower the unit using the technology conditionally approved by the Administrator under 40 CFR 72.44(d)(3).
    - 3. The letter agreement under part (a)2 of this paragraph shall be signed and dated by each party and specify:

(Rule 1200-3-30-.08, continued)

- (i) The parties to the contract;
  - (ii) The date each party executed the contract;
  - (iii) The unit to which the contract applies;
  - (iv) A brief list identifying each provision of the contract;
  - (v) Any dates to which the parties agree, including construction completion date;
  - (vi) The total dollar amount of the contract; and
  - (vii) A statement that a copy of the contract is on site at the source and will be submitted upon written request of the Administrator or the Technical Secretary.
- (b) **Removal From Operation to Repower.** The designated representative of a unit governed by an approved repowering plan shall notify the Administrator and the Technical Secretary in writing at least 60 days in advance of the date on which the existing unit is to be removed from operation so that the qualified repowering technology can be installed, or is to be replaced by another unit with the qualified repowering technology, in accordance with the plan.
- (c) **Commencement of Operation.** Not later than 60 days after the units repowered under an approved repowering plan commences operation at full load, the designated representative of the unit shall submit a report to the Administrator and the and the Technical Secretary comparing the actual hourly emissions and percent removal of each pollutant controlled at the unit to the actual hourly emissions and percent removal at the existing unit under the plan prior to repowering, determined in accordance with 40 CFR part 75.
- (d) **Decision to Terminate.** If at any time before the end of the repowering extension and before completion of construction and start-up testing, the owners and operators decide to terminate good faith efforts to design, construct, and test the qualified repowering technology on the unit to be repowered under an approved repowering plan, then the designated representative shall submit a notice to the Administrator and the Technical Secretary by the earlier of the end of the repowering extension or a date within 30 days of such decision, stating the date on which the decision was made.

**1200-3-30-.09 NITROGEN OXIDES EMISSION REDUCTION PROGRAM [RESERVED]**

**1200-3-30-.10 SULFUR DIOXIDE OPT-INS [RESERVED]**

*Authority:* T.C.A. 68-201-105 and 4-5-202. *Administrative History:* Original rule filed June 30, 1994; effective September 13, 1994.

**RULES  
OF  
THE TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
DIVISION OF AIR POLLUTION CONTROL**

**CHAPTER 1200-03-31  
CASE-BY-CASE DETERMINATIONS OF HAZARDOUS AIR POLLUTANT CONTROL  
REQUIREMENTS**

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**Authority:** T.C.A. §§ 4-5-201, et seq.; 68-201-101, et seq.; and 68-201-105. **Administrative History:** Original rule filed July 5, 1994; effective September 18, 1994. Amendments filed September 29, 2022; effective December 28, 2022.

**1200-03-31-.02 DEFINITIONS** - The following definitions are applicable to this chapter:

- (1) "Major Source" means any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year of any combination of hazardous air pollutants. In addition, the provisions of subpart (11)(b)14.(i) of Rule 1200-03-09-.02 are recognized as to the grouping or aggregation of emissions for the purpose of calculating emission potential as it relates to the applicability thresholds of this definition. Additionally, electric utility steam generating units will not be regulated as major sources until the United States Environmental Protection Agency decides that they should be so regulated pursuant to Section 112(n) of the Federal Clean Air Act.
- (2) "Area Source" means any stationary source of hazardous air pollutants that is not a major source. Mobile sources such as vehicles, trains, planes, ships, et cetera are not area sources.
- (3) "New Source" means a stationary source that emits hazardous air pollutants as they are defined in this paragraph and is constructed or reconstructed on or after the date that the United States Environmental Protection Agency approves the major source operating permit program submitted by the State of Tennessee in accordance with Section 502(d) of the Federal Clean Air Act.
- (4) "Stationary Source" shall have the meaning given to it in subparagraph (1)(ddd) of Rule 1200-03-02-.01.
- (5) "Existing Source" is any stationary source that emits hazardous air pollutants as they are defined in paragraph (6) of this rule and is not a new source.
- (6) "Hazardous Air Pollutant" - means any of the following air contaminants:

(Rule 1200-03-31-.02, continued)

| CAS No. | Chemical name                               |
|---------|---|
| 75070   | Acetaldehyde                                |
| 60355   | Acetamide                                   |
| 75058   | Acetonitrile                                |
| 98862   | Acetophenone                                |
| 53963   | 2-Acetylaminofluorene                       |
| 107028  | Acrolein                                    |
| 79061   | Acrylamide                                  |
| 79107   | Acrylic acid                                |
| 107131  | Acrylonitrile                               |
| 107051  | Allyl chloride                              |
| 92671   | 4-Aminobiphenyl                             |
| 62533   | Aniline                                     |
| 90040   | o-Anisidine                                 |
| 1332214 | Asbestos                                    |
| 71432   | Benzene (including benzene from gasoline)   |
| 92875   | Benzidine                                   |
| 98077   | Benzotrichloride                            |
| 100447  | Benzyl chloride                             |
| 92524   | Biphenyl                                    |
| 117817  | Bis(2-ethylhexyl)phthalate(DEHP)            |
| 542881  | Bis(chloromethyl) ether                     |
| 75252   | Bromoform                                   |
| 106990  | 1,3-Butadiene                               |
| 156627  | Calcium cyanamide                           |
| 133062  | Captan                                      |
| 63252   | Carbaryl                                    |
| 75150   | Carbon disulfide                            |
| 56235   | Carbon tetrachloride                        |
| 463581  | Carbonyl sulfide                            |
| 120809  | Catechol                                    |
| 133904  | Chloramben                                  |
| 57749   | Chlordane                                   |
| 7782505 | Chlorine                                    |
| 79118   | Chloroacetic acid                           |
| 532274  | 2-Chloroacetophenone                        |
| 108907  | Chlorobenzene                               |
| 510156  | Chlorobenzilate                             |
| 67663   | Chloroform                                  |
| 107302  | Chloromethyl methyl ether                   |
| 126998  | Chloroprene                                 |
| 1319773 | Cresols/Cresylic acid (isomers and mixture) |
| 95487   | o-Cresol                                    |
| 108394  | m-Cresol                                    |
| 106445  | p-Cresol                                    |
| 98828   | Cumene                                      |
| 94757   | 2,4-D, salts and esters                     |
| 3547044 | DDE   |
| 334883  | Diazomethane                                |
| 132649  | Dibenzofurans                               |
| 96128   | 1,2-Dibromo-3-chloropropane                 |
| 84742   | Dibutylphthalate                            |
| 106467  | 1,4-Dichlorobenzene(p)                      |
| 91941   | 3,3-Dichloro benzidene                      |

(Rule 1200-03-31-.02, continued)

|         |   |
|---------|---|
| 111444  | Dichloroethyl ether (Bis(2-chloroethyl)ether) |
| 542756  | 1,3-Dichloropropene                           |
| 62737   | Dichlorvos                                    |
| 111422  | Diethanolamine                                |
| 121697  | N,N-Diethyl aniline (N,N-Dimethylaniline)     |
| 64675   | Diethyl sulfate                               |
| 119904  | 3,3-Dimethoxybenzidine                        |
| 60117   | Dimethyl aminoazobenzene                      |
| 119937  | 3,3'-Dimethyl benzidine                       |
| 79447   | Dimethyl carbamoyl chloride                   |
| 68122   | Dimethyl formamide                            |
| 57147   | 1,1-Dimethyl hydrazine                        |
| 131113  | Dimethyl phthalate                            |
| 77781   | Dimethyl sulfate                              |
| 534521  | 4,6-Dinitro-o-cresol, and salts               |
| 51285   | 2,4-Dinitrophenol                             |
| 121142  | 2,4-Dinitrotoluene                            |
| 123911  | 1,4-Dioxane (1,4-Diethyleneoxide)             |
| 122667  | 1,2-Diphenylhydrazine                         |
| 106898  | Epichlorohydrin (1-Chloro-2,3-epoxypropane)   |
| 106887  | 1,2-Epoxybutane                               |
| 140885  | Ethyl acrylate                                |
| 100414  | Ethyl benzene                                 |
| 51796   | Ethyl carbamate (Urethane)                    |
| 75003   | Ethyl Chloride (Chloroethane)                 |
| 106934  | Ethylene dibromide (Dibromoethane)            |
| 107062  | Ethylene dichloride (1,2-Dichlorethane)       |
| 107211  | Ethylene glycol                               |
| 151564  | Ethylene imine (Aziridine)                    |
| 75218   | Ethylene oxide                                |
| 96457   | Ethylene thiourea                             |
| 75343   | Ethylidene dichloride (1,1-Dichloroethane)    |
| 50000   | Formaldehyde                                  |
| 76448   | Heptachlor                                    |
| 118741  | Hexachlorobenzene                             |
| 87683   | Hexachlorobutadiene                           |
| 77474   | Hexachlorocyclopentadiene                     |
| 67721   | Hexachloroethane                              |
| 822060  | Hexamethylene-1,6-diisocyanate                |
| 680319  | Hexamethylphosphoramide                       |
| 110543  | Hexane  |
| 302012  | Hydrazine                                     |
| 7647010 | Hydrochloric acid                             |
| 7664393 | Hydrogen fluoride (Hydrofluoric acid)         |
| 123319  | Hydroquinone                                  |
| 78591   | Isophorone                                    |
| 58899   | Lindane (all isomers)                         |
| 108316  | Maleic anhydride                              |
| 67561   | Methanol                                      |
| 72435   | Methoxychlor                                  |
| 74839   | Methyl bromide (Bromomethane)                 |
| 74873   | Methyl chloride (Chloromethane)               |
| 71556   | Methyl chloroform (1,1,1-Trichloroethane)     |
| 60344   | Methyl hydrazine                              |
| 74884   | Methyl iodide (Iodomethane)                   |

(Rule 1200-03-31-.02, continued)

|         |  |
|---------|--|
| 108101  | Methyl isobutyl ketone (Hexone)            |
| 624839  | Methyl isocyanate                          |
| 80626   | Methyl methacrylate                        |
| 1634044 | Methyl tert butyl ether                    |
| 101144  | 4,4-Methylene bis(2-chloroniline)          |
| 75092   | Methylene chloride (Dichloromethane)       |
| 101688  | Methylene diphenyl diisocyanate (MDI)      |
| 101779  | 4,4'-Methylenedianiline                    |
| 91203   | Naphthalene                                |
| 98953   | Nitrobenzene                               |
| 92933   | 4-Nitrobiphenyl                            |
| 100027  | 4-Nitrophenol                              |
| 79469   | 2-Nitropropane                             |
| 684935  | N-Nitroso-N-methylurea                     |
| 62759   | N-Nitrosodimethylamine                     |
| 59892   | N-Nitrosomorpholine                        |
| 56382   | Parathion                                  |
| 82688   | Pentachloronitrobenzene (Quintobenzene)    |
| 87865   | Pentachlorophenol                          |
| 108952  | Phenol                                     |
| 106503  | p-Phenylenediamine                         |
| 75445   | Phosgene                                   |
| 7803512 | Phosphine                                  |
| 7723140 | Phosphorus                                 |
| 85449   | Phthalic anhydride                         |
| 1336363 | Polychlorinated biphenyls (Arochlors)      |
| 1120714 | 1,3-Propane sultone                        |
| 57578   | beta-Propiolactone                         |
| 123386  | Propionaldehyde                            |
| 114261  | Propoxur (Baygon)                          |
| 78875   | Propylene dichloride (1,2-Dichloropropane) |
| 75569   | Propylene oxide                            |
| 75558   | 1,2-Propylenimine (2-Methyl aziridine)     |
| 91225   | Quinoline                                  |
| 106514  | Quinone                                    |
| 100425  | Styrene                                    |
| 96093   | Styrene oxide                              |
| 1746016 | 2,3,7,8-Tetrachlorodibenzo-p-dioxin        |
| 79345   | 1,1,2,2-Tetrachloroethane                  |
| 127184  | Tetrachoroethylene (Perchloroethylene)     |
| 7550450 | Titanium tetrachloride                     |
| 108883  | Toluene                                    |
| 95807   | 2,4-Toluene diamine                        |
| 584849  | 2,4-Toluene diisocyanate                   |
| 95534   | o-Toluidine                                |
| 8001352 | Toxaphene (chlorinated camphene)           |
| 120821  | 1,2,4-Trichlorobenzene                     |
| 79005   | 1,1,2-Trichloroethane                      |
| 79016   | Trichloroethylene                          |
| 95954   | 2,4,5-Trichlorophenol                      |
| 88062   | 2,4,6-Trichlorophenol                      |
| 121448  | Triethylamine                              |
| 1582098 | Trifluralin                                |
| 540841  | 2,2,4-Trimethylpentane                     |
| 108054  | Vinyl acetate                              |

(Rule 1200-03-31-.02, continued)

|         |  |
|---------|--|
| 593602  | Vinyl bromide                                  |
| 75014   | Vinyl chloride                                 |
| 75354   | Vinylidene chloride (1,1-Dichloroethylene)     |
| 1330207 | Xylenes (isomers and mixture)                  |
| 95476   | o-Xylenes                                      |
| 108383  | m-Xylenes                                      |
| 106423  | p-Xylenes                                      |
| 0       | Antimony Compounds                             |
| 0       | Arsenic Compounds (inorganic including arsine) |
| 0       | Beryllium Compounds                            |
| 0       | Cadmium Compounds                              |
| 0       | Chromium Compounds                             |
| 0       | Cobalt Compounds                               |
| 0       | Coke Oven Emissions                            |
| 0       | Cyanide compounds <sup>1</sup>                 |
| 0       | Glycol ethers <sup>2, 6</sup>                  |
| 0       | Lead Compounds                                 |
| 0       | Manganese Compounds                            |
| 0       | Mercury Compounds                              |
| 0       | Fine mineral fibers <sup>3</sup>               |
| 0       | Nickel Compounds                               |
| 0       | Polycyclic Organic Matter <sup>4</sup>         |
| 0       | Radionuclides (including radon) <sup>5</sup>   |
| 0       | Selenium Compounds                             |

- (7) "Federal Clean Air Act" means the federal statutes found at 42 U.S.C. 7401 et seq. as amended by Public Law No. 101-549 (November 15, 1990).
- (8) "MACT" means maximum achievable control technology. It is a case-by-case determination of what constitutes a maximum achievable reduction of hazardous air pollutants considering the costs of achieving the emission reduction and any non-air quality health and environmental impacts and energy requirements. MACT may include but is not limited to: control equipment, work practice standards, emission standards, process modifications, or raw materials substitution and/or reformulation.

