PUBLIC NOTICE

Viskase Companies, Inc. has applied to the Tennessee Department of Environment and Conservation, Division of Air Pollution Control for renewal of their existing major source (Title V) operating permit subject to the provisions of Tennessee Air Pollution Control Regulations 1200-03-09-.02(11) (Title V Regulations). A major source operating permit is required by both the Federal Clean Air Act and Tennessee's air pollution control regulations. However, it should be noted that this facility has a current major source operating permit.

The Title V operating renewal permit is identified as follows: Division identification number 53-0003/577428. The applicant is Viskase Companies, Inc. (Facility ID 53-0003; Division renewal permit no. 577428) with a site address of 106 Blair Bend Drive, Loudon, TN. They seek to renew their major source operating permit for cellulose casing production.

EPA has agreed to treat this draft permit as a proposed Part 70 significant permit modification and to perform its 45-day review provided by the law concurrently with the public notice period. If any substantive comments are received, EPA's 45- day review period will cease to be performed concurrently with the public notice period. In this case, EPA's 45-day review period will start once the public notice period has been completed and EPA receives notification from the Tennessee Air Pollution Control Division that comments have been received and resolved. The status regarding EPA's 45-day review of these permits and the deadline for submitting a citizen's petition can be found at the following website address:

https://www.epa.gov/caa-permitting/tennessee-proposed-title-v-permits

Copies of the application materials and draft/proposed permit are available for public inspection during normal business hours at the following locations:

Tennessee Department of Environment and Conservation
Knoxville Environmental Field Office
Division of Air Pollution Control
3711 Middlebrook Pike
Knoxville, TN 37921

and

Tennessee Department of Environment and Conservation
Division of Air Pollution Control
William R. Snodgrass Tennessee Tower, 15th Floor
312 Rosa L. Parks Avenue
Nashville, TN 37243

Also, if you require a copy of the draft/ proposed permit it is available electronically by accessing the TDEC Air Pollution Control Public Participation Opportunity (APC PPO) page:

http://www.tn.gov/environment/ppo-public-participation/ppo-public-participation/ppo-air.html

Questions concerning the source may be addressed to John Trimmer at (615) 532-0552 or by e-mail at John.Trimmer@tn.gov.

Interested parties are invited to review these materials and comment. In addition, a public hearing may be requested at which written or oral presentations may be made. To be considered, written comments or requests for a public hearing must be received no later than 4:30 PM on May 1, 2024. To assure that written comments are received and addressed in a timely manner, written comments must be submitted using one of the following methods:

1. **Mail, private carrier, or hand delivery:** Address written comments to Ms. Michelle W. Owenby, Director, Division of Air Pollution Control, William R. Snodgrass Tennessee Tower, 15th Floor, 312 Rosa L. Parks Avenue, Nashville, Tennessee 37243.

2. **E-mail**: Submit electronic comments to air.pollution.control@tn.gov.

A final determination will be made after weighing all relevant comments.

Individuals with disabilities who wish to review information maintained at the above-mentioned depositories should contact the Tennessee Department of Environment and Conservation to discuss any auxiliary aids or services needed to facilitate such review. Such contact may be in person, by writing, telephone, or other means, and should be made no less than ten days prior to the end of the public comment period to allow time to provide such aid or services. Contact the Tennessee Department of Environment and Conservation ADA Coordinator, William R. Snodgrass Tennessee Tower, 312 Rosa L. Parks Avenue 22nd Floor, Nashville, TN 37243, 1-(866)-253-5827. Hearing impaired callers may use the Tennessee Relay Service, 1-(800)-848-0298.

STATE OF TENNESSEE
AIR POLLUTION CONTROL BOARD
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
NASHVILLE, TENNESSEE 37243

OPERATING PERMIT (TITLE V) Issued Pursuant to Tennessee Air Quality Act

This permit fulfills 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 CFR Part 70. (FR Vol. 57, No. 140, Tuesday, July 21, 1992 p.32295-32312). This permit is issued in accordance with the provisions of paragraph 1200-03-09-.02(11) of the Tennessee Air Pollution Control Regulations (TAPCR). The permittee has been granted permission to operate an air contaminant source in accordance with emissions limitations and monitoring requirements set forth herein.

Date Issued: **TBD, 2024**

Date Expires: **TBD, 202X**

Permit Number:
577428

Issued To:
Viskase Companies, Inc.

Installation Address:
106 Blair Bend Drive
Loudon

Installation Description:

Cellulose Food Casing Manufacturing Plant:	
01- Fuel Burning Installation (Boilers 3, 4, and 5)	**MACT Subpart DDDDD, NSPS Subpart Dc**
03- Cellulose Casing Production	**MACT Subpart UUUU**
07- Chemical Storage Tanks	**MACT Subpart UUUU**
15- Lime Storage and Handling	
23– Emergency Engine	**MACT Subpart ZZZZ**

Facility ID: 53-0003

Renewal Application Due Date:
Between TBD, 202X and TBD, 202X

Primary SIC: 30

Information Relied Upon:
Title V Renewal application dated August 29, 2019
Letter dated March 26, 2024

(continued on the next page)

DRAFT
TECHNICAL SECRETARY

No Authority is Granted by this Permit to Operate, Construct, or Maintain any Installation in Violation of any Law, Statute, Code, Ordinance, Rule, or Regulation of the State of Tennessee or any of its Political Subdivisions.

POST AT INSTALLATION ADDRESS

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SECTION A
GENERAL PERMIT CONDITIONS

A permit issued under the provisions of Tennessee Air Pollution Control Regulations (TAPCR) 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 CFR, Part 70.

A1. **Definitions.** Terms not otherwise defined in the permit shall have the meaning assigned to such terms in the referenced regulations.

TAPCR 1200-03 and 0400-30

A2. **Compliance requirement.** All terms and conditions in a permit issued pursuant to TAPCR 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. The permittee shall comply with all conditions of its permit. Except for requirements specifically designated herein as not being federally enforceable (State Only), 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 (State Only) is a violation of the Tennessee Air Quality Act and may be grounds for these actions.

TAPCR 1200-03-09-.02(11)(e)2(i) and 1200-03-09-.02(11)(e)1(vi)(I)

A3. **Need to halt or reduce activity.** 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.

TAPCR 1200-03-09-.02(11)(e)1(vi)(II)

A4. **The permit.** 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.

TAPCR 1200-03-09-.02(11)(e)1(vi)(III)

A5. **Property rights.** The permit does not convey any property rights of any sort, or any exclusive privilege.

TAPCR 1200-03-09-.02(11)(e)1(vi)(IV)

A6. **Submittal of requested information.** 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. Any claims of confidentiality for federal purposes will be determined by EPA.

TAPCR 1200-03-09-.02(11)(e)1(vi)(V)

A7. **Severability clause.** The requirements of this permit are severable. A dispute regarding one or more requirements of this permit does not invalidate or otherwise excuse the permittee from their duty to comply with the remaining portion of the permit.