<sup>1</sup> X'CN where X = H' or any other group where a formal dissociation may occur. For example KCN or Ca(CN)<sub>2</sub>

<sup>2</sup> Include mono- and di-ethers of ethylene glycol, diethylene glycol, and triethylene glycol R-(OCH<sub>2</sub>CH<sub>2</sub>)<sub>n</sub>-OR'.

Where:

n = 1, 2, or 3:

R = alkyl C7 or less; or

R = phenyl or alkyl substituted phenyl;

R' = H or alkyl C7 or less; or

OR' consisting of carboxylic acid ester, sulfate, phosphate, nitrate, or sulfonate.

This action deletes each individual compound in a group called the surfactant alcohol ethoxylates and their derivatives (SAED) from the glycol ethers category in the list of hazardous air pollutants (HAP) established by section 112(b)(1) of the Clean Air Act (CAA).

<sup>3</sup> Includes mineral fiber emissions from facilities manufacturing or processing glass, rock, or slag fibers (or other mineral derived fibers) of average diameter 1 micrometer or less.

<sup>4</sup> Includes organic compounds with than one benzene ring, and which have a boiling point greater than or equal to 100<sup>0</sup> C.

<sup>5</sup> a type of atom which spontaneously undergoes radioactive decay.

<sup>6</sup> The substance ethylene glycol monobutyl ether (EGBE, 2-Butoxyethanol) (Chemical Abstract Service (CAS) Number 111-76-2) is deleted from the list of hazardous air pollutants established by 42 U.S.C. 7412(b)(1).



(Rule 1200-03-31-.02, continued)

- (9) "GACT" means generally available control technology. It is a case-by-case determination of what constitutes reasonable and proper control for hazardous air pollutants from area sources. GACT may include, but is not limited to: control equipment, work practice standards, emission standards, process modification, or raw materials substitution and/or reformulation.
- (10) Reserved.

**Authority:** T.C.A. §§ 4-5-201, et seq.; 68-201-101, et seq.; and 68-201-105. **Administrative History:** Original rule filed July 5, 1994; effective September 18, 1994. Amendment filed November 12, 1998; effective January 26, 1999. Amendment filed June 30, 2006; effective October 27, 2006. Amendment filed October 17, 2006; effective December 31, 2006. Amendments filed September 29, 2022; effective December 28, 2022.

### 1200-03-31-.03 INTENT OF THE BOARD.

- (1) The role of the United States Environmental Protection Agency is recognized by the Board as being essential in the setting of case-by-case determinations of hazardous air pollutant control requirements. The federal Agency is in the unique position to conduct research and compile national data bases as to the source-by-source control levels that are being achieved or proposed in the regulation of hazardous air pollutants. As the State of Tennessee does not fully possess these abilities, the Technical Secretary shall utilize the federal Agency's resources prior to setting a case-by-case hazardous air pollutant requirement. In addition, the Technical Secretary shall recognize any federal law, federal regulation, or lawfully promulgated policy of the United States Environmental Protection Agency pertaining to case-by-case determinations of hazardous air pollutant requirements as the minimum acceptable criteria prior to the setting of a case-by-case hazardous air pollutant requirement under the provisions of this rule.
- (2) The Technical Secretary may consider other applicable criteria in the absence of any data or requirement of the United States Environmental Protection Agency. In such case, the Technical Secretary shall rely upon generally accepted engineering principles and any unique aspects of a source category as a whole that would be a prohibitory factor in the imposition of a requirement for industries in that source category.
- (3) To the extent possible, it is the Board's intent to impose MACT and GACT limitations equivalent to that required by the United States Environmental Protection Agency at the time of the case-by-case determination. Should there be a prudent reason to be more stringent than the federal equivalent, the Technical Secretary may issue a more stringent MACT or GACT requirement. In exercise of the authority to issue a more stringent requirement, the Technical Secretary shall issue a determination specifying the rationale employed in the setting of a more stringent requirement. The determination shall accompany the permit in which the case-by-case determination is declared. As the declaration of a case-by-case requirement will be specified on a permit, disputes regarding the imposition of MACT or GACT are to be resolved in the manner prescribed by Rule 1200-03-09-.05. If GACT is done on a permit-by-rule basis, the Board will view the public hearing process as the permittee's opportunity to object to the requirements of GACT. However, the permittee may appeal the applicability of GACT to their operations as to commenced date or emission/production magnitude applicability thresholds present at their source.

**Authority:** T.C.A. §§ 4-5-201, et seq.; 68-201-101, et seq.; and 68-201-105. **Administrative History:** Original rule filed July 5, 1994; effective September 18, 1994. Amendments filed September 29, 2022; effective December 28, 2022.

**1200-03-31-.04 STANDARD FOR EXISTING SOURCES.**

- (1) Major sources will be issued an operating permit pursuant to the provisions of paragraph (11) of Rule 1200-03-09-.02 listing their current hazardous air pollutant emission rate on a pollutant-by-pollutant basis. These “hollow permits” will remain in effect until one or more of the following activities occur:
  - (a) When the United States Environmental Protection Agency promulgates MACT for a source-specific category pursuant to Sections 112(d) or (h) of the Federal Clean Air Act, the Technical Secretary shall specify MACT for all existing major sources in that category as a revision to their “hollow permit”. Upon written notification from the Technical Secretary, the source shall have 180 days to prepare their application for a MACT permit revision and submit it to the Technical Secretary. The Technical Secretary shall process the application by issuing a permit within 9 months of receipt of a complete application. MACT revisions to hollow permits shall be issued within 18 months of promulgation. A compliance schedule to attain MACT by a date certain shall be made part of the permit. The length of the schedule to attain compliance shall be determined by the complexities of coming into compliance and the Board’s intent to be equivalent to the federal MACT. The Technical Secretary shall provide that the source’s compliance schedule is at least as long as the federal rules allow. In most areas, this should not exceed three years. The Technical Secretary is authorized to grant up to a one-year extension to comply as long as it does not conflict with the federal requirements and there is sufficient justification to grant the additional time.
  - (b) If the United States Environmental Protection Agency fails to meet the Federal Clean Air Act schedules prescribed in Section 112(e)(1) and/or (3) for timely promulgation of MACT requirements thereby invoking the “MACT hammer” provisions at Section 112(j) of the Federal Clean Air Act, the Technical Secretary shall specify MACT for all sources in the source category in question as a permit revision to their “hollow permit”. Sources subject to the missed MACT standard shall file a complete MACT permit revision application with the Technical Secretary no later than 18 months after the federally missed deadline for the source category. The Technical Secretary shall process the MACT permit revision application by issuing a permit within 18 months of his receipt of a complete application.
- (2) Area sources that are not exempt from the requirement to obtain a permit pursuant to Rule 1200-03-09-.04 will be issued an operating permit specifying GACT with an appropriate compliance schedule to achieve that requirement by a date certain within 18 months of the United States Environmental Protection Agency’s promulgation of a source-specific GACT standard if they are in that source-specific category. The date to achieve compliance shall be no less than that allowed by the federal rule which promulgated GACT for that source category. If a source is not exempted from the requirement to obtain a permit pursuant to Rule 1200-03-09-.04, it shall be the duty of such area source owner or operator to register their annual emissions of hazardous air pollutants with the Technical Secretary utilizing the forms prescribed by the Technical Secretary. In the interest of efficiency, the Technical Secretary may bring proposed regulations to the Board that would permit area sources by rule on a source category-specific basis. It is the intent of the Board that such rule would be effective within 18 months of the federal GACT promulgation. The rule will also provide that compliance with GACT shall be attained no later than that specified by the equivalent federal rule.

**Authority:** T.C.A. §§ 4-5-201, et seq.; 68-201-101, et seq.; and 68-201-105. **Administrative History:** Original rule filed July 5, 1994; effective September 18, 1994. Amendment filed December 15, 1997; effective February 28, 1998. Amendments filed September 29, 2022; effective December 28, 2022.

**1200-03-31-.05 STANDARD FOR NEW SOURCES.**

- (1) Major sources shall utilize MACT as prescribed by the Technical Secretary upon start up regardless of whether or not the United States Environmental Protection Agency has established MACT under Section 112(d) or (h) of the Federal Clean Air Act. MACT shall be prescribed on the source's construction permit and transferred to the source's operating permit upon start up of the facility.
- (2) Area sources that are not exempt from the requirement to obtain a permit in accordance with Rule 1200-03-09-.04 shall utilize GACT as prescribed by the Technical Secretary upon start up if the United States Environmental Protection Agency has established GACT under Section 112(d)(5) of the Federal Clean Air Act. GACT shall be prescribed on the source's construction permit and transferred to the source's operating permit upon start up of the facility.

**Authority:** T.C.A. §§ 4-5-201, et seq.; 68-201-101, et seq.; and 68-201-105. **Administrative History:** Original rule filed July 5, 1994; effective September 18, 1994. Amendment filed December 12, 1997; effective February 25, 1998. Amendments filed September 29, 2022; effective December 28, 2022.

**1200-03-31-.06 OPPORTUNITY FOR EARLY REDUCTIONS SCHEDULE.**

- (1) The owner or operator of an existing source of hazardous air pollutants may be issued an operating permit allowing six additional years to comply with a future MACT commencing on the compliance date of that MACT limit if each of the following criteria are satisfied:
  - (a) The source will utilize control and/or work practices that will result in a 90 per centum or more reduction in emissions of hazardous air pollutants (95 per centum in the case of hazardous air pollutants which are particulates).
    1. The reduction shall be determined with respect to verifiable and actual emissions in a base year not earlier than calendar year 1987.
    2. If there is evidence that emissions in the base year 1987, or any subsequent base year, are artificially or substantially greater than emissions in other years prior to the implementation of the early emission reductions, the Technical Secretary shall require the use of an arithmetic average of the years commencing upon the suspect year and ending upon the period of time when the person seeking the early reductions schedule files their plan for the purpose of determining base year emission levels.
    3. The Technical Secretary may allow a source to use 1985 or 1986 emission data for the purpose of determining base year emissions if the source has submitted such data to the Technical Secretary in a form that can be used to make the baseline calculations and further that such information was in the Technical Secretary's possession prior to November 15, 1990.
- (2) The early emission reduction must occur prior to the federal proposal of a source category-specific MACT standard to which the source will be subject. Federal proposal will be considered effective when the United States Environmental Protection Agency publishes the standard in the *Federal Register*. The reduction need not actually occur prior to the federal proposal if the source owner or operator has committed to an enforceable schedule that extends no further than January 1, 1994.
- (3) A major source operating permit must be issued to the source owner or operator pursuant to the provisions of paragraph (11) of Rule 1200-03-09-.02 detailing the schedule to attain the early emission reductions and the enforceable emission limit that is to be attained. For the

(Rule 1200-03-31-.06, continued)

purposes of this paragraph, the Technical Secretary shall issue the permit within nine months of a complete application.

- (4) The early reductions of less toxic hazardous air pollutants shall not be credited toward the reduction of highly toxic hazardous air pollutants (such as, but not limited to chlorinated dioxins and furans) that pose high risks of adverse public health effects associated with exposure to small quantities of such highly toxic hazardous air pollutants. The Technical Secretary shall use the relative risks of chlorinated dioxins and furans as a qualitative benchmark in determining whether or not a hazardous air pollutant is highly toxic.

**Authority:** T.C.A. §§ 4-5-201, et seq.; 68-201-101, et seq.; and 68-201-105. **Administrative History:** Original rule filed July 5, 1994; effective September 18, 1994. Amendments filed September 29, 2022; effective December 28, 2022.

#### **1200-03-31-.07 RESIDUAL RISK AND REVISIONS TO MACT.**

- (1) MACT standards are subject to revision if the United States Environmental Protection Agency determines that the existing MACT standards are insufficient to protect the public pursuant to the residual risk provisions of Section 112(f) of the Federal Clean Air Act. Upon such finding, the Technical Secretary shall modify previously set MACT limitations in that source category to conform to the federally promulgated revised MACT standards within 18 months of such federal promulgation. The modification will be a permit revision to the source's operating permit consistent with the provisions of paragraph (11) of Rule 1200-03-09-02. The Technical Secretary shall prescribe a compliance schedule on the permit amendment that will specify an expeditious date to attain compliance with the revised MACT standards. The length of the schedule will be determined by the complexities of coming into compliance and the Board's desire to be equivalent to any federally revised MACT requirements.