TAPCR 1200-03-09.02(11)(e)1(v)

A8. **Fee payment.**

(a) The permittee shall pay an annual Title V emission fee based upon the responsible official's choice of actual emissions, allowable emissions, or a combination of actual and allowable emissions; and on the responsible official's choice of annual accounting period. 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 Title V annual emission fee will not be charged for emissions in excess of the cap. Title V annual emission fees will not be charged for carbon monoxide or for greenhouse gas pollutants solely because they are greenhouse gases.

(b) Title V sources shall pay allowable based emission fees until the beginning of the next annual accounting period following receipt of their initial Title V operating permit. At that time, the permittee shall begin paying their Title V fee based upon their choice of actual or allowable based fees, or mixed actual and allowable based fees. Once permitted, the Responsible Official may revise their existing fee choice by submitting a written request to the Division no later than December 31 of the annual accounting period for which the fee is due.

(c) When paying annual Title V emission fees, the permittee shall comply with all provisions of TAPCR Rule 1200-03-26-.02 and paragraph 1200-03-09-.02(11) applicable to such fees.

(d) 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. Major sources subject to the provisions of TAPCR paragraph 1200-03-26-.02(9) shall apportion their emissions as follows to ensure that their fees are not double counted.

1. Sources that are subject to federally promulgated hazardous air pollutant standards that can be imposed under TAPCR Chapter 0400-30-38 or Chapter 1200-03-31 will place such regulated emissions in the regulated hazardous air pollutant (HAP) category.

2. A category of miscellaneous HAPs shall be used for hazardous air pollutants listed at TAPCR part 1200-03-26-.02(2)(i)12 that are not subject to federally promulgated hazardous air pollutant standards under 40 CFR 60, 61, or 63 or TAPCR chapter 1200-03-31.

3. HAPs that are also in the family of volatile organic compounds, particulate matter, or PM_{10} shall not be placed in either the regulated HAP category or miscellaneous HAP category.

4. Sources that are subject to a provision of TAPCR chapter 1200-03-16 New Source Performance Standards (NSPS) or chapter 0400-30-39 Standards of Performance for New Stationary Sources for pollutants that are neither particulate matter, PM_{10}, sulfur dioxide (SO_2), volatile organic compounds (VOC), nitrogen oxides (NO_x), or hazardous air pollutants (HAPs) will place such regulated emissions in an NSPS pollutant category.

5. The regulated HAP category, the miscellaneous HAP category, and the NSPS pollutant category are each subject to the 4,000 ton cap provisions of TAPCR subparagraph 1200-03-26-.02(2)(i).

6. Major sources that wish to pay annual emission fees for PM_{10} on an allowable emission basis may do so if they have a specific PM_{10} allowable emission standard. If a major source has a total particulate emission standard, but wishes to pay annual emission fees on an actual PM_{10} emission basis, it may do so if the PM_{10} actual emission levels are proven to the satisfaction of the Technical Secretary. The method to demonstrate the actual PM_{10} 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_{10} emissions reported under these options shall not be subject to fees under the family of particulate emissions. The 4,000 ton cap provisions of TAPCR subparagraph 1200-03-26-.02(2)(i) shall also apply to PM_{10} emissions.

TAPCR 1200-03-26-.02 and 1200-03-09-.02(11)(e)1(vii)

A9. **Permit revision not required.** 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.

TAPCR 1200-03-09-.02(11)(e)1(viii)

A10. **Inspection and entry.** Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Technical Secretary or an authorized representative to perform the following for the purposes of determining compliance with the permit applicable requirements:

(a) Enter upon, at reasonable times, the permittee's premises where a source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;

(b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;
(c) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
(d) As authorized by the Clean Air Act and Chapter 1200-03-10 of the TAPCR, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit or applicable requirements.
(e) "Reasonable times" shall be considered to be customary business hours unless reasonable cause exists to suspect noncompliance with the Act, TAPCR 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.

TAPCR 1200-03-09-.02(11)(e)3(ii)

A11. **Permit shield.**
(a) Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements as of the date of permit issuance, provided that:
1. Such applicable requirements are included and are specifically identified in the permit; or
2. 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.
(b) Nothing in this permit shall alter or affect the following:
1. 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;
2. 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;
3. The applicable requirements of the acid rain program, consistent with section 408(a) of the Federal Act; or
4. The ability of EPA to obtain information from a source pursuant to section 114 of the Federal Act.
(c) Permit shield is granted to the permittee.
(d) The permit shield does not apply to permit changes made under the minor permit modification procedures of TAPCR subpart 1200-03-09-.02(11)(f)5(ii) nor the administrative permit amendment procedures of TAPCR part 1200-03-09-.02(11)(f)4, except that the permit shield may be extended for administrative permit amendments that meet the relevant requirements of TAPCR 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.
(e) The permit shield does not apply to off-permit changes made under the operational flexibility provisions of TAPCR part 1200-03-09-.02(11)(a)4.

TAPCR 1200-03-09-.02(11)(e)6 and 1200-03-09-.02(11)(f)4(iv)

A12. **Permit renewal and expiration.**
(a) An application for permit renewal must be submitted at least 180 days, but no more than 270 days, prior to the expiration of this permit. Permit expiration terminates the source's right to operate unless a timely and complete renewal application has been submitted.
(b) If the permittee submits a timely and complete application for permit renewal the source will not be considered to be operating without a permit until the Technical Secretary takes final action on the permit application, except as otherwise noted in TAPCR paragraph 1200-03-09-.02(11).
(c) This permit, its shield provided in Condition A11, and its 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.

TAPCR 1200-03-09-.02(11)(f)2 and 3, 1200-03-09-.02(11)(d)1(i)(III), and 1200-03-09-.02(11)(a)2

A13. **Reopening for cause.**
(a) A permit shall be reopened and revised prior to the expiration of the permit under any of the circumstances listed below:
1. Additional applicable requirements under the Federal Act become applicable to the sources contained in this permit provided the permit has a remaining 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 permit expiration date of this permit, unless the original has been extended pursuant to TAPCR part 1200-03-09-.02(11)(a)2.

2. Additional requirements become applicable to an affected source under the acid rain program.

3. 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.

4. The Technical Secretary or EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements.

(b) 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.

(c) Reopenings for cause 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 affected by the operation of a source that is in compliance with its permit requirements.

(d) If the Administrator finds that cause exists to terminate, modify, or revoke and reissue a permit as identified in A13, 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 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:

1. 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.

2. EPA will evaluate the Technical Secretary's proposed revisions and respond as to their evaluation.

3. If EPA agrees with the proposed revisions, the Technical Secretary shall proceed with the reopening in the same manner prescribed under Condition A13(b) and Condition A13(c).

4. If the Technical Secretary disagrees with either the findings or the Administrator that a permit should be reopened or an objection of the Administrator to a proposed revision to a permit submitted pursuant to Condition A13(d), 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 for 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.

TAPCR 1200-03-09-.02(11)(f)6 and 7

A14. **Permit transference.** An administrative permit amendment 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 the following requirements are met:

(a) Transfer of ownership permit application is filed consistent with the provisions of TAPCR paragraph 1200-03-09-.03(6), and

(b) 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.

TAPCR 1200-03-09-.02(11)(f)4(i)(IV) and 1200-03-09-.03(6)

A15. **Air pollution alert.** When the Technical Secretary has declared that an air pollution alert, an air pollution warning, or an air pollution emergency exists, the permittee must follow the requirements for that episode level as outlined in TAPCR paragraph 1200-03-09-.03(1) and TAPCR Rule 1200-03-15-.03.

A16. **Construction permit required.** Except as exempted in TAPCR Rule 1200-03-09-.04, or excluded in TAPCR subparagraph 1200-03-02-.01(1)(aa) or TAPCR subparagraph 1200-03-02-.01(1)(cc), this facility shall not 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 for the construction or modification of such air contaminant source.

TAPCR 1200-03-09-.01(1)(a)

A17. **Notification of changes.** The permittee shall notify the Technical Secretary 30 days prior to commencement of any of the following changes to an air contaminant source which would not be a modification requiring a construction permit.

(a) change in air pollution control equipment

(b) change in stack height or diameter

(c) change in exit velocity of more than 25 percent or exit temperature of more than 15 percent based on absolute temperature.

TAPCR 1200-03-09-.02(7)

A18. **Schedule of compliance.** The permittee will comply with any applicable requirement that becomes effective during the permit term on a timely basis and no later than required by the provisions of the new applicable requirement. If the permittee is not in compliance the permittee must submit a schedule for coming into compliance which must include a schedule of remedial measure(s), including an enforceable set of deadlines for specific actions.

TAPCR 1200-03-09-.02(11)(d)3, 1200-03-09-.03(8), 0400-30-38, 0400-30-39, and 40 CFR Part 70.5(c)

A19. **Title VI.**

(a) The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR, Part 82, Subpart F, except as provided for motor vehicle air conditioners (MVACs) in Subpart B:

1. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to Section 82.156.

2. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to Section 82.158.

3. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to Section 82.161.

(b) If the permittee performs a service on motor (fleet) vehicles when this service involves ozone depleting substance refrigerant in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR, Part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners.

(c) The permittee shall be allowed to switch from any ozone-depleting substance to any alternative that is listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR, Part 82, Subpart G, Significant New Alternatives Policy Program.

TAPCR 1200-03-09-.03(8)

A20. **112 (r).** Sources which are subject to the provisions of Section 112(r) of the federal Clean Air Act or any federal regulations promulgated thereunder, 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.

TAPCR 1200-03-32-.03(3)

SECTION B

GENERAL CONDITIONS for MONITORING, REPORTING, and ENFORCEMENT

B1. **Recordkeeping.** Monitoring and related record keeping shall be performed in accordance with the requirements specified in the permit conditions for each individual permit unit. In no case shall reports of any required monitoring and record keeping be submitted less frequently than every six months.

(a) Where applicable, records of required monitoring information include the following:

1. The date, place as defined in the permit, and time of sampling or measurements;
2. The date(s) analyses were performed;
3. The company or entity that performed the analysis;
4. The analytical techniques or methods used;
5. The results of such analyses; and
6. The operating conditions as existing at the time of sampling or measurement.

(b) 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.

TAPCR 1200-03-09-.02(11)(e)1(iii)

B2. **Retention of monitoring data.** The permittee shall retain records of all required monitoring data and support information for a period of at least 5 years from the 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.

TAPCR 1200-03-09-.02(11)(e)1(iii)(II)II

B3. **Reporting.** Reports of any required monitoring and record keeping shall be submitted to the Technical Secretary in accordance with the frequencies specified in the permit conditions for each individual permit unit. Reports shall be submitted within 60 days of the close of the reporting period unless otherwise noted. All instances of deviations from permit requirements must be clearly identified in such reports. All required reports must be certified by a responsible official. Reports required under "State only requirements" are not required to be certified by a responsible official.

TAPCR 1200-03-09-.02(11)(e)1(iii)

B4. **Certification.** Except for reports required under “State Only” requirements, any application form, report or compliance certification submitted pursuant to the requirements of this permit shall contain certification by a responsible official of truth, accuracy and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

TAPCR 1200-03-09-.02(11)(d)4

B5. **Annual compliance certification.** The permittee shall submit annually compliance certifications with terms and conditions contained in Sections A, B, D and E of this permit, including emission limitations, standards, or work practices. This compliance certification shall include all of the following (provided that the identification of applicable information may cross-reference the permit or previous reports, as applicable):

(a) The identification of each term or condition of the permit that is the basis of the certification;

(b) 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 by this permit. 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, which prohibits knowingly making a false certification or omitting material information;

(c) 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 B5(b) above. 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 below occurred; and

(d) Such other facts as the Technical Secretary may require to determine the compliance status of the source.

* “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.

** "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.

40 CFR Part 70.6(c)(5)(iii) as amended in the Federal Register Vol. 79, No.144, July 28, 2014, pages 43661 through 43667

B6. **Submission of compliance certification.** The compliance certification shall be submitted to:

The Tennessee Department of Environment and Conservation Environmental Field Office specified in Section E of this permit	and	Air Enforcement Branch US EPA Region IV 61 Forsyth Street, SW Atlanta, Georgia 30303

TAPCR 1200-03-09-.02(11)(e)3(v)(IV)

B7. Reserved

B8. **Excess emissions reporting.**

(a) The permittee shall promptly notify the Technical Secretary when any emission source, air pollution control equipment, or related facility breaks down in such a manner to cause the emission of air contaminants in excess of the applicable emission standards contained in TAPCR Division 1200-03 or any permit issued thereto, or of sufficient duration to cause damage to property or public health. The permittee must provide the Technical Secretary with a statement giving all pertinent facts, including the estimated duration of the breakdown, the probable cause of the deviation, and any corrective actions or preventative measures taken. Violations of the visible emission standard 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 condition causing the failure or breakdown has been corrected. In attainment and unclassified areas if emissions other than from sources designated as significantly impacting on a nonattainment 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.

(b) Any malfunction that creates an imminent hazard to health must be reported by telephone immediately to the Division's Nashville office at (615) 532-0554 and to the State Civil Defense.

(c) A log of all malfunctions, startups, and shutdowns resulting in emissions in excess of the standards in TAPCR Division 1200-03 or any permit issued thereto must be kept at the plant. 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. Any later discovered corrections can be added in the log as footnotes with the reason given for the change. 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

The information under items 1. and 2. must be entered into the log by the end of the shift during which the malfunction or startup began. For any source utilizing continuous emission(s) monitoring, continuous emission(s) monitoring collection satisfies the above log keeping requirement.