**Authority:** T.C.A. §§ 4-5-201, et seq.; 68-201-101, et seq.; and 68-201-105. **Administrative History:** Original rule filed July 5, 1994; effective September 18, 1994. Amendments filed September 29, 2022; effective December 28, 2022.

#### **1200-03-31-.08 THROUGH 1200-03-31-.12 RESERVED.**

**Authority:** T.C.A. §§ 4-5-201, et seq. and 68-201-101, et seq. **Administrative History:** Amendments filed September 29, 2022; effective December 28, 2022.

#### **1200-03-31-.13 RESERVED.**

**Authority:** T.C.A. §§ 4-5-201, et seq.; 68-201-101, et seq.; and 68-201-105. **Administrative History:** Original rule filed May 10, 1994; effective July 24, 1994. Amendment filed August 28, 1997; effective November 11, 1997. Amendments filed September 29, 2022; effective December 28, 2022.

**RULES  
OF  
TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
BUREAU OF ENVIRONMENT  
DIVISION OF AIR POLLUTION CONTROL**

**CHAPTER 1200-3-32  
PREVENTION OF ACCIDENTAL RELEASES**

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**1200-3-32-.01 PURPOSE AND INTENT**

It is the objective of this chapter to prevent the accidental release and to minimize the consequences of any such release of any substance listed pursuant to this chapter. These substances have been determined by the Board to be potentially hazardous to the public if accidentally released into the ambient air. The general intent of these rules is to correspond to the federal regulations promulgated under Section 112(r) of the Clean Air Act (42 U.S.C. 7401 et seq.)

*Authority:* T.C.A. §§68-201-105 and 4-5-201 et.seq. *Administrative History:* Original rule filed July 7, 1994; effective September 20, 1994.

**1200-3-32-.02 DEFINITIONS**

“Federal Clean Air Act” means the Clean Air Act, as amended, 42 U.S.C. 7401, et seq. as amended by Public Law No. 101-549 (November 15, 1990).

*Authority:* T.C.A. §§68-201-105 and 4-5-201 et.seq. *Administrative History:* Original rule filed July 7, 1994; effective September 20, 1994.

**1200-3-32-.03 DUTY TO FILE ACCIDENTAL RELEASE PLANS**

- (1) Sources which are subject to the provisions of Section 112(r) of the federal Clean Air Act or any federal regulations promulgated thereunder, must file a copy of any plan or submittal required therein with the Technical Secretary. If such a source is subject to the permitting requirements of Paragraph 1200-3-9-.02(11) and has failed to timely file their plan with the United States Environmental Protection Agency, the Technical Secretary shall place them on a schedule of compliance to develop and file the plan. The schedule of compliance shall be placed on the source's operating permit consistent with the provisions of Subpart 1200-3-9-.02(11)(e)3(iii).
- (2) The Technical Secretary is specifically authorized to request information from sources for the purpose of determining whether or not they are subject to Section 112(r) of the federal Clean Air Act or any federal regulations promulgated thereunder.
- (3) Sources that have filed an accidental release plan shall annually certify in writing to the Technical Secretary that they are properly following their accidental release plan. The annual certification is due in the office of the Technical Secretary no later than January 31 of each year. Said certification will be for the preceding calendar year.

*Authority:* T.C.A. §§68-201-105 and 4-5-201 et.seq. *Administrative History:* Original rule filed July 7, 1994; effective September 20, 1994

**RULES  
OF  
TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
BUREAU OF ENVIRONMENT  
DIVISION OF AIR POLLUTION CONTROL**

**CHAPTER 1200-3-33  
REPEALED**

*Authority:* T.C.A. §§2-41-101 et seq. and 4-5-201 et seq. *Administrative History:* Original rule filed March 29, 1995; effective June 14, 1995. Repealed May 5, 1997.

**RULES  
OF  
TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
BUREAU OF ENVIRONMENT  
DIVISION OF AIR POLLUTION CONTROL**

**CHAPTER 1200-03-34  
CONFORMITY**

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**1200-03-34-.01 TRANSPORTATION CONFORMITY INTERAGENCY CONSULTATION AND GENERAL PROVISIONS.**

(1) Interagency Consultation Procedures

(a) General.

1. Pursuant to 40 CFR §51.390, this document provides for interagency consultation (federal, state, and local), resolution of conflicts, public consultation procedures (per 40 CFR §93.105) and written commitments to control measures (40 CFR §93.122(a)(4)(ii)) and mitigation measures (40 CFR §93.125(c)). Such consultation procedures shall be undertaken by Metropolitan Planning Organizations (MPOs), the State department of transportation, and the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) with State and local air quality agencies and the Environmental Protection Agency (EPA) prior to making conformity determinations, and by State and local air agencies and EPA with MPOs, the State department of transportation, and FHWA and FTA in developing applicable implementation plans.
2. The provisions of this rule shall apply in all nonattainment and maintenance areas for transportation related criteria pollutants or precursor pollutants for which the area is designated nonattainment or has a maintenance plan, and with respect to all actions outside any nonattainment area that in the judgment of the Tennessee Air Pollution Control Division (TAPCD) may cause or contribute to a new violation or increase the frequency or severity of any existing violation of any standard in any nonattainment area, or delay the timely attainment of any standard or any required interim emissions reduction or other milestone in any nonattainment area. Exhibit A illustrates stakeholders currently subject to this rule. Exhibit A is for illustrative purposes only; stakeholders need not be listed to be subject to this rule.
3. Definitions:

Terms used but not defined in this rule shall have the meaning given them by the Clean Air Act, titles 23 and 49 U.S.C., other Environmental Protection Agency (EPA) regulations, or other United States Department of Transportation (DOT) regulations, in that order of priority.

- (i) Local air agencies are those agencies which are charged under law with the control of air pollution existing within the geographic boundaries of the political subdivisions, as defined by the Tennessee Air Quality Act, T.C.A. §§ 68-201-101, *et seq.*, organized and existing under the laws of the State of Tennessee.

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- (ii) Local transportation agencies are publicly owned transportation agencies which provide mass transportation by bus or rail which provides general service to the public on a fixed route on a regular and continuing basis. It does not include school buses or charter or sightseeing services, van pools, or small trolley fleets.
  - (iii) Project means a highway project or transit project.
  - (iv) TAPCD means the Tennessee Air Pollution Control Division.
  - (v) TDOT means the Tennessee Department of Transportation.
- (b) Interagency consultation procedures: General factors.
1. Representatives of the MPOs, State and local air quality planning agencies, State department of transportation, and local publicly-owned transportation agencies not represented by an MPO, shall undertake an interagency consultation process in accordance with this rule with each other and with the EPA, FHWA, and FTA on the development of the implementation plan, the transportation plan (Plan), the Transportation Improvement Program (TIP), any revisions to the preceding documents, and all conformity determinations required by this rule.
  2. The TAPCD, also referred to as the State air agency, shall be the lead agency responsible for preparing the final document or decision and for assuring the adequacy of the interagency consultation process with respect to the development of applicable transportation related implementation plans and control strategy implementation plan revisions.
  3. MPOs subject to conformity shall be the lead agencies responsible for preparing the final document or decision and for assuring the adequacy of the interagency consultation process with respect to the development of the long range transportation plan, the Transportation Improvement Program (TIP), and any amendments or revisions thereto, and for providing assistance for technical analyses by employing travel-demand modeling techniques and acquiring all necessary data in the metropolitan area(s) under their jurisdiction. In the case of non-metropolitan areas, the TDOT shall be the lead agency responsible for preparing the final document or decision and for assuring the adequacy of the interagency consultation process with respect to the development of the Statewide long range transportation plan, the Statewide Transportation Improvement Program (STIP), and any amendments or revisions thereto and for providing assistance for technical analyses by employing travel-demand modeling techniques and acquiring all necessary data in non-metropolitan areas.
  4. In addition to the lead agencies identified in parts 2 and 3 of this subparagraph, other agencies entitled to actively participate in the interagency consultation process under this rule include: the FHWA, the FTA, EPA, and local air agencies.
  5. It shall be the role and responsibility of each lead agency in an interagency consultation process, as specified in parts 2 and 3 of this subparagraph, to confer with all other agencies identified in parts 1 through 4 of this subparagraph, provide all appropriate information to those agencies needed for meaningful input, solicit early and continuing input from those agencies, conduct the consultation process described in 40 CFR §93.105, assure policy-level contact with those agencies, consider the views of each agency and respond to those



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- views in a period not to exceed thirty (30) days from the date received, prior to any final decision on such document, and assure that such views and written response are made part of the record of any decision or action. Each lead agency shall provide all necessary documentation for review at the initiation, or prior to, the review and comment period. Information for scheduled meetings will be distributed to participants at least seven (7) days before the scheduled meeting. It shall be the role and responsibility of each agency specified in parts 1 through 4 of this subparagraph, when not fulfilling the role and responsibilities of a lead agency, to confer with the lead agency and other participants in the consultation process, review and comment as appropriate (including comments in writing) on all proposed documents and decisions in a period not to exceed thirty (30) days, attend consultation and decision meetings, assure policy-level contact with other participants, provide input on any area of substantive expertise or responsibility, and provide technical assistance to the lead agency or consultation process in accordance with 40 CFR §93.105 when requested.
6. It shall be the responsibility of the MPOs, the State and local air agencies, and the State and local transportation agencies identified in parts 1 through 4 of this subparagraph to schedule and convene meetings for their own agencies, and to notify all other agencies involved in the conformity process of these scheduled meetings at least fourteen (14) days in advance, unless such meetings are of an internal nature and not immediately related to the conformity process. However, the participants may waive the fourteen (14) day advance notice requirement if all participants agree that an earlier scheduled meeting is in the best interest of the parties. Scheduling changes shall be coordinated in a timely manner. The lead agency will develop draft documents, record notes and distribute agendas prior to meetings (in person or by conference calls or other practical electronic means). The lead agency shall provide all appropriate information to those agencies needed for meaningful input and provide all draft and supportive documentation (hard copy or electronic format) in a timely manner to participating agencies. The lead agency responsible for preparing the final document subject to interagency consultation shall assure that all relevant documents and information are supplied to all participants in the consultation process prior to the release for public review.
  7. Consultation on specific issues, other than the continual process of keeping all the agencies informed on all conformity and State Implementation Plan (SIP) actions, may be initiated at any time during the document development process by any of the agencies specified in parts 1 through 4 of this subparagraph. It shall be the responsibility of the initiator to ensure that all other agencies identified in parts 1 through 4 of this subparagraph are notified of any such action. All agencies so notified must respond to the issue(s) raised within fourteen (14) days, unless an alternate schedule is agreed upon by all participants.
  8. It shall be the responsibility of the MPOs subject to this rule, and TDOT, to provide the State and local air agencies specified in this rule with the latest version of the TIP or STIP and the transportation plan.
  9. It shall be the responsibility of the State and local air agencies to provide the MPOs, TDOT, FHWA, FTA and EPA with the latest version of the SIP as it applies to transportation conformity, in particular, attainment and maintenance plans.
  10. It shall also be the responsibility of each of the agencies specified in parts 1 through 4 of this subparagraph to keep their own superiors and constituents

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properly informed of conformity determinations, as well as making this information available for the general public.

11. The agencies specified in parts 1 through 4 of this subparagraph may employ consultation services at their own discretion.

(c) Specific roles and responsibilities of various participants in the interagency consultation process shall be as follows:

1. TAPCD and the local air agencies shall be responsible for, in relation to SIP development, the following:

- (i) Developing emissions inventories;
- (ii) Developing emissions budgets;
- (iii) Conducting air quality modeling;
- (iv) Developing attainment and maintenance demonstrations;
- (v) Revising control strategy implementation plans;
- (vi) Regulatory Transportation Control Measures (TCMs) intended to provide enforceable emission reductions;
- (vii) Compiling motor vehicle emissions factors;
- (viii) Meeting all EPA reporting requirements related to air quality; and
- (ix) Responding to all comments concerning the SIP.

The local air agencies shall be responsible for their areas of jurisdiction, with the State air agency being responsible for all remaining counties, as well as being responsible for ensuring that the local air agencies fulfill these tasks. Local air agencies may request assistance from the State air agency in any of the responsibilities listed here.