TAPCR 1200-03-20-.03 and .04

B9. **Malfunctions, startups and shutdowns - reasonable measures required.** The permittee 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. This provision does not apply to standards found in 40 CFR, Parts 60(Standards of performance for new stationary sources), 61(National emission standards for hazardous air pollutants) and 63(National emission standards for hazardous air pollutants for source categories).

TAPCR 1200-03-20-.02

B10. Reserved.

B11. **Report required upon the issuance of a notice of violation for excess emissions.** The permittee must submit, within twenty days after receipt of the notice of violation, the data required below. If this data has been made available to the Technical Secretary prior to the issuance of the notice of violation no further action is required of the violating source. However, if the source desires to submit additional information, then this must be submitted within the same 20-day time period. The minimum data requirements are:

(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(s) 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.

Failure to submit the required report within the 20-day period specified shall preclude the admissibility of the data for determination of potential enforcement action.

TAPCR 1200-03-20-.06(2), (3) and (4)

SECTION C
PERMIT CHANGES

C1. **Operational flexibility changes.** 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:

(a) The change cannot be subject to a requirement of Title IV of the Federal Act or TAPCR Chapter 1200-03-30.

(b) The change cannot be a modification under any provision of Title I of the federal Act or TAPCR Division 1200-03.

(c) Each change shall meet all applicable requirements and shall not violate any existing permit term or condition.

(d) 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 levels that are specified in TAPCR Rule 1200-03-09-.04.

(e) 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.

(f) The change shall not qualify for a permit shield under the provisions of TAPCR part 1200-03-09-.02(11)(e)6.

(g) 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.

TAPCR 1200-03-09-.02(11)(a)4(ii)

C2. **Section 502(b)(10) changes.**

(a) The permittee can make certain changes without requiring a permit revision, if the changes are not modifications under Title I of the Federal Act or TAPCR Division 1200-03 and the changes do not exceed the emissions allowable under the permit. The permittee must, however, provide the Administrator and Technical Secretary with written notification within a minimum of 7 days in advance of the proposed changes. 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 TAPCR 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 Technical Secretary and EPA shall attach each such notice to their copy of the relevant permit.

(b) The written notification must be signed by a facility Title V responsible official and include the following:

1. a brief description of the change within the permitted facility;

2. the date on which the change will occur;

3. a declaration and quantification of any change in emissions;

4. a declaration of any permit term or condition that is no longer applicable as a result of the change; and

5. a declaration that the requested change is not a Title I modification and will not exceed allowable emissions under the permit.

(c) The permit shield provisions of TAPCR part 1200-03-09-.02(11)(e)6 shall not apply to Section 502(b)(10) changes.

TAPCR 1200-03-09-.02(11)(a)4(i)

C3. **Administrative amendment.**

(a) Administrative permit amendments to this permit shall be in accordance with TAPCR part 1200-03-09-.02(11)(f)4. The source may implement the changes addressed in the request for an administrative amendment immediately upon submittal of the request.

(b) The permit shield shall be extended as part of an administrative permit amendment revision consistent with the provisions of TAPCR part 1200-03-09-.02(11)(e)6 for such revisions made pursuant to item (c) of this condition which meet the relevant requirements of TAPCR subparagraph 1200-03-09-.02(11)(e), TAPCR subparagraph 1200-03-09-.02(11)(f) and TAPCR subparagraph 1200-03-09-.02(11)(g) for significant permit modifications.

(c) 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.

TAPCR 1200-03-09-.02(11)(f)4

C4. Minor permit modifications.

(a) The permittee may submit an application for a minor permit modification in accordance with TAPCR subpart 1200-03-09-.02(11)(f)5(ii).

(b) The permittee may make the change proposed in its minor permit modification immediately after an application is filed with the Technical Secretary.

(c) Proceedings to review and modify permits shall be limited to only those parts of the permit for which cause to modify exists, and not the entire permit.

(d) Minor permit modifications do not qualify for a permit shield.

TAPCR 1200-03-09-.02(11)(f)5(ii)

C5. Significant permit modifications.

(a) The permittee may submit an application for a significant modification in accordance with TAPCR subpart 1200-03-09-.02(11)(f)5(iv).

(b) Proceedings to review and modify permits shall be limited to only those parts of the permit for which cause to modify exists, and not the entire permit.

TAPCR 1200-03-09-.02(11)(f)5(iv)

C6. New construction or modifications.

Future construction at this facility that is subject to the provisions of TAPCR Rule 1200-03-09-.01 shall be governed by the following:

(a) The permittee shall designate in their construction permit application the route that they desire to follow for the purposes of incorporating the newly constructed or modified 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.

(b) Sources desiring the permit shield shall choose the administrative amendment route of TAPCR part 1200-03-09-.02(11)(f)4 or the significant modification route of TAPCR subpart 1200-03-09-.02(11)(f)5(iv).

(c) Sources desiring expediency instead of the permit shield shall choose the minor permit modification procedure route of TAPCR subpart 1200-03-09-.02(11)(f)5(ii) or group processing of minor modifications under the provisions of TAPCR subpart 1200-03-09-.02(11)(f)5(iii) as applicable to the magnitude of their construction.

TAPCR 1200-03-09-.02(11)(d)1(i)(V)

SECTION D
GENERAL APPLICABLE REQUIREMENTS

D1. **Visible emissions.**

(a) With the exception of air emission sources exempt from the requirements of TAPCR Chapter 1200-03-05 and air emission sources for which a different opacity standard is specifically provided elsewhere in this permit, the permittee shall not 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 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 million btu per hour, the permittee shall not cause, suffer, allow, or permit discharge of a visible emission from any fuel burning installation with an opacity in excess of 20 percent (6-minute average) except for one six minute period per one hour of not more than 40 percent opacity. Sources constructed or modified after July 7, 1992, shall utilize 6-minute averaging.

(b) Consistent with the requirements of TAPCR Chapter 1200-03-20, due allowance may be made for visible emissions in excess of that permitted under TAPCR Chapter 1200-03-05 which are necessary or unavoidable due to routine startup and shutdown conditions. The facility shall maintain a continuous, current log of all excess visible emissions showing the time at which such conditions began and ended and that such record shall be available to the Technical Secretary or an authorized representative upon request.

TAPCR 1200-03-05-.01(1), TAPCR 1200-03-05-.03(6) and TAPCR 1200-03-05-.02(1)

D2. **General provisions and applicability for non-process gaseous emissions.** 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.

TAPCR 1200-03-06-.03(2)

D3. **Non-process emission standards.** The permittee shall not cause, suffer, allow, or permit particulate emissions from non-process sources in excess of the standards in TAPCR Chapter 1200-03-06.

D4. **General provisions and applicability for process gaseous emissions.** 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.