2. The MPOs subject to the conformity rule shall be responsible for, in their area(s) of jurisdiction, the following:

- (i) Developing and monitoring transportation plans and TIPs;
- (ii) Evaluating the transportation impacts and feasibility of TCMs;
- (iii) Developing transportation and socioeconomic data and latest planning assumptions and providing such data and planning assumptions to TAPCD for use in air quality analysis;
- (iv) Developing system- or facility-based or other programmatic (non-regulatory) TCMs;
- (v) Providing technical and policy input on emissions budgets;
- (vi) Performing transportation modeling, including:
  - (I) Selecting and evaluating such models;

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- (II) Documenting their use in conformity determinations; and
  - (III) Alerting, for comment, the agencies identified in parts (b)1 through 4 of this paragraph when any new model is being tested or employed, and;
  - (vii) Developing draft and final conformity determination documents for all transportation plans, TIPs and projects;
  - (viii) Monitoring and coding regionally significant projects into the transportation networks;
  - (ix) Developing statistical information such as vehicle miles travelled (VMT), vehicle mix and vehicle speeds for use in on-road mobile emissions analysis;
  - (x) Making elections regarding the timeframe of the conformity determination under 40 CFR §93.106(d); and
  - (xi) Identifying planning assumptions and evaluating those assumptions for consistency with SIP assumptions.
3. The Tennessee Department of Transportation shall be responsible for:
- (i) Developing the Statewide transportation plan and STIP;
  - (ii) Providing technical input on new and proposed revisions to motor vehicle emission budgets;
  - (iii) Distributing draft and final environmental documents to other agencies;
  - (iv) Providing the transportation related information needed for mobile emissions analysis;
  - (v) Developing the statistical information, such as VMT, vehicle mix, and vehicle speeds, for use in on-road mobile emission analysis for areas outside the MPO boundary;
  - (vi) Developing the draft document(s) related to the NEPA process, providing it for review, responding to comments and preparing the final document(s);
  - (vii) Performing transportation modeling, including:
    - (I) Selecting and evaluating such models;
    - (II) Documenting their use in conformity determinations; and
    - (III) Alerting, for comment, the agencies identified in parts (b)1 through 4 of this paragraph when any new model is being tested or employed, and;
  - (viii) Making conformity determinations for areas outside of the MPO boundary;

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- (ix) Convening consultation to cooperatively choose the appropriate conformity test(s) and methodologies for use in isolated rural nonattainment and maintenance areas, as required by 40 CFR §93.109(l)(2)(iii); and
  - (x) Convening air quality technical review meetings on specific projects when requested by other agencies or as needed.
4. FHWA and FTA shall be responsible for:
- (i) Ensuring timely action on final determinations of conformity within thirty (30) days of receiving a formal conformity determination, after consultation with other agencies as provided in this rule and 40 CFR §93.105;
  - (ii) Providing guidance on conformity and the transportation planning process to participating agencies in interagency consultation; and
  - (iii) Reviewing and commenting on conformity determinations.
5. EPA shall be responsible for:
- (i) Reviewing motor vehicle emissions budgets in submitted SIPs and finding them adequate or inadequate based on adequacy criteria and procedures;
  - (ii) Providing guidance on conformity criteria and procedures to agencies in interagency consultation;
  - (iii) Approving or disapproving submitted SIP revisions (including TCMs);
  - (iv) Providing modeling and emissions inventory development assistance to TAPCD, TDOT and MPOs; and
  - (v) Providing comments on the regional emissions analyses and conformity determination of transportation plans, TIPs and projects.
- (d) Conformity determinations:
1. All conformity determinations shall be initiated by the sponsor of the transportation plan, program or project subject to the conformity rule:
    - (i) MPOs shall be responsible for initiating conformity determinations for plans, programs or projects within the specific MPO boundary;
    - (ii) TDOT shall be responsible for initiating conformity determination for plans, programs or projects external to an MPO boundary, including isolated rural nonattainment and maintenance areas as required by §93.109(l)(2)(iii); and
    - (iii) MPOs and TDOT shall employ interagency consultation procedures to ensure compatibility of conformity determinations for the same or overlapping nonattainment or maintenance area(s).
  2. It shall be the responsibility of the MPOs subject to conformity and TDOT to submit any conformity determinations to the FHWA, FTA, EPA, TACPD, local air agencies, TDOT, if not the sponsor, and local publicly-owned transportation agencies not represented by an MPO for review and approval before the plan, program or project subject to the conformity rule may be found to conform, or found to be exempt.

(Rule 1200-03-34-.01, continued)

3. All conformity determinations with all supporting documentation and data shall be made available for review and comment to the TAPCD, local air agencies, FHWA, FTA and the EPA no less than thirty (30) days prior to presentation to a policy making body (electronic copy acceptable). Shorter review periods may be allowed occasionally in emergency situations with participant concurrence.
4. All conformity determinations shall also be made available to the general public, as defined in subparagraph (h) of this paragraph.
5. Conformity determinations, at a minimum, should include written documentation of the following:
  - (i) All the input run streams for the latest mobile emissions model and latest planning assumptions on the date that the conformity analysis began (with the beginning date and the criteria used to identify this date specified), and attestation that the latest mobile emissions model is being used;
  - (ii) Transportation related information and assumptions used for input into the mobile model, such as, vehicle miles traveled, vehicle speeds, and vehicle mix, along with a brief description of the source of this information, including documentation of any transportation related models used;
  - (iii) A description of the project, plan or program that is the subject of the conformity or exemption status determination(s); and
  - (iv) TAPCD may request further documentation; however, the agency making the conformity demonstration may appeal to the Technical Secretary if the request seems unreasonable.
6. TAPCD (and/or local air agencies, where applicable) shall review and provide written comment on final conformity determinations within fourteen (14) days of the date received. This process shall consist of:
  - (i) Review of mobile emissions model inputs and outputs;
  - (ii) Verification that the latest mobile emissions model and planning assumptions are being used;
  - (iii) Review of the reasonableness of transportation related data; and
  - (iv) Ensuring consistency with the emissions budget and/or the interim emission tests, as applicable.
7. It shall be the responsibility of the MPO (or the TDOT, where applicable) making a conformity determination, to provide TAPCD and the applicable local air agencies, FTA, FHWA and the EPA with documentation of the conformity determination.
8. It shall be the responsibility of TAPCD to provide affected MPOs, FHWA, FTA, EPA, local air agencies and TDOT with appropriate information regarding any SIP changes that could impact the conformity process.
9. It shall be the responsibility of the EPA to provide TAPCD and local air agencies and FTA, FHWA, TDOT, and the affected MPOs information regarding changes to the Conformity Rule that could impact conformity determinations.

(Rule 1200-03-34-.01, continued)

10. Emissions reduction credit from control measures that are not included in the transportation plan and TIP and that do not require a regulatory action in order to be implemented may not be included in the emissions analysis unless written commitments to implementation are obtained by the MPO (or TDOT, where applicable) prior to the conformity determination and such commitments must be fulfilled by the implementing entities. This rule satisfies the requirement of 40 CFR §93.122(a)(4)(ii).
  11. Written commitments to mitigation measures for project-level mitigation and control measures must be obtained by FHWA (or FTA for transit related projects), from project sponsors, prior to a positive project-level conformity determination, and that project sponsors must comply with such commitments. This rule satisfies the requirement of 40 CFR §93.125(c).
  12. In order to assure the most recent planning assumptions are in place at the time the conformity analysis begins, the “time the conformity analysis begins” is to be determined by interagency consultation. This point in time should occur at the point at which the MPO (or TDOT, when applicable) or other designated agency begins to model the impact of the transportation plan or TIP on travel and/or emissions. New data that becomes available after an analysis begins is required to be used in the conformity determination only if a significant delay in the analysis has occurred, as determined through interagency consultation.
  13. Consultation shall be undertaken, and conducted in accordance with this rule, to evaluate events which will trigger new conformity determinations in addition to those triggering events established in 40 CFR §93.104, including any changes in planning assumptions, that may trigger a new conformity determination. The consultation process pursuant to this rule shall be initiated by FHWA, EPA, TAPCD, TDOT, or the MPO where one exists.
- (e) Implementation Plans:
1. Any proposed revisions to the SIP, which may have a direct or indirect effect upon the motor vehicle emissions budget for an area subject to conformity, shall be made available to the MPOs specified in this rule, as well as TDOT, FHWA, FTA, and EPA in written or electronic form for their review and comment at least thirty (30) days before presentation to the Tennessee Air Pollution Control Board. Shorter review periods may be allowed occasionally in emergency situations with participant concurrence.
  2. TAPCD shall also provide the public a period from the date of announcement to comment on any proposed SIP revisions which may have a direct or indirect effect upon the motor vehicle emissions budget for an area subject to conformity, as defined in subparagraph (h) of this paragraph.
  3. Any proposed revisions to the SIP shall include documentation on methods of analysis, models employed and purpose of the revision.
- (f) Other processes:
1. TAPCD shall be responsible for the process whereby MPOs, local air agencies, TDOT, FHWA, FTA and EPA shall study and develop supplementary consultation procedures to identify, evaluate and address, as needed, the following issues. In the absence of supplementary consultation procedures,

(Rule 1200-03-34-.01, continued)

TAPCD will include the following items for discussion during interagency consultation meetings in advance of a conformity determination:

- (i) Hot spot analysis methods, models and assumptions;
  - (ii) Determination of regionally significant projects and projects considered to have a significant change in design concept and scope;
  - (iii) Evaluating when exempt projects should be treated as non-exempt;
  - (iv) Timely implementation of TCMs and processing of TCM substitutions;
  - (v) Identifying conformity determination triggers other than those established in 40 CFR §93.104; and
  - (vi) Methods, models and assumptions for regional emissions analysis.
2. These supplementary procedures (in part 1 of this subparagraph) may be specific for each metropolitan area or each nonattainment or maintenance area subject to the conformity rule.
  3. TAPCD shall conduct meetings to discuss any supplementary consultation procedures as needed.
  4. Final document distribution for conformity determinations associated with Plans, TIPs and STIPs (occasionally, alternate schedules may be used with concurrence by participants):
    - (i) The final air quality conformity determination, necessary supporting documentation and the Plan and TIP will be submitted to the FHWA Division Office, the FTA Regional Office, the EPA Regional Office, TDOT, TAPCD and any applicable local air agencies. EPA will respond in writing, to the FTA Regional Office and FHWA Division Office, as soon as possible but not later than thirty (30) days from the date received;
    - (ii) Comments will be resolved by FHWA and FTA, in concert with EPA, with the MPO or TDOT, in their respective areas, as necessary;
    - (iii) FHWA and FTA will jointly prepare correspondence to make the conformity finding. Joint conformity findings will be addressed to the MPO (or TDOT where no MPO exists), with a copy to TDOT, EPA, TAPCD and any applicable local air agencies. The findings of FTA and FHWA together constitute the DOT conformity findings;
    - (iv) In the event that the MPO or TDOT in their respective areas, wishes to amend the TIP to add projects that are exempt from the conformity analysis requirement, FHWA or FTA or both, if necessary, will concur in the amendment and re-affirm the original DOT conformity finding by letter. This re-affirmation letter will reference the date(s) of the original FHWA and FTA findings. In cases where the amendment involves projects that are not exempt, a new conformity analysis and determination will be required, and will, in turn, require a new DOT conformity finding.

Within fifteen (15) days subsequent to approval and adoption of final documents, including transportation plans, TIPs, conformity determinations, applicable implementation plans and implementation plan revisions, the lead agency shall

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provide copies (electronic copies acceptable) of such documents and supporting information to all affected agencies.

5. Generalized hot-spot determination process:

Interagency consultation shall be undertaken to evaluate and choose a model(s), associated methods and planning assumptions to be used in hot-spot analyses.

Generalized hot-spot determination process (occasionally, alternate schedules may be used with concurrence by participants):

- (i) The project sponsor (or TDOT or the MPO), will seek consensus if the project is believed to be exempt from hot-spot analysis. This can be accomplished through electronic transmittal, providing for a minimum of fourteen (14) days for review. If requested, an additional fourteen (14) days will be provided for review, as well as any additional information needed to make the determination;
- (ii) If the project is not exempt, the project sponsor (or TDOT or the MPO) will collect and organize and distribute specific data needed to determine whether nonexempt projects are or are not of air quality concern. This can be accomplished through electronic transmittal, providing for a minimum of fourteen (14) days for review. If requested, an additional fourteen (14) days will be provided for review, as well as any additional information needed to make the determination;
- (iii) If it is determined the project is a project of air quality concern, the project sponsor (or TDOT or the MPO) will then engage and begin a consultation process to evaluate and choose a model (or models) and associated methods and assumptions to be used in hot-spot analysis. The project sponsor (or TDOT or the MPO) will make a PM<sub>2.5</sub> hot-spot determination (i.e., project-level conformity determination) and request that other stakeholder agencies comment on the conclusions through formal interagency consultation as provided in this rule.

6. Regionally significant projects:

For purposes of regional emissions analysis, the MPO (TDOT where no MPO exists) shall actively consult with the affected agencies to determine which minor arterials and other transportation projects should be considered "regionally significant" projects (in addition to those functionally classified as principal arterial or higher or fixed guideway systems or extensions that offer an alternative to regional highway travel) and which projects should be considered to have a significant change in design concept and scope from the transportation plan or TIP. Prior to initiating any final action on these issues, the MPO (or TDOT, if applicable) shall consider the views of each agency that comments and respond in writing.

7. Transportation Control Measures (TCMs):

- (i) For each Plan or TIP update, the agencies specified in this rule to participate in consultation shall review whether past obstacles to implementation of Transportation Control Measures (TCMs) which are behind the schedule established in the applicable implementation plan are being overcome, and whether State and local agencies with influence over approval or funding for TCMs are giving maximum priority to approval or



(Rule 1200-03-34-.01, continued)

funding for TCMs. If necessary, consideration will be given as to whether delays in TCM implementation necessitate revisions to the applicable implementation plan to remove TCMs or substitute TCMs or other emission reduction measures.

- (ii) Where TCMs are to be included in an applicable implementation plan, a list of TCMs shall be developed by TDEC (and local air agencies, if applicable) in cooperation with the MPO, TDOT, or both.