TAPCR 1200-03-07-.07(2)

D5. **Particulate emissions from process emission sources.** The permittee shall not cause, suffer, allow, or permit particulate emissions from process sources in excess of the standards in TAPCR part 1200-03-07.

D6. **Sulfur dioxide emission standards.** The permittee shall not cause, suffer, allow, or permit sulfur dioxide emissions from process and non-process sources in excess of the standards in TAPCR Chapter 1200-03-14. Regardless of the specific emission standard, new process sources shall utilize the best available control technology as deemed appropriate by the Technical Secretary of the Tennessee Air Pollution Control Board.

D7. **Fugitive Dust.**

(a) The permittee shall not 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:

1. 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;

2. Application of asphalt, water, or suitable chemicals on dirt roads, material stockpiles, and other surfaces which can create airborne dusts;

3. 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.

(b) The permittee shall not cause, suffer, allow, or permit fugitive dust to be emitted in such manner to exceed five (5) minutes per hour or 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 TAPCR Chapter 1200-03-20.

TAPCR 1200-03-08

D8. **Open burning.** The permittee shall comply with the TAPCR Chapter 1200-03-04 for all open burning activities at the facility.

TAPCR 1200-03-04

D9. **Asbestos.** Where applicable, the permittee shall comply with the requirements of 40 CFR Part 61 when conducting any renovation or demolition activities at the facility.

TAPCR 0400-30-38-.01(2) and 40 CFR, Part 61

D10. **Annual certification of compliance.** The generally applicable requirements set forth in Section D of this permit are intended to apply to activities and sources that are insignificant emission units or activities. By annual certification of compliance with the conditions in this Section the permittee shall be considered to meet the monitoring and related record keeping and reporting requirements of TAPCR subpart 1200-03-09-.02(11)(e)1(iii) and part 1200-03-10-.04(2)(b)1 and the compliance requirements of TAPCR subpart 1200-03-09-.02(11)(e)3(i). The permittee shall submit compliance certification for these conditions annually.

D11. **Emission Standards for Hazardous Air Pollutants.** The permittee shall comply with all applicable requirements of TAPCR Chapter 0400-30-38 for all emission sources subject to a requirement contained therein.

D12. **Standards of Performance for New Stationary Sources.** The permittee shall comply with all applicable requirements of TAPCR chapters 0400-30-39 and 1200-03-16 for all emission sources subject to a requirement contained therein.

D13. **Gasoline Dispensing Facilities.** The permittee shall comply with all applicable requirements of TAPCR Rule 1200-03-18-.24 for all emission sources subject to a requirement contained therein.

D14. **Internal Combustion Engines.**

(a) All stationary reciprocating internal combustion engines, including engines deemed insignificant activities and insignificant emission units, shall comply with the applicable provisions of TAPCR Rule 0400-30-38-.01.
(b) All stationary compression ignition internal combustion engines, including engines deemed insignificant activities and insignificant emission units, shall comply with the applicable provisions of TAPCR Chapter 0400-30-39.
(c) All stationary spark ignition internal combustion engines, including engines deemed insignificant activities and insignificant emission units, shall comply with the applicable provisions of TAPCR Chapter 0400-30-39.

TAPCR 0400-30-38 and 39

SECTION E

SOURCE SPECIFIC EMISSION STANDARDS, OPERATING LIMITATIONS, and MONITORING, RECORDKEEPING and REPORTING REQUIREMENTS

53-0003	Source Description:	Viskase Companies, Inc. is a manufacturer of cellulose food casing products. The synthetic meat casing operations involves producing alkali cellulose, viscose, and synthetic casing.

Conditions E1 through E3-9 apply to all sources in Section E of this permit unless otherwise noted.

E1. Fee payment table follows-

FEE EMISSIONS SUMMARY TABLE FOR MAJOR SOURCE 53-0003

REGULATED POLLUTANTS	ALLOWABLE EMISSIONS (tons per AAP)	ACTUAL EMISSIONS (tons per AAP)	COMMENTS
PARTICULATE MATTER (PM)	**11.46**	**AEAR**	
PM_{10}	**N/A**	**AEAR**	
SO_2	**60.61**	**AEAR**	
VOC	**1,165.82**	**AEAR**	**Includes all fee emissions (with CS_2) (see note below)**
NO_X	**41.43**	**AEAR**	
CATEGORY OF MISCELLANEOUS HAZARDOUS AIR POLLUTANTS (HAP WITHOUT A STANDARD)*			
VOC FAMILY GROUP	N/A	N/A	
NON-VOC GASEOUS GROUP	N/A	N/A	
PM FAMILY GROUP	N/A	N/A	
CATEGORY OF SPECIFIC HAZARDOUS AIR POLLUTANTS (HAP WITH A STANDARD)**			
VOC FAMILY GROUP	**1162.04**	**AEAR**	**Fee emissions are included in VOC above; i.e., CS_2 and 40 CFR 63 Subpart UUUU is applicable**
NON-VOC GASEOUS GROUP	**N/A**	**N/A**	
PM FAMILY GROUP	**N/A**	**N/A**	
CATEGORY OF NSPS POLLUTANTS NOT LISTED ABOVE***			
EACH NSPS POLLUTANT NOT LISTED ABOVE	**285**	**AEAR**	**H_2S**

Note: The VOC emission total includes maximum allowable emissions from source 01 (boiler) of 3.77 tpy, from wastewater treatment from source 03 of 56.2 tpy of fugitive emissions, and from the chemical storage tanks of source 07 of 1.84 tpy of fugitive emissions.

AAP The **Annual Accounting Period** (**AAP**) is a 12 consecutive month period that **either (a) begins each July 1st and ends June 30th of the following year when fees are paid on a fiscal year basis, or (b) begins January 1st and ends December 31st of the same year when paying on a calendar year basis.** The **Annual Accounting Period** at the time of permit renewal issuance **began January 1, 2024, and ends December 31, 2024.** The next Annual Accounting Period begins **January 1, 2025,** and ends **December 31, 2025,** unless a request to change the annual accounting period is submitted by the responsible official as required by

subparagraph 1200-03-26-.02(9)(b) of the TAPCR and approved by the Technical Secretary**.** If the permittee wishes to revise their annual accounting period or their annual emission fee basis as allowed by subparagraph 1200-03-26-.02(9)(b) of the TAPCR, the responsible official must submit the request to the Division in writing on or before December 31 of the annual accounting period for which the fee is due. If a change in fee basis from allowable emissions to actual emissions for any pollutant is requested, the request from the responsible official must include the methods that will be used to determine actual emissions. Changes in fee bases must be made using the Title V Fee Selection form, form number APC 36 (CN-1583), included as Attachment 8 to this permit and available on the Division of Air Pollution Control's website.

N/A **N/A** indicates that no emissions are specified for fee computation.

AEAR If the permittee is paying annual emission fees on an actual emissions basis, **AEAR** indicates that an **A**ctual **E**missions **A**nalysis is **R**equired to determine the actual emissions of:

(1) **each regulated pollutant** (Particulate matter, SO_2, VOC, NO_X and so forth. See TAPCR 1200-03-26-.02(2)(i) for the definition of a regulated pollutant.),
(2) **each pollutant group** (VOC Family, Non-VOC Gaseous, and Particulate Family),
(3) the **Miscellaneous HAP Category,**
(4) the **Specific HAP Category**, and
(5) the **NSPS Category**

under consideration during the **Annual Accounting Period**.

***** **Category Of Miscellaneous HAP (HAP Without A Standard):** This category is made-up of hazardous air pollutants that do not have a federal or state standard. Each HAP is classified into one of three groups, the **VOC Family** group**, the Non-VOC Gaseous** group**,** or the **Particulate (PM) Family** group**. For fee computation**, the **Miscellaneous HAP Category** is subject to the 4,000 ton cap provisions of subparagraph 1200-03-26-.02(2)(i) of the TAPCR.

****** **Category Of Specific HAP (HAP With A Standard):** This category is made-up of hazardous air pollutants (HAP) that are subject to Federally promulgated Hazardous Air Pollutant Standards that can be imposed under Chapter 1200-03-11 or Chapter 1200-03-31. Each individual hazardous air pollutant is classified into one of three groups, the **VOC Family** group**, the Non-VOC Gaseous** group**,** or the **Particulate (PM) Family** group**. For fee computation**, each individual hazardous air pollutant of the **Specific HAP Category** is subject to the 4,000 ton cap provisions of subparagraph 1200-03-26-.02(2)(i) of the TAPCR.

******* **Category Of NSPS Pollutants Not Listed Above:** This category is made-up of each **N**ew **S**ource **P**erformance **S**tandard (**NSPS**) pollutant whose emissions are not included in the **PM**, **SO_2, VOC** or **NO_X** emissions from each source in this permit. **For fee computation**, each **NSPS pollutant not listed above** is subject to the 4,000 ton cap provisions of subparagraph 1200-03-26-.02(2)(i) of the TAPCR.

END NOTES

The permittee shall:

(1) Pay Title V **annual emission fees**, on the emissions and year bases requested by the responsible official and approved by the Technical Secretary, for each annual accounting period (AAP) by the payment deadline(s) established in TAPCR 1200-03-26-.02(9)(g). Fees may be paid on an **actual**, **allowable**, or **mixed** emissions basis; and on either a **state fiscal year** or a **calendar year**, provided the requirements of TAPCR 1200-03-26-.02(9)(b) are met. If any part of any fee imposed under TAPCR 1200-03-26-.02 is not paid within 15 days of the due date, penalties shall at once accrue as specified in TAPCR 1200-03-26-.02(8).

(2) Sources paying annual emissions fees on an allowable emissions basis: pay annual allowable based emission fees for each annual accounting period no later than April 1 of each year pursuant to TAPCR 1200-03-26-.02(9)(d).

(3) Sources paying annual emissions fees on an actual emissions basis: prepare an **actual emissions analysis** for each AAP and pay **actual based emission fees** pursuant to TAPCR 1200-03-26-.02(9)(d). The **actual emissions analysis** shall include:
(a) the completed **Fee Emissions Summary Table**,
(b) each **actual emissions analysis** required**,** and

(c) the actual emission records for each pollutant and each source as required for actual emission fee determination, or a summary of the actual emission records required for fee determination, as specified by the Technical Secretary or the Technical Secretary's representative. The summary must include sufficient information for the Technical Secretary to determine the accuracy of the calculations. These calculations must be based on the annual fee basis approved by the Technical Secretary (a state fiscal year [July 1 through June 30] or a calendar year [January 1 through December 31]). These records shall be used to complete the **actual emissions analyses** required by the above **Fee Emissions Summary Table**.

(4) Sources paying annual emissions fees on a mixed emissions basis: for all pollutants and all sources for which the permittee has chosen an actual emissions basis, prepare an **actual emissions analysis** for each AAP and pay **actual based emission fees** pursuant to TAPCR 1200-03-26-.02(9)(d). The **actual emissions analysis** shall include:

(a) the completed **Fee Emissions Summary Table**,

(b) each **actual emissions analysis** required**,** and

(c) the actual emission records for each pollutant and each source as required for actual emission fee determination, or a summary of the actual emission records required for fee determination, as specified by the Technical Secretary or the Technical Secretary's representative. The summary must include sufficient information for the Technical Secretary to determine the accuracy of the calculations. These calculations must be based on the fee bases approved by the Technical Secretary (payment on an actual or mixed emissions basis) and payment on a state fiscal year (July 1 through June 30) or a calendar year (January 1 through December 31). These records shall be used to complete the **actual emissions analysis**.

For all pollutants and all sources for which the permittee has chosen an allowable emissions basis, pay allowable based emission fees pursuant to TAPCR 1200-03-26-.02(9)(d).

(5) When paying on an actual or mixed emissions basis, submit the **actual emissions analyses** at the time the fees are paid in full.

The annual emission fee due dates are specified in TAPCR 1200-03-26-.02(9)(g) and are dependent on the Responsible Official's choice of fee bases as described above. If any part of any fee imposed under TAPCR 1200-03-26-.02 is not paid within 15 days of the due date, penalties shall at once accrue as specified in TAPCR 1200-03-26-.02(8). Emissions for regulated pollutants shall not be double counted as specified in Condition A8(d) of this permit.

Payment of the fee due and the actual emissions analysis (if required) shall be submitted to The Technical Secretary at the following address:

Payment of Fee to:
The Tennessee Department of Environment and Conservation
Division of Fiscal Services
Consolidated Fee Section – APC
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 10th Floor
Nashville, Tennessee 37243

and

Actual Emissions Analyses to:
The Tennessee Department of Environment and Conservation
Division of Air Pollution Control
Emission Inventory Program
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor
Nashville, Tennessee 37243
or
An electronic copy (PDF) of actual emissions analysis can also be submitted to: apc.inventory@tn.gov

E2. Reporting requirements.

(a) **Semiannual reports.** Semiannual reports shall cover the six-month periods from April 1 to September 30 and October 1 to March 31 and shall be submitted within 60 days after the end of each six-month period. Subsequent reports shall be submitted within 60 days after the end of each 6-month period following the first report. The first semiannual report following issuance of this permit shall cover the following permits and reporting periods:

Permit Number	Reporting Period Begins	Reporting Period Ends
Old permit 567428	1st day of SAR period (with year) April 1, 2024	day before new permit issuance TBD, 2024
New permit 577428	Issuance Date of new permit TBD, 2024	end of SAR period September 30, 2024

These semiannual reports shall include:

(1) Any monitoring and recordkeeping required by conditions **E4-1(b), E4-2, E4-3, E4-5, E4-7, E7-1, E9-2, and E9-3** of this permit. However, a summary report of this data is acceptable provided there is sufficient information to enable the Technical Secretary to evaluate compliance. In addition the report shall address compliance with the emission limitations of condition **E9-4** of this permit.