8. Exempt projects which may be non-exempt:

The MPO (or TDOT where applicable) shall commence consultation regarding potentially exempt projects to (occasionally, alternate schedules may be used with concurrence by participants):

- (i) Identify exempt project as defined by 40 CFR §93.126 Table 2, and 40 CFR §93.127 Table 3;
- (ii) Identify exempt projects and categories of exempt projects which should be treated as non-exempt because they may have adverse air quality impacts and determine appropriate air quality analysis methodologies for analyzing such projects; and
- (iii) Identify transportation Plan and TIP/STIP revisions which add or delete exempt projects, as defined in 40 CFR §93.126 Table 2 and 40 CFR §93.127 Table 3.

The MPO (or TDOT where applicable), will seek consensus from the consultation participants if the project is believed to be exempt. This can be accomplished through electronic transmittal, providing for a minimum of fourteen (14) days for review. If requested, an additional fourteen (14) days will be provided for review, as well as any additional information needed to make the determination.

9. Multi-jurisdictional consultation:

Agencies specified in this rule will consult on emissions analysis for transportation activities which cross the borders of MPOs or nonattainment areas or air basins. Where the nonattainment area crosses the boundaries of multiple MPOs, the MPOs shall share cooperatively the responsibilities of conducting conformity determinations on transportation activities. The MPOs will enter into a memorandum of agreement which will define the effective boundaries and the respective responsibilities for each MPO for regional emissions analysis. Adjacent MPOs of nonattainment or maintenance areas shall share information concerning air quality modeling assumptions and emissions rates that affect both areas. This provision also applies to MPOs and TDOT where the nonattainment area extends beyond the MPO's boundary. TAPCD and/or local air agencies (where applicable) will initiate consultation with other states when nonattainment areas extend beyond Tennessee's borders.

10. Project disclosure:

- (i) The sponsor of any potentially regionally significant project, and any agency that is responsible for taking action(s) on any such project, shall disclose such project to TDOT or the MPO (whichever is appropriate) in a timely manner. Such disclosure shall be made not later than the first occasion on which any of the following actions is sought: any policy board

(Rule 1200-03-34-.01, continued)

action necessary for the project to proceed, the issuance of administrative permits for the facility or for construction of the facility, the execution of a contract to design or construct the facility, the execution of any indebtedness for the facility, any final action of a board, commission or administrator authorizing or directing employees to proceed with design, permitting or construction of the project, or the execution of any contract to design or construct or any approval needed for any facility that is dependent on the completion of the regionally significant project. To help assure timely disclosure, the sponsor of any potential regionally significant project shall disclose to TDOT or the MPO (whichever is appropriate) on a schedule prescribed by TDOT or the MPO (whichever is appropriate), but no less than annually, each project for which alternatives have been identified through the NEPA process, and any preferred alternative that may be a regionally significant project. The consultation process shall include assuming the location, design concept and scope of the project, where the sponsor has not yet decided these features, in sufficient detail to allow the MPO (or TDOT) to perform a regional emissions analysis. This consultation process pursuant to this rule shall be initiated by TDOT, or the MPO, where one exists;

- (ii) In the case of any such regionally significant project that has not been disclosed to the MPO and other interested agencies participating in the consultation process in a timely manner, such regionally significant project shall not be considered to be included in the regional emissions analysis supporting the current conformity determination and not to be consistent with the motor vehicle emissions budget in the applicable implementation plan or interim budget.

11. Transportation model development:

An interagency consultation process in accordance with the interagency consultation procedures outlined in this rule shall be undertaken for the design, schedule, and funding of research and data collection efforts related to regional transportation model development (such as household/ travel transportation surveys), to be initiated by MPOs (or TDOT, if applicable).

12. Responding to significant comments:

If the written response to a significant comment does not adequately address the commenting agency's concerns, further consultation is to be conducted. If a regularly scheduled meeting is to be held within a reasonable time frame of the receipt of the significant comment, it should be made a part of that meeting's agenda and information on the issue will be forwarded to all involved agencies. If necessary, discussion and resolution of the significant comment will be considered a reason to convene a special meeting with the commenting agency as the requester and the agenda consisting of the significant comment.

(g) Resolving conflicts:

Any conflict among State agencies or between State agencies and the MPO shall be escalated to the Governor if the conflict cannot be resolved by the heads of the involved agencies. All agencies involved shall make every effort to resolve any differences, including personal meetings between the heads of such agencies or their policy-level representatives, to the extent possible. The appeal process described herein shall apply only to MPO (or TDOT) approved conformity determinations on the transportation plan, TIP, or projects (including project-level determinations), including

(Rule 1200-03-34-.01, continued)

any documents directly related to determinations of conformity and conflicts between state agencies or between one or more state agency(ies) and the MPO. Conflicts regarding SIPs should be appealed to the State or Local Air Pollution Control Board as appropriate.

1. In the event that the MPO or TDOT determines that every effort has been made to address TAPCD concerns and no further progress is possible, the MPO or TDOT shall notify the Director of TAPCD in writing to this effect. The memorandum shall delineate each unresolved issue to be appealed, and shall include, at a minimum:
  - (i) The legal basis of the issue/conflict and steps taken to resolve the conflict;
  - (ii) Relevant reference material needed to facilitate review and mediation of the conflict, including all relevant portions of state and federal law and regulations, conformity requirements, and any other relevant documents;
  - (iii) A description of all reasonable alternatives and supporting data and justification for each alternative. This includes quantifying and documenting the need for the recommended alternative consistent with the Clean Air Act of 1990 and the applicable state and federal laws and regulations; and
  - (iv) An explanation of the consequences of not reaching a resolution.
2. If conflicts concerning conformity determinations cannot be resolved by the interagency consultation procedures, then the State air agency shall notify the agency or agencies involved in the conflict of its intent to escalate the conflict resolution to the Office of the Governor.
3. The fourteen (14) calendar day window shall commence:
  - (i) On the date that the Technical Secretary of TAPCD and head of the agency or agencies involved in the conflict officially agree that the conflict cannot be resolved; or
  - (ii) When one or more agencies other than TAPCD request the start of the fourteen (14) day clock on a specified date, after notifying all other agencies involved of their intent, and TAPCD agrees.
4. If TAPCD does not contact the Office of the Governor within the fourteen (14) calendar day window, then the issue in conflict is considered to be resolved in favor of the agency in conflict with TAPCD.
5. The Governor may delegate his or her role, but not to the head or staff of TAPCD, TDOT, a state transportation commission or board, or an MPO.
6. TAPCD shall notify involved parties of the final decision by the Office of the Governor.
7. In the case of interstate nonattainment areas, if the conflict involves agencies outside of Tennessee, and the conflict cannot be resolved by the affected agency heads, the conflicts may be resolved in a manner mutually agreed to by the parties involved.

(h) Public participation:

(Rule 1200-03-34-.01, continued)

1. Each agency subject to conformity shall provide the general public a window of opportunity no less than thirty (30) days to review and comment on new conformity determinations before formal action (approval or endorsement by an executive committee of the MPO, or where no MPO exists, TDOT management, for submission to FTA/FHWA for their finding) is taken on all transportation plans, TIPs and STIPs, consistent with these requirements and those of 23 CFR §450.316(a). A comment period of no less than fourteen (14) days will be made available to the public on amendments to conformity determinations and associated documents. TAPCD and local air agencies shall offer the public the same opportunity to comment before final action on SIPs which may have a direct or indirect effect upon the motor vehicle emissions budget for an area subject to conformity. The notification process shall include, at a minimum, public notices and submittals to public depositories. In addition, all public comments that specifically address known plans for a regionally significant project, which is not receiving FHWA or FTA funding or approval, and have not been properly reflected in the emissions analysis supporting a proposed conformity determination for a transportation plan or TIP, must be responded to, in writing, within thirty (30) days of the end of the comment period.
2. The public participation procedure defined in part 1 of this subparagraph shall not be construed as superseding public involvement procedures already in effect for agencies subject to the conformity consultation process, such as the MPOs' citizen involvement process, the Uniform Administrative Procedures Act (T.C.A. §§ 4-5-101 *et seq.*), the Tennessee Sunshine Law (T.C.A. §§ 8-44-101 *et seq.*), or any other established process which already meets or exceeds these standards. In addition, this subparagraph does not apply to project-level conformity determinations subject to NEPA where a NEPA public participation process exists.
3. The public or any interested party may also inspect any of the documents related to the conformity process upon request; any charges imposed on the public for inspection or copying documents related to the conformity process shall be consistent with (or no greater than) the fee schedule contained in 49 CFR §7.43.

Exhibit A: Illustrative list of stakeholders subject to consultation as per this rule:

Federal Agencies:

United State Environmental Protection Agency (EPA)  
Federal Transit Administration (FTA)  
Federal Highway Administration (FHWA)

State Agencies:

Tennessee Air Pollution Control Division (TAPCD)  
Tennessee Department of Transportation (TDOT)

Local Air Agencies:

Air Pollution Control Program, Memphis/Shelby County Health Department  
Division of Pollution Control, Metropolitan Health Department for Davidson County  
Department of Air Quality Management, Knox County Health Department  
Air Pollution Control Bureau, Chattanooga/Hamilton County

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Metropolitan Planning Organizations:

Chattanooga-Hamilton County Regional Planning Agency  
 Clarksville-Montgomery County Regional Planning Commission  
 Knoxville Regional Transportation Planning Organization  
 Memphis-Shelby County Department of Regional Services  
 Nashville Metropolitan Planning Organization

**Authority:** T.C.A. §§ 68-201-105. **Administrative History:** Original rule filed March 29, 1995; effective June 14, 1995. Amendment filed August 31, 2001; effective November 14, 2001. Repeal and new rule filed January 18, 2012; effective April 17, 2012.

**1200-03-34-.02 CONFORMITY OF GENERAL FEDERAL ACTIONS.**

- (1) Adopted herein by reference are the federal regulations in Paragraph (2) of this rule as published in the Code of Federal Regulations (CFR ) as Subpart W of 40 CFR § 51.850 et seq., Federal Register November 30, 1993
- (2) SUBPART W -- DETERMINING CONFORMITY OF GENERAL FEDERAL ACTIONS TO STATE OR FEDERAL IMPLEMENTATION PLANS

§51.850 Prohibition.

- (a) No department, agency or instrumentality of the Federal Government shall engage in, support in any way or provide financial assistance for, license or permit, or approve any activity which does not conform to an applicable implementation plan.
- (b) A Federal agency must make a determination that a Federal action conforms to the applicable implementation plan in accordance with the requirements of this rule before the action is taken.
- (c) The preceding sentence does not include Federal actions where either:
  - (1) A National Environmental Policy Act (NEPA) analysis was completed as evidenced by a final environmental assessment (EA), environmental impact statement (EIS), or finding of no significant impact (FONSI) that was prepared prior to January 31, 1994, or
  - (2) (i) Prior to January 31, 1994, an EA was commenced or a contract was awarded to develop the specific environmental analysis;
  - (ii) Sufficient environmental analysis is completed by March 15, 1994 so that the Federal agency may determine that the Federal action is in conformity with the specific requirements and the purposes of the applicable SIP pursuant to the agency's affirmative obligation under section 176(c) of the Clean Air Act (Act); and
  - (iii) A written determination of conformity under section 176(c) of the Act has been made by the Federal agency responsible for the Federal action by March 15, 1994.
- (d) Notwithstanding any provision of this subpart, a determination that an action is in conformance with the applicable implementation plan does not exempt the action from any other requirements of the applicable implementation plan, the NEPA, or the Act.

§51.851 State implementation plan (SIP) revision.

(Rule 1200-03-34-.02, continued)

- (a) Each State must submit to the Environmental Protection Agency (EPA) a revision to its applicable implementation plan which contains criteria and procedures for assessing the conformity of Federal actions to the applicable implementation plan, consistent with this subpart. The State must submit the conformity provisions within 12 months after November 30, 1993, or within 12 months of an area's designation to nonattainment, whichever date is later.
- (b) The Federal conformity rules under this subpart and 40 CFR part 93, in addition to any existing applicable State requirements, establish the conformity criteria and procedures necessary to meet the Act requirements until such time as the required conformity SIP revision is approved by EPA. A State's conformity provisions must contain criteria and procedures that are no less stringent than the requirements described in this subpart. A State may establish more stringent conformity criteria and procedures only if they apply equally to non-Federal as well as Federal entities. Following EPA approval of the State conformity provisions (or a portion thereof) in a revision to the applicable SIP, the approved (or approved portion of the) State criteria and procedures would govern conformity determinations and the Federal conformity regulations contained in 40 CFR part 93 would apply only for the portion, if any, of the State's conformity provisions that is not approved by EPA. In addition, any previously applicable SIP requirements relating to conformity remain enforceable until the State revises its SIP to specifically remove them from the SIP and that revision is approved by EPA.

#### §51.852 Definitions.

Terms used but not defined in this part shall have the meaning given them by the Act and EPA's regulations (40 CFR chapter 1), in that order of priority.

Affected Federal land manager means the Federal agency or the Federal official charged with direct responsibility for management of an area designated as Class I under 42 U.S.C. 7472 of the Act that is located within 100 km of the proposed Federal action.

Applicable implementation plan or applicable SIP means the portion (or portions) of the SIP or most recent revision thereof, which has been approved under section 110 of the Act, or promulgated under section 110(c) of the Act (Federal implementation plan), or promulgated or approved pursuant to regulations promulgated under section 301(d) of the Act and which implements the relevant requirements of the Act.

Areawide air quality modeling analysis means an assessment on a scale that includes the entire nonattainment or maintenance area which uses an air quality dispersion model to determine the effects of emissions on air quality.

Cause or contribute to a new violation means a Federal action that:

- (1) Causes a new violation of a national ambient air quality standard (NAAQS) at a location in a nonattainment or maintenance area which would otherwise not be in violation of the standard during the future period in question if the Federal action were not taken, or
- (2) Contributes, in conjunction with other reasonably foreseeable actions, to a new violation of a NAAQS at a location in a nonattainment or maintenance area in a manner that would increase the frequency or severity of the new violation.

Caused by, as used in the terms "direct emissions" and "indirect emissions," means emissions that would not otherwise occur in the absence of the Federal action.

Criteria pollutant or standard means any pollutant for which there is established a NAAQS at 40 CFR part 50.

(Rule 1200-03-34-.02, continued)

Direct emissions means those emissions of a criteria pollutant or its precursors that are caused or initiated by the Federal action and occur at the same time and place as the action.

Emergency means a situation where extremely quick action on the part of the Federal agencies involved is needed and where the timing of such Federal activities makes it impractical to meet the requirements of this rule, such as natural disasters like hurricanes or earthquakes, civil disturbances such as terrorist acts, and military mobilizations.

Emissions budgets are those portions of the applicable SIP's projected emissions inventories that describe the levels of emissions (mobile, stationary, area, etc.) that provide for meeting reasonable further progress milestones, attainment, and/or maintenance for any criteria pollutant or its precursors.

Emission offsets, for purposes of section 51.858, are emissions reductions which are quantifiable, consistent with the applicable SIP attainment and reasonable further progress demonstrations, surplus to reductions required by, and credited to, other applicable SIP provisions, enforceable at both the State and Federal levels, and permanent within the time frame specified by the program.

Emissions that a Federal agency has a continuing program responsibility for means emissions that are specifically caused by an agency carrying out its authorities, and does not include emissions that occur due to subsequent activities, unless such activities are required by the Federal agency. Where an agency, in performing its normal program responsibilities, takes actions itself or imposes conditions that result in air pollutant emissions by a non-Federal entity taking subsequent actions, such emissions are covered by the meaning of a continuing program responsibility.

EPA means the Environmental Protection Agency.

Federal action means any activity engaged in by a department, agency, or instrumentality of the Federal government, or any activity that a department, agency or instrumentality of the Federal government supports in any way, provides financial assistance for, licenses, permits, or approves, other than activities related to transportation plans, programs, and projects developed, funded, or approved under title 23 U.S.C. or the Federal Transit Act (49 U.S.C. 1601 et seq.). Where the Federal action is a permit, license, or other approval for some aspect of a non-Federal undertaking, the relevant activity is the part, portion, or phase or the non-Federal undertaking that requires the Federal permit, license, or approval.

Federal agency means, for purposes of this rule, a Federal department, agency, or instrumentality of the Federal government.

Increase the frequency or severity of any existing violation of any standard in any area means to cause a nonattainment area to exceed a standard more often or to cause a violation at a greater concentration than previously existed and/or would otherwise exist during the future period in question, if the project were not implemented.

Indirect emissions means those emissions of a criteria pollutant or its precursors that:

- (1) Are caused by the Federal action, but may occur later in time and/or may be farther removed in distance from the action itself but are still reasonably foreseeable; and
- (2) The Federal agency can practicably control and will maintain control over due to a continuing program responsibility of the Federal agency.

Local air quality modeling analysis means an assessment of localized impacts on a scale smaller than the entire nonattainment or maintenance area, including, for example, congested roadway intersections and highways or transit terminals, which uses an air quality dispersion model to determine the effects of emissions on air quality.

(Rule 1200-03-34-.02, continued)

Maintenance area means an area with a maintenance plan approved under section 175A of the Act.

Maintenance plan means a revision to the applicable SIP, meeting the requirements of section 175A of the Act.

Metropolitan Planning Organization (MPO) is that organization designated as being responsible, together with the State, for conducting the continuing, cooperative, and comprehensive planning process under 23 U.S.C. 134 and 49 U.S.C. 1607.

Milestone has the meaning given in sections 182(g)(1) and 189(c)(1) of the Act.

National ambient air quality standards (NAAQS) are those standards established pursuant to section 109 of the Act and include standards for carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO<sub>2</sub>), ozone, particulate matter (PM-10), and sulfur dioxide (SO<sub>2</sub>).

NEPA is the National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321 et seq.).

Nonattainment Area (NAA) means an area designated as nonattainment under section 107 of the Act and described in 40 CFR part 81.

Precursors of a criteria pollutant are:

- (1) For ozone, nitrogen oxides (NO<sub>x</sub>), unless an area is exempted from NO<sub>x</sub> requirements under section 182(f) of the Act, and volatile organic compounds (VOC); and
- (2) For PM-10, those pollutants described in the PM-10 nonattainment area applicable SIP as significant contributors to the PM-10 levels.

Reasonably foreseeable emissions are projected future indirect emissions that are identified at the time the conformity determination is made; the location of such emissions is known and the emissions are quantifiable, as described and documented by the Federal agency based on its own information and after reviewing any information presented to the Federal agency.

Regional water and/or wastewater projects include construction, operation, and maintenance of water or wastewater conveyances, water or wastewater treatment facilities, and water storage reservoirs which affect a large portion of a nonattainment or maintenance area.

Regionally significant action means a Federal action for which the direct and indirect emissions of any pollutant represent 10 percent or more of a nonattainment or maintenance area's emissions inventory for that pollutant.

Total of direct and indirect emissions means the sum of direct and indirect emissions increases and decreases caused by the Federal action; i.e., the "net" emissions considering all direct and indirect emissions. The portion of emissions which are exempt or presumed to conform under section 51.853, paragraphs (c), (d), (e), or (f) are not included in the "total of direct and indirect emissions." The "total of direct and indirect emissions" includes emissions of criteria pollutants and emissions of precursors of criteria pollutants.

#### §51.853 Applicability.

- (a) Conformity determinations for Federal actions related to transportation plans, programs, and projects developed, funded, or approved under title 23 U.S.C. or the Federal Transit Act (49 U.S.C. 1601 et seq.) must meet the procedures and criteria of 40 CFR part 51, subpart T, in lieu of the procedures set forth in this subpart.



(Rule 1200-03-34-.02, continued)

(b) For Federal actions not covered by paragraph (a) of this section, a conformity determination is required for each pollutant where the total of direct and indirect emissions in a nonattainment or maintenance area caused by a Federal action would equal or exceed any of the rates in paragraphs (b)(1) or (2) of this section.

(1) For purposes of paragraph (b) of this section, the following rates apply in nonattainment areas (NAAs):

|  | Tons/Year |
|--|-----------|
| Ozone (VOC's or NOx)   |           |
| Serious NAA's  | 50        |
| Severe NAA's   | 25        |
| Extreme NAA's  | 10        |
| Other ozone NAA's outside an ozone transport region          | 100       |
| Marginal and moderate NAA's inside an ozone transport region |           |
| VOC  | 50        |
| NOx  | 100       |
| Carbon monoxide  |           |
| All NAA's  | 100       |
| SO <sub>2</sub> or NO <sub>2</sub>                           |           |
| All NAA's  | 100       |
| PM-10  |           |
| Moderate NAA's   | 100       |
| Serious NAA's  | 70        |
| Pb   |           |
| All NAA's  | 25        |

(2) For purposes of paragraph (b) of this section, the following rates apply in maintenance areas:

|   | Tons/Year |
|---|-----------|
| Ozone (NOx), SO <sub>2</sub> or NO <sub>2</sub>     |           |
| All Maintenance Areas                               | 100       |
| Ozone (VOC's)                                       |           |
| Maintenance areas inside an ozone transport region  | 50        |
| Maintenance areas outside an ozone transport region | 100       |
| Carbon monoxide                                     |           |
| All maintenance areas                               | 100       |
| PM-10   |           |
| All maintenance areas                               | 100       |
| Pb  |           |
| All maintenance areas                               | 25        |

(c) The requirements of this subpart shall not apply to:

- (1) Actions where the total of direct and indirect emissions are below the emissions levels specified in paragraph (b) of this section.
- (2) The following actions which would result in no emissions increase or an increase in emissions that is clearly de minimus:

(Rule 1200-03-34-.02, continued)

- (i) Judicial and legislative proceedings.
- (ii) Continuing and recurring activities such as permit renewals where activities conducted will be similar in scope and operation to activities currently being conducted.
- (iii) Rulemaking and policy development and issuance.
- (iv) Routine maintenance and repair activities, including repair and maintenance of administrative sites, roads, trails, and facilities.
- (v) Civil and criminal enforcement activities, such as investigations, audits, inspections, examinations, prosecutions, and the training of law enforcement personnel.
- (vi) Administrative actions such as personnel actions, organizational changes, debt management or collection, cash management, internal agency audits, program budget proposals, and matters relating to the administration and collection of taxes, duties and fees.
- (vii) The routine, recurring transportation of material and personnel.
- (viii) Routine movement of mobile assets, such as ships and aircraft, in home port reassignments and stations (when no new support facilities or personnel are required) to perform as operational groups and/or for repair or overhaul.
- (ix) Maintenance dredging and debris disposal where no new depths are required, applicable permits are secured, and disposal will be at an approved disposal site.
- (x) Actions, such as the following, with respect to existing structures, properties, facilities and lands where future activities conducted will be similar in scope and operation to activities currently being conducted at the existing structures, properties, facilities, and lands; for example, relocation of personnel, disposition of federally-owned existing structures, properties, facilities, and lands, rent subsidies, operation and maintenance cost subsidies, the exercise of receivership or conservatorship authority, assistance in purchasing structures, and the production of coins and currency.
- (xi) The granting of leases, licenses such as for exports and trade, permits, and easements where activities conducted will be similar in scope and operation to activities currently being conducted.
- (xii) Planning, studies, and provision of technical assistance.
- (xiii) Routine operation of facilities, mobile assets and equipment.
- (xiv) Transfers of ownership, interests, and titles in land, facilities, and real and personal properties, regardless of the form or method of the transfer.
- (xv) The designation of empowerment zones, enterprise communities, or viticultural areas.

(Rule 1200-03-34-.02, continued)

- (xvi) Actions by any of the Federal banking agencies or the Federal Reserve Banks, including actions regarding charters, applications, notices, licenses, the supervision or examination of depository institutions or depository institution holding companies, access to the discount window, or the provision of financial services to banking organizations or to any department, agency or instrumentality of the United States.
  - (xvii) Actions by the Board of Governors of the Federal Reserve System or any Federal Reserve Bank to effect monetary or exchange rate policy.
  - (xviii) Actions that implement a foreign affairs function of the United States.
  - (xix) Actions (or portions thereof) associated with transfers of land, facilities, title, and real properties through an enforceable contract or lease agreement where the delivery of the deed is required to occur promptly after a specific, reasonable condition is met, such as promptly after the land is certified as meeting the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and where the Federal agency does not retain continuing authority to control emissions associated with the lands, facilities, title, or real properties.
  - (xx) Transfers of real property, including land, facilities, and related personal property from a Federal entity to another Federal entity and assignments of real property, including land, facilities, and related personal property from a Federal entity to another Federal entity for subsequent deeding to eligible applicants.
  - (xxi) Actions by the Department of the Treasury to effect fiscal policy and to exercise the borrowing authority of the United States.
- (3) The following actions where the emissions are not reasonably foreseeable:
- (i) Initial Outer Continental Shelf lease sales which are made on a broad scale and are followed by exploration and development plans on a project level.
  - (ii) Electric power marketing activities that involve the acquisition, sale and transmission of electric energy.
- (4) Actions which implement a decision to conduct or carry out a conforming program such as prescribed burning actions which are consistent with a conforming land management plan.
- (d) Notwithstanding the other requirements of this subpart, a conformity determination is not required for the following Federal actions (or portion thereof):
- (1) The portion of an action that includes major new or modified stationary sources that require a permit under the new source review (NSR) program (section 173 of the Act) or the prevention of significant deterioration (PSD) program (title I, part C of the Act).
  - (2) Actions in response to emergencies or natural disasters such as hurricanes, earthquakes, etc., which are commenced on the order of hours or days after the emergency or disaster and, if applicable, which meet the requirements of paragraph (e) of this section;

(Rule 1200-03-34-.02, continued)