(2) The visible emission evaluation readings from condition **E3-1A** of this permit if required. However, a summary report of this data is acceptable provided there is sufficient information to enable the Technical Secretary to evaluate compliance.

(3) Identification of all instances of deviations from **ALL PERMIT REQUIREMENTS**. The record of deviations/excursions shall include, at a minimum, the time the deviation/excursion was discovered, the corrective action taken, and the time that the deviation/excursion was rectified.

These reports must be certified by a responsible official consistent with condition B4 of this permit and shall be submitted to The Technical Secretary at the address in Condition E2(b) of this permit.

TAPCR 1200-03-09-.02(11)(e)1.(iii)

(b) **Annual compliance certification.** The permittee shall submit annually compliance certifications with each term or condition contained in Sections A, B, D and E of this permit, including emission limitations, standards, or work practices. This compliance certification shall include all of the following (provided that the identification of applicable information may cross-reference the permit or previous reports, as applicable):

(1) The identification of each term or condition of the permit that is the basis of the certification;

(2) 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 by this permit. 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, which prohibits knowingly making a false certification or omitting material information;

(3) The status of compliance with each term or condition 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 E2(b)2 above. 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 below occurred; and

(4) Such other facts as the Technical Secretary may require to determine the compliance status of the source.

* "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.

** "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.

Annual compliance certifications shall cover the 12-month period from October 1 to September 30 and shall be submitted within 60 days after the end of each 12-month period. The first annual compliance certification following issuance of this permit shall cover the following permits and reporting periods:

Permit Number	Reporting Period Begins	Reporting Period Ends
Old permit 567428	1st day of ACC period October 1, 2023	day before new permit issuance TBD, 2024
New Permit 577428	Issuance Date of new permit TBD, 2024	End of ACC period September 30, 2024

These certifications shall be submitted to: **TN APCD** and **EPA**

The Technical Secretary
Division of Air Pollution Control
Knoxville Environmental Field Office
3711 Middlebrook Pike
Knoxville, TN 37921
or
APC.KnoxEFO@tn.gov

and

US EPA Region IV
61 Forsyth Street, SW
Atlanta, Georgia 30303
or
Through the EPA CDX
(https://cdx.epa.gov/)

40 CFR Part 70.6(c)(5)(iii) as amended in the Federal Register Vol. 79, No.144, July 28, 2014, pages 43661 through 43667
TAPCR 1200-03-09-.02(11)(e)3.(v)

(c) NESHAP Reporting Requirements

Semiannual reports required by 40 CFR 63 Subparts DDDDD (§63.7550), UUUU (§63.5580), and ZZZZ (§63.6650): A separate NESHAP report shall be submitted for each NESHAP subpart, i.e., a separate report for subparts DDDDD, UUUU, and ZZZZ.

For Subpart UUUU Semiannual reports shall cover the six-month periods from April 1 to September 30 and October 1 to March 31 and shall be submitted within 60 days after the end of each six-month period. Subsequent reports shall be submitted within 60 days after the end of each 6-month period following the first report required by permit 577428.

For 40 CFR 63 Subpart UUUU:

Permit Number	Reporting Period Begins	Reporting Period Ends
Old permit 567428	1st day of SAR period (with year) April 1, 2024	day before new permit issuance TBD, 2024
New permit 577428	Issuance Date of new permit TBD, 2024	end of SAR period September 30, 2024

For Subparts DDDDD and ZZZZ semiannual reports shall cover the periods identified in the tables below for the first, second, and third reports after permit issuance. The first report shall be submitted within 30 days after the end of the reporting period and the second and third reports shall be submitted within 60 days after the end of the reporting period.

For 40 CFR 63 Subparts DDDDD and ZZZZ for first report after permit issuance:

Permit Number	Reporting Period Begins	Reporting Period Ends
Old permit 567428	1st day of SAR period (with year) January 1, 2024	day before new permit issuance TBD, 2024
New permit 577428	Issuance Date of new permit TBD, 2024	end of 1st SAR period June 30, 2024

For 40 CFR 63 Subparts DDDDD and ZZZZ for second SAR report after permit issuance:

Permit Number	Reporting Period Begins	Reporting Period Ends
New permit 577428	July 1, 2024	end of 2nd SAR period September 30, 2024

For 40 CFR 63 Subparts DDDDD and ZZZZ for third SAR report after permit issuance:

Permit Number	Reporting Period Begins	Reporting Period Ends
New permit 577428	October 1, 2024	end of 3nd SAR period March 31, 2025

For 40 CFR 63 Subparts DDDDD and ZZZZ after the third report after permit issuance subsequent semiannual reports shall cover the six-month periods from April 1 to September 30 and October 1 to March 31 and shall be submitted within 60 days after the end of each six-month period.

These semiannual reports shall include:

(1) Reports of any monitoring and recordkeeping required by conditions **E4-1(c) and E4-12** of this permit for the 40 CFR Part 63 Subpart DDDDD semiannual report; conditions **E5-2 and E6-2** of this permit for the 40 CFR Part 63 Subpart UUUU semiannual report; and condition **E9-2** of this permit for the 40 CFR Part 63 Subpart ZZZZ semiannual report. However, a summary report of this data is acceptable provided there is sufficient information to enable the Technical Secretary to evaluate compliance.

In addition, the 40 CFR Part 63 Subpart UUUU semiannual report shall address compliance with the emission limitations of conditions **E5-1** and **E5-3** of this permit, and the 40 CFR Part 63 Subpart ZZZZ semiannual report shall address compliance with the operating time limitations of condition **E9-5** of this permit.

(2) Identification of all instances of deviations from **ALL PERMIT REQUIREMENTS for each respective 40 CFR Part 63 Subpart (DDDDD, UUUU, or ZZZZ)**.

These reports must be certified by a responsible official consistent with condition B4 of this permit and shall be submitted to The Technical Secretary and EPA at the addresses below.
Each NESHAP/MACT Report must be submitted under separate cover and each report must be accompanied by a separate compliance certification statement.

These certifications shall be submitted to: **TN APCD** and **EPA**

The Technical Secretary
Division of Air Pollution Control
Permitting Program
Tennessee Tower, 15th Floor
312 Rosa Parks Avenue
Nashville, TN 37243
or
Air.Pollution.Control@tn.gov

and

US EPA Region IV
61 Forsyth Street, SW
Atlanta, Georgia 30303
or
Through the EPA CDX
(https://cdx.epa.gov/)

TAPCR 1200-03-09-.03(8) and 40 CFR §§63.7550, 63.5580, 63.6650

(d) NSPS Reporting Requirements

Semiannual reports required by 40 CFR 60 Subpart Dc §60.487(c):

Semiannual reports shall cover the periods identified in the tables below for the first, second, and third reports after permit issuance. The first report shall be submitted within 30 days after the end of the reporting period and the second and third reports shall be submitted within 60 days after the end of the reporting period.

For 40 CFR 60 Subpart Dc for first report after permit issuance:

Permit Number	Reporting Period Begins	Reporting Period Ends
Old permit 567428	1st day of SAR period (with year) January 1, 2024	day before new permit issuance TBD, 2024
New permit 577428	Issuance Date of new permit TBD, 2024	end of 1st SAR period June 30, 2024

For 40 CFR 60 Subpart Dc for second SAR report after permit issuance:

Permit Number	Reporting Period Begins	Reporting Period Ends
New permit 577428	July 1, 2024	end of 2nd SAR period September 30, 2024

For 40 CFR 60 Subpart Dc for third SAR report after permit issuance:

Permit Number	Reporting Period Begins	Reporting Period Ends
New permit 577428	October 1, 2024	end of 3rd SAR period March 31, 2025

For 40 CFR 60 Subpart Dc after the third report after permit issuance subsequent semiannual reports shall cover the six-month periods from April 1 to September 30 and October 1 to March 31 and shall be submitted within 60 days after the end of each six-month period.

These semiannual reports shall include:

(1) Reports of any monitoring and recordkeeping required by condition **E4-19** of this permit. However, a summary report of this data is acceptable provided there is sufficient information to enable the Technical Secretary to evaluate compliance.

(2) Identification of all instances of deviations from **ALL PERMIT REQUIREMENTS for 40 CFR Part 60 Subpart Dc**.

These reports must be certified by a responsible official consistent with condition B4 of this permit and shall be submitted to The Technical Secretary and EPA at the addresses in Condition E2(c) of this permit.

Each NSPS Report must be submitted under separate cover and each report must be accompanied by a separate compliance certification statement.

TAPCR 1200-03-09-.03(8) and 40 CFR §60.487

(e) Accidental Release Plan. In accordance with Section 112(r) of the Clean Air Act and Rule 1200-03-32-.03(1) of the Tennessee Air Pollution Control Regulations (TAPCR), the permittee has filed a copy of the accidental release plan for this facility. This plan has been filed with both EPA Region IV and the Division of Air Pollution Control. The permittee shall annually certify in writing to the Technical Secretary that they are properly following their accidental release plan. Such certification is due no later than January 31 for the preceding calendar year in accordance with Rule 1200-03-32-.03(3) of the TAPCR. The certification shall be submitted to the Technical Secretary at the following address or by electronic copy:

The Technical Secretary
Division of Air Pollution Control
William R. Snodgrass Tennessee Tower, 15th Floor
312 Rosa L. Parks Avenue
Nashville, TN 37243

Or electronic pdf copy to: Air.Pollution.Control@tn.gov

TAPCR 1200-03-32-.03

(f) Retention of Records All records required by any condition in Section E of this permit must be retained for a period of not less than five years. Additionally, these records shall be kept available for inspection by the Technical Secretary or a Division representative.

TAPCR 1200-03-09-.02(11)(e)1.(iii)(II)II

E3. General requirements applicable to permitted facility.

E3-1. A. Unless otherwise specified, visible emissions from sources at this facility shall not exhibit greater than 20% opacity, except for one six-minute period in any one-hour period, and for no more than four six-minute periods in any 24-hour period. A stack is defined as any chimney, flue, conduit, exhaust, vent, or opening of any kind whatsoever, capable of, or used for, the emission of air contaminants.

TAPCR 1200-03-05-.01(1) and 1200-03-05-.03(6)

Compliance Method: The permittee shall certify compliance with the opacity standard for each source in section E of this permit by utilizing the opacity matrix dated June 18, 1996 (amended on September 11, 2013) that is enclosed as Attachment 1. Visible emissions from sources at this facility shall be determined by EPA Method 9, as published in the current 40 CFR 60, Appendix A (six-minute average). Reports and certifications shall be submitted in accordance with Condition E2 of this permit. If the magnitude and frequency of excursions reported by the permittee in the periodic monitoring for emissions is unsatisfactory to the Technical Secretary, this permit may be reopened to impose additional opacity monitoring.

B. The permittee shall not 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. Reasonable precautions shall include, but are not 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.

The permittee shall not cause, suffer, allow, or permit fugitive dust to be emitted in such manner to exceed five minutes per hour or 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 TAPCR 1200-03-20. A malfunction is defined as, any sudden and unavoidable failure of 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.

TAPCR 1200-03-08-.01(1) and 1200-03-08-.01(2)

Compliance Method: Fugitive emissions shall be determined by Tennessee Visible Emissions Evaluation Method 4 as adopted by the Tennessee Air Pollution Control Board on April 16, 1986.

C. Fugitive emissions from roads and parking areas shall not exhibit greater than 10% opacity.

TAPCR 1200-03-08-.03

Compliance Method: When required to demonstrate compliance, fugitive emissions from roads and parking areas shall be determined by utilizing Tennessee Visible Emissions Evaluation (TVEE) Method 1, as adopted by the Tennessee Air Pollution Control Board on April 29, 1982, as amended on September 15, 1982 and August 24, 1984.

E3-2. The permittee shall maintain and repair the emission source, associated air pollution control device(s), and compliance assurance monitoring equipment as required to maintain and assure compliance with the specified emission limits.

TAPCR 1200-03-09-.03(8)

Compliance Method: Records of all repair and maintenance activities required above shall be recorded in a suitable permanent form and kept available for inspection by the Division. These records must be retained for a period of not

less than five years. The date each maintenance and repair activity began shall be entered in the log no later than seven days following the start of the repair or maintenance activity, and the completion date shall be entered in the log no later than seven days after activity completion.

E3-3. The permittee shall comply with the following recordkeeping requirements:

A. All recordkeeping requirements for all data required to be recorded shall follow the following schedules:

For Daily Recordkeeping	For Weekly Recordkeeping	For Monthly Recordkeeping
No later than seven days from the end of the day for which the data is required.	No later than seven days from the end of the week for which the data is required.	No later than 30 days from the end of the month for which the data is required.

B. The information contained in logs, records, and submittals required by this permit shall be kept at the facility's address, unless otherwise noted, and provided to the Technical Secretary or a Division representative upon request. Computer-generated logs are acceptable. Compliance is assured by retaining the logs, records, and submittals specified in this permit for a period of not less than five years at the facility's address. Any logs that have an alternative format may be utilized provided they contain the same information that is required.

TAPCR 1200-03-10-.02(2)(a)

E3-4. Upon the malfunction/failure of any emission control device(s) serving this source, the operation of the process(es) served by the device(s) shall be regulated by Chapter 1200-03-20 of the Tennessee Air Pollution Control Regulations.

TAPCR 1200-03-20-.01

E3-5. The permittee listed various insignificant activities in their Title V Application dated August 29, 2019, per