- (3) Research, investigations, studies, demonstrations, or training [other than those exempted under section 51.853(c)(2)], where no environmental detriment is incurred and/or, the particular action furthers air quality research, as determined by the State agency primarily responsible for the applicable SIP;
  - (4) Alteration and additions of existing structures as specifically required by new or existing applicable environmental legislation or environmental regulations (e.g., hush houses for aircraft engines and scrubbers for air emissions).
  - (5) Direct emissions from remedial and removal actions carried out under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and associated regulations to the extent such emissions either comply with the substantive requirements of the PSD/NSR permitting program or are exempted from other environmental regulation under the provisions of CERCLA and applicable regulations issued under CERCLA.
- (e) Federal actions which are part of a continuing response to an emergency or disaster under section 51.853(d)(2) and which are to be taken more than 6 months after the commencement of the response to the emergency or disaster under section 51.853(d)(2) are exempt from the requirements of this subpart only if:
- (1) The Federal agency taking the actions makes a written determination that, for a specified period not to exceed an additional 6 months, it is impractical to prepare the conformity analyses which would otherwise be required and the actions cannot be delayed due to overriding concerns for public health and welfare, national security interests and foreign policy commitments; or
  - (2) For actions which are to be taken after those actions covered by paragraph (e)(1) of this section, the Federal agency makes a new determination as provided in paragraph (e)(1) of this section.
- (f) Notwithstanding other requirements of this subpart, actions specified by individual Federal agencies that have met the criteria set forth in either paragraph (g)(1) or (g)(2) and the procedures set forth in paragraph (h) of this section are presumed to conform, except as provided in paragraph (j) of this section.
- (g) The Federal agency must meet the criteria for establishing activities that are presumed to conform by fulfilling the requirements set forth in either paragraph (g)(1) or (g)(2) of this section:
- (1) The Federal agency must clearly demonstrate using methods consistent with this rule that the total of direct and indirect emissions from the type of activities which would be presumed to conform would not:
    - (i) Cause or contribute to any new violation of any standard in any area;
    - (ii) Interfere with provisions in the applicable SIP for maintenance of any standard;
    - (iii) Increase the frequency or severity of any existing violation of any standard in any area; or
    - (iv) Delay timely attainment of any standard or any required interim emission reductions or other milestones in any area including, where applicable, emission levels specified in the applicable SIP for purposes of:

(Rule 1200-03-34-.02, continued)

- (A) A demonstration of reasonable further progress;
  - (B) A demonstration of attainment; or
  - (C) A maintenance plan; or
- (2) The Federal agency must provide documentation that the total of direct and indirect emissions from such future actions would be below the emission rates for a conformity determination that are established in paragraph (b) of this section, based, for example, on similar actions taken over recent years.
- (h) In addition to meeting the criteria for establishing exemptions set forth in paragraphs (g)(1) or (g)(2) of this section, the following procedures must also be complied with to presume that activities will conform:
- (1) The Federal agency must identify through publication in the Federal Register its list of proposed activities that are presumed to conform and the basis for the presumptions;
  - (2) The Federal agency must notify the appropriate EPA Regional Office(s), State and local air quality agencies and, where applicable, the agency designated under section 174 of the Act and the MPO and provide at least 30 days for the public to comment on the list of proposed activities presumed to conform;
  - (3) The Federal agency must document its response to all the comments received and make the comments, response, and final list of activities available to the public upon request; and
  - (4) The Federal agency must publish the final list of such activities in the Federal Register.
- (i) Notwithstanding the other requirements of this subpart, when the total of direct and indirect emissions of any pollutant from a Federal action does not equal or exceed the rates specified in paragraph (b) of this section, but represents 10 percent or more of a nonattainment or maintenance area's total emissions of that pollutant, the action is defined as a regionally significant action and the requirements of section 51.850 and sections 51.855-860 shall apply for the Federal action.
- (j) Where an action otherwise presumed to conform under paragraph (f) of this section is a regionally significant action or does not in fact meet one of the criteria in paragraph (g)(1) of this section, that action shall not be presumed to conform and the requirements of section 51.850 and sections 51.855-860 shall apply for the Federal action.
- (k) The provisions of this subpart shall apply in all nonattainment and maintenance areas.

#### §51.854 Conformity analysis.

Any Federal department, agency, or instrumentality of the Federal government taking an action subject to this subpart must make its own conformity determination consistent with the requirements of this subpart. In making its conformity determination, a Federal agency must consider comments from any interested parties. Where multiple Federal agencies have jurisdiction for various aspects of a project, a Federal agency may choose to adopt the analysis of another Federal agency or develop its own analysis in order to make its conformity determination.

#### §51.855 Reporting requirements.

(Rule 1200-03-34-.02, continued)

- (a) A Federal agency making a conformity determination under section 51.858 must provide to the appropriate EPA Regional Office(s), State and local air quality agencies and, where applicable, affected Federal land managers, the agency designated under section 174 of the Act and the MPO a 30 day notice which describes the proposed action and the Federal agency's draft conformity determination on the action.
- (b) A Federal agency must notify the appropriate EPA Regional Office(s), State and local air quality agencies and, where applicable, affected Federal land managers, the agency designated under section 174 of the Clean Air Act and the MPO within 30 days after making a final conformity determination under section 51.858.

§51.856 Public participation.

- (a) Upon request by any person regarding a specific Federal action, a Federal agency must make available for review its draft conformity determination under section 51.858 with supporting materials which describe the analytical methods and conclusions relied upon in making the applicability analysis and draft conformity determination.
- (b) A Federal agency must make public its draft conformity determination under section 51.858 by placing a notice by prominent advertisement in a daily newspaper of general circulation in the area affected by the action and by providing 30 days for written public comment prior to taking any formal action on the draft determination. This comment period may be concurrent with any other public involvement, such as occurs in the NEPA process.
- (c) A Federal agency must document its response to all the comments received on its draft conformity determination under section 51.858 and make the comments and responses available, upon request by any person regarding a specific Federal action, within 30 days of the final conformity determination.
- (d) A Federal agency must make public its final conformity determination under section 51.858 for a Federal action by placing a notice by prominent advertisement in a daily newspaper of general circulation in the area affected by the action within 30 days of the final conformity determination.

§51.857 Frequency of conformity determinations.

- (a) The conformity status of a Federal action automatically lapses 5 years from the date a final conformity determination is reported under section 51.855, unless the Federal action has been completed or a continuous program has been commenced to implement that Federal action within a reasonable time.
- (b) Ongoing Federal activities at a given site showing continuous progress are not new actions and do not require periodic redeterminations so long as such activities are within the scope of the final conformity determination reported under section 51.855.
- (c) If, after the conformity determination is made, the Federal action is changed so that there is an increase in the total of direct and indirect emissions above the levels in section 51.853(b), a new conformity determination is required.

§51.858 Criteria for determining conformity of general Federal actions.

- (a) An action required under section 51.853 to have a conformity determination for a specific pollutant, will be determined to conform to the applicable SIP if, for each pollutant that exceeds the rates in section 51.853, paragraph (b), or otherwise requires

(Rule 1200-03-34-.02, continued)

a conformity determination due to the total of direct and indirect emissions from the action, the action meets the requirements of paragraph (c) of this section, and meets any of the following requirements:

- (1) For any criteria pollutant, the total of direct and indirect emissions from the action are specifically identified and accounted for in the applicable SIP's attainment or maintenance demonstration;
- (2) For ozone or nitrogen dioxide, the total of direct and indirect emissions from the action are fully offset within the same nonattainment or maintenance area through a revision to the applicable SIP or a similarly enforceable measure that effects emission reductions so that there is no net increase in emissions of that pollutant;
- (3) For any criteria pollutant, except ozone and nitrogen dioxide, the total of direct and indirect emissions from the action meet the requirements:
  - (i) Specified in paragraph (b) of this section, based on areawide air quality modeling analysis and local air quality modeling analysis; or
  - (ii) Meet the requirements of paragraph (a)(5) and, for local air quality modeling analysis, the requirement of paragraph (b) of this section;
- (4) For CO or PM-10,
  - (i) Where the State agency primarily responsible for the applicable SIP determines that an areawide air quality modeling analysis is not needed, the total of direct and indirect emissions from the action meet the requirements specified in paragraph (b) of this section, based on local air quality modeling analysis; or
  - (ii) Where the State agency primarily responsible for the applicable SIP determines that an areawide air quality modeling analysis is appropriate and that a local air quality modeling analysis is not needed, the total of direct and indirect emissions from the action meet the requirements specified in paragraph (b) of this section, based on areawide modeling, or meet the requirements of paragraph (a)(5) of this section; or
- (5) For ozone or nitrogen dioxide, and for purposes of paragraphs (a)(3)(ii) and (a)(4)(ii) of this section, each portion of the action or the action as a whole meets any of the following requirements:
  - (i) Where EPA has approved a revision to an area's attainment or maintenance demonstration after 1990 and the State makes a determination as provided in paragraph (2)(5)(i)(A) of this section; or where the State makes a commitment as provided in paragraph (2)(5)(i)(B) of this section;
    - (A) The total of direct and indirect emissions from the action (or portion thereof) is determined and documented by the State agency primarily responsible for the applicable SIP to result in a level of emissions which, together with all other emissions in the nonattainment (or maintenance) area, would not exceed the emissions budgets specified in the applicable SIP;

(Rule 1200-03-34-.02, continued)

- (B) The total of direct and indirect emissions from the action (or portion thereof) is determined by the State agency responsible for the applicable SIP to result in a level of emissions which, together with all other emissions in the nonattainment (or maintenance) area, would exceed an emissions budget specified in the applicable SIP and the State Governor or the Governor's designee for SIP actions makes a written commitment to EPA which includes the following:
- (1) A specific schedule for adoption and submittal of a revision to the SIP which would achieve the needed emission reductions prior to the time emissions from the Federal action would occur;
  - (2) Identification of specific measures for incorporation into the SIP which would result in a level of emissions which, together with all other emissions in the nonattainment or maintenance area, would not exceed any emissions budget specified in the applicable SIP;
  - (3) A demonstration that all existing applicable SIP requirements are being implemented in the area for the pollutants affected by the Federal action, and that local authority to implement additional requirements has been fully pursued;
  - (4) A determination that the responsible Federal agencies have required all reasonable mitigation measures associated with their action; and
  - (5) Written documentation including all air quality analyses supporting the conformity determination.
- (C) Where a Federal agency made a conformity determination based on a State commitment under paragraph (a)(5)(i)(B) of this section, such a State commitment is automatically deemed a call for a SIP revision by EPA under section 110(k)(5) of the Act, effective on the date of the Federal conformity determination and requiring response within 18 months or any shorter time within which the State commits to revise the applicable SIP;
- (ii) The action (or portion thereof), as determined by the MPO, is specifically included in a current transportation plan and transportation improvement program which have been found to conform to the applicable SIP under 40 CFR part 51, subpart T, or 40 CFR part 93, subpart A;
  - (iii) The action (or portion thereof) fully offsets its emissions within the same nonattainment or maintenance area through a revision to the applicable SIP or an equally enforceable measure that effects emission reductions equal to or greater than the total of direct and indirect emissions from the action so that there is no net increase in emissions of that pollutant;
  - (iv) Where EPA has not approved a revision to the relevant SIP attainment or maintenance demonstration since 1990, the total of direct and indirect emissions from the action for the future years [described in paragraph (d) of section 51.859] do not increase emissions with respect to the baseline emissions;



(Rule 1200-03-34-.02, continued)

- (A) The baseline emissions reflect the historical activity levels that occurred in the geographic area affected by the proposed Federal action during:
    - (1) Calendar year 1990;
    - (2) The calendar year that is the basis for the classification (or, where the classification is based on multiple years, the most representative year), if a classification is promulgated in 40 CFR part 81; or
    - (3) The year of the baseline inventory in the PM-10 applicable SIP;
  - (B) The baseline emissions are the total of direct and indirect emissions calculated for the future years [described in paragraph (d) of section 51.859] using the historic activity levels [described in paragraph (a)(5)(iv)(A) of this section] and appropriate emission factors for the future years; or
  - (v) Where the action involves regional water and/or wastewater projects, such projects are sized to meet only the needs of population projections that are in the applicable SIP.
- (b) The areawide and/or local air quality modeling analyses must:
- (1) Meet the requirements in section 51.859; and
  - (2) Show that the action does not:
    - (i) Cause or contribute to any new violation of any standard in any area; or
    - (ii) Increase the frequency or severity of any existing violation of any standard in any area.
  - (c) Notwithstanding any other requirements of this section, an action subject to this subpart may not be determined to conform to the applicable SIP unless the total of direct and indirect emissions from the action is in compliance or consistent with all relevant requirements and milestones contained in the applicable SIP, such as elements identified as part of the reasonable further progress schedules, assumptions specified in the attainment or maintenance demonstration, prohibitions, numerical emission limits, and work practice requirements.
  - (d) Any analyses required under this section must be completed, and any mitigation requirements necessary for a finding of conformity must be identified before the determination of conformity is made.

§51.859 Procedures for conformity determinations of general Federal actions.

- (a) The analyses required under this subpart must be based on the latest planning assumptions.
  - (1) All planning assumptions must be derived from the estimates of population, employment, travel, and congestion most recently approved by the MPO, or other agency authorized to make such estimates, where available.

(Rule 1200-03-34-.02, continued)

- (2) Any revisions to these estimates used as part of the conformity determination, including projected shifts in geographic location or level of population, employment, travel, and congestion, must be approved by the MPO or other agency authorized to make such estimates for the urban area.
- (b) The analyses required under this subpart must be based on the latest and most accurate emission estimation techniques available as described below, unless such techniques are inappropriate. If such techniques are inappropriate and written approval of the EPA Regional Administrator is obtained for any modification or substitution, they may be modified or another technique substituted on a case-by-case basis or, where appropriate, on a generic basis for a specific Federal agency program.
- (1) For motor vehicle emissions, the most current version of the motor vehicle emissions model specified by EPA and available for use in the preparation or revision of SIPs in that State must be used for the conformity analysis as specified below:
    - (i) The EPA must publish in the Federal Register a notice of availability of any new motor vehicle emissions model; and
    - (ii) A grace period of three months shall apply during which the motor vehicle emissions model previously specified by EPA as the most current version may be used. Conformity analyses for which the analysis was begun during the grace period or no more than 3 years before the Federal Register notice of availability of the latest emission model may continue to use the previous version of the model specified by EPA.
  - (2) For non-motor vehicle sources, including stationary and area source emissions, the latest emission factors specified by EPA in the "Compilation of Air Pollutant Emission Factors (AP-42)" must be used for the conformity analysis unless more accurate emission data are available, such as actual stack test data from stationary sources which are part of the conformity analysis.
- (c) The air quality modeling analyses required under this subpart must be based on the applicable air quality models, data bases, and other requirements specified in the most recent version of the "Guideline on Air Quality Models (Revised)" (1986), including supplements (EPA publication no. 450/2-78-027R), unless:
- (1) The guideline techniques are inappropriate, in which case the model may be modified or another model substituted on a case-by-case basis or, where appropriate, on a generic basis for a specific Federal agency program; and
  - (2) Written approval of the EPA Regional Administrator is obtained for any modification or substitution.
- (d) The analyses required under this subpart, except section 51.858(a)(1), must be based on the total of direct and indirect emissions from the action and must reflect emission scenarios that are expected to occur under each of the following cases:
- (1) The Act mandated attainment year or, if applicable, the farthest year for which emissions are projected in the maintenance plan;
  - (2) The year during which the total of direct and indirect emissions from the action is expected to be the greatest on an annual basis; and
  - (3) Any year for which the applicable SIP specifies an emissions budget.

(Rule 1200-03-34-.02, continued)

§51.860 Mitigation of air quality impacts.

- (a) Any measures that are intended to mitigate air quality impacts must be identified and the process for implementation and enforcement of such measures must be described, including an implementation schedule containing explicit timelines for implementation.
- (b) Prior to determining that a Federal action is in conformity, the Federal agency making the conformity determination must obtain written commitments from the appropriate persons or agencies to implement any mitigation measures which are identified as conditions for making conformity determinations.
- (c) Persons or agencies voluntarily committing to mitigation measures to facilitate positive conformity determinations must comply with the obligations of such commitments.
- (d) In instances where the Federal agency is licensing, permitting or otherwise approving the action of another governmental or private entity, approval by the Federal agency must be conditioned on the other entity meeting the mitigation measures set forth in the conformity determination.
- (e) When necessary because of changed circumstances, mitigation measures may be modified so long as the new mitigation measures continue to support the conformity determination. Any proposed change in the mitigation measures is subject to the reporting requirements of section 51.856 and the public participation requirements of section 51.857.
- (f) The implementation plan revision required in section 51.851 of this subpart shall provide that written commitments to mitigation measures must be obtained prior to a positive conformity determination and that such commitments must be fulfilled.
- (g) After a State revises its SIP to adopt its general conformity rules and EPA approves that SIP revision, any agreements, including mitigation measures, necessary for a conformity determination will be both State and federally enforceable. Enforceability through the applicable SIP will apply to all persons who agree to mitigate direct and indirect emissions associated with a Federal action for a conformity determination.

**Authority:** T.C.A. §§ 4-5-201 et. seq. and 68-201-105. **Administrative History:** Original rule filed March 29, 1995; effective June 14, 1995.

**RULES  
OF  
TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
BUREAU OF ENVIRONMENT  
DIVISION OF AIR POLLUTION CONTROL**

**CHAPTER 1200-3-35  
RESERVED**

**RULES  
OF  
TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
BUREAU OF ENVIRONMENT  
DIVISION OF AIR POLLUTION CONTROL**

**CHAPTER 1200-3-36  
MOTOR VEHICLE TAMPERING**

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**1200-3-36-.01 PURPOSE.** The purpose of this chapter is to reduce the air pollution caused by tampering with a motor vehicle emissions system.

**Authority:** TCA 68-201-105, 68-201-120, and 4-5-202. **Administrative History:** Original rule filed October 15, 2004; effective December 29, 2004.

**1200-3-36-.02 DEFINITIONS.** Unless specifically defined in this chapter, the definitions from Chapters 1200-3-2 and 1200-3-29 shall apply:

- (1) Aftermarket part means any part offered for sale for installation in or on a motor vehicle after such vehicle has left the vehicle manufacturer's production line.
- (2) Air pollution emission control device is a mechanism or equipment installed on a motor vehicle by the manufacturer that controls and reduces generated emissions that would otherwise be released into the atmosphere.
- (3) Antique motor vehicle is any motor vehicle over twenty-five years old which is owned solely as a collectors' item and is used for participation in club activities, exhibits, tours, parades and similar uses, but in no event for general transportation.
- (4) Catalytic converter is an air pollution emission control device containing a catalyst for converting automobile exhaust into mostly harmless products.
- (5) Department means the Tennessee Department of Environment and Conservation, Division of Air Pollution Control.
- (6) EGR valve means an exhaust gas recirculation valve.
- (7) Federal Motor Vehicle Standards are the required emission standards as defined in Title 40, Code of Federal Regulations, Parts 86 and 88.
- (8) Individual is a private citizen who may or may not be the owner or operator of the motor vehicle that performs engine, transmission, and/or exhaust system repairs without obtaining the services of a repair technician provided that all repairs are in accordance with Rule 1200-3-36-.03.
- (9) Kit Car means a motor vehicle which does not utilize a chassis from a vehicle certified to meet emissions control standards or for which the original manufacturer's identification has been eliminated due to the replacement of the vehicle's body with one of a different make and/or style.
- (10) Leaded gasoline means gasoline containing greater than five hundredths (0.050) gram of lead per gallon of gasoline.

(Rule 1200-3-36-.02, continued)

- (11) Motor vehicle is any self-propelled vehicle used for transporting persons or commodities on public roads.
- (12) New motor vehicle is any motor vehicle that has never been previously titled or registered in this or any other jurisdiction and whose ownership document remains as a manufacturer's certificate of origin.
- (13) Repair means to replace any component of an engine, transmission, exhaust, and/or electrical system of a motor vehicle.
- (14) Repair facility is any garage, muffler shop, dealership, or other commercial establishment that performs engine, transmission, and/or exhaust system repairs, including electronic computer systems associated with the above-mentioned systems, on motor vehicles.
- (15) Repair technician is any person who:
  - (a) is professionally engaged full-time in vehicle repair or employed by an ongoing business whose purpose is vehicle repair, or
  - (b) is a certified mechanic with valid certifications that are current from the National Institute for Automotive Service Excellence (ASE) in Electrical Systems (A6), Engine Performance (A8), and Advanced Engine Performance Specialist (L1); or
  - (c) has satisfactorily completed an independent or vehicle manufacturer's training course, or has passed a nationally-recognized test, which course or test covers the emissions test methods used, diagnosis of the causes for failures, and repair work most frequently done for vehicles failing the transient emission test.
- (16) Routine maintenance is the replacing of motor vehicle parts that routinely wear as a result of normal operation.
- (17) Tampering means to modify, remove, render inoperative, cause to be removed, or make less operative any air pollution emission control device or element of design installed on a motor vehicle or motor vehicle engine which results in an increase in emissions beyond established federal motor vehicle standards. Tampering includes, but is not limited to, any of the following:
  - (a) Removing or rendering inoperative such devices as catalytic converter, air pump, or EGR valve;
  - (b) Disconnecting or plugging vacuum lines or electrical or mechanical portions of the pollution control system such as electrical solenoids or vacuum-activated valves;
  - (c) Modifying a motor vehicle's emission control design to other than the manufacturer's specifications;
  - (d) Installing any replacement part that is not equivalent in design and function to the part that was originally on the motor vehicle;
  - (e) Adding a part on a motor vehicle that does not meet the manufacturer's specifications, such as installation of dual carburetors to replace a single carburetor, or installing a dual exhaust prior to the catalytic converter on a vehicle that was manufactured as single exhaust only;
  - (f) Installing a motor vehicle engine unless the resulting motor vehicle is identical to a configuration of the same or newer model year as the original motor vehicle chassis. This configuration must comply with the federal motor vehicle standards;

(Rule 1200-3-36-.02, continued)

- (g) Introducing leaded gasoline or any gasoline additive into a motor vehicle that was originally designed to use unleaded gasoline only that would result in the poisoning of the catalyts;
  - (h) Installing any electrical device that is attached to the motor vehicle's computer system that is designed to give false onboard diagnostic readiness codes and is used as an attempt to pass the onboard diagnostic test;
  - (i) Introducing any chemical or fuel into the gasoline other than what is recommended by the manufacturer to be an approved fuel or fuel additive;
  - (j) Detuning the motor vehicle engine to a lower or higher idle to run out of manufacturer's design specifications;
  - (k) Operating the motor vehicle without the appropriate fuel cap or the appropriate fuel inlet restrictor;
  - (l) Installing high performance chips which reprogram or override the motor vehicle's on-board computer system; and
  - (m) Installing any aftermarket part that does not meet the manufacturer's specifications.
- (18) Technical Secretary is the Technical Secretary of the Air Pollution Control Board of the State of Tennessee or his designated representative.
- (19) Vehicle owner is any individual, business, or corporation that holds the title to a motor vehicle.

**Authority:** TCA 68-201-105, 68-201-120, and 4-5-202. **Administrative History:** Original rule filed October 15, 2004; effective December 29, 2004.

#### **1200-3-36-.03 MOTOR VEHICLE TAMPERING PROHIBITED.**

- (1) No person shall cause, suffer, allow, or permit tampering of a motor vehicle or motor vehicle engine that is in compliance with federal motor vehicle standards except where the purpose of modification or removal of the air pollution emission control device is to install another device which is equally effective in reducing emissions from the vehicle.
- (2) No person shall manufacture, sell, offer to sell, or install any part or component on a motor vehicle or motor vehicle engine where the purpose of the part or component is to bypass, defeat, or render inoperative any device or element of design installed on or in a motor vehicle or motor vehicle engine that is in compliance with the federal motor vehicle standards.
- (3) No person shall perform emission related repairs on any part of a motor vehicle that is in a tampered state unless such repairs are performed that bring the vehicle into compliance with federal motor vehicle standards. This provision applies regardless of the age or mileage of a vehicle that was designed to meet federal motor vehicle standards.

**Authority:** TCA 68-201-105, 68-201-120, and 4-5-202. **Administrative History:** Original rule filed October 15, 2004; effective December 29, 2004.

#### **1200-3-36-.04 RECORD KEEPING REQUIREMENTS.**

- (1) The repair facility and/or the person performing the repairs, and the vehicle owner shall maintain a complete record of all emission repairs (as related to the manufacturer's warranty) for a minimum

(Rule 1200-3-29-.04, continued)

period of one (1) year from the date of the repair. These documents must contain the following: vehicle identification number (VIN), vehicle make, vehicle model, model year, name, address and telephone number of the vehicle owner.

- (2) In the event of a catalytic converter replacement, the old replaced catalyst must be kept for a minimum of fifteen (15) days. The new replacement catalyst must be accompanied by a copy of the warranty tag issued with it.

**Authority:** TCA 68-201-105, 68-201-120, and 4-5-202. **Administrative History:** *Original rule filed October 15, 2004; effective December 29, 2004.*

#### **1200-3-36-.05 EXEMPTIONS.**

- (1) The Technical Secretary may exempt any motor vehicle or motor vehicle engine from Rule 1200-3-36-.03 subsection (1) or (2) upon such terms and conditions as he may find necessary for the purpose of investigations, demonstrations, or training.
- (2) The following classes of motor vehicles are exempt from the requirements established in Rule 1200-3-36-.03 of this chapter:
  - (a) antique motor vehicles
  - (b) kit cars
- (3) Routine maintenance and repair of motor vehicles and motor vehicle engines which require the use of an aftermarket part, alteration or add-on part will not constitute tampering if the repair does not adversely affect emissions performance.

**Authority:** TCA 68-201-105, 68-201-120, and 4-5-202. **Administrative History:** *Original rule filed October 15, 2004; effective December 29, 2004.*



RULES  
OF  
THE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
BUREAU OF ENVIRONMENT  
DIVISION OF AIR POLLUTION CONTROL

CHAPTER 1200-03-37  
REPEALED

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**1200-03-37-.01    REPEALED.**

**Authority:** T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq. **Administrative History:** Original rule filed June 15, 2007; effective August 29, 2007. Repeal filed October 10, 2012; effective January 8, 2013.

**Uniform Administrative Procedures Act, Tenn. Code Ann. §§ 4-5-101 to -502**

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## **Directions to the Davy Crockett Tower, Conference Room 1-A and Parking.**

Upon entry to the Davy Crockett Tower, you will scan your badge at the security gate. Pass the elevators, turn left, at the end of the hallway turn left, Conference room 1-A will be straight ahead.

Participants that do not have State of Tn issued badge will be required to check-in at the building's security desk. You will need to provide a driver's license or other photo ID or your State ID in order to obtain a visitors badge.

Drink and Snack machines are available on the 1<sup>st</sup> floor break room.

Nearby downtown parking is located at:

Garage 9

Lot 14

Lot 8

Lot 12, Handicap parking area only

# Parking Lots Around DCT



Unassigned/General Parking  
For all State Staff



Reserved Parking

TDEC staff visiting the DCT  
will need to use  
unassigned/general parking.

TDEC staff can request  
visitor parking for their  
guests through [FormStack](#)

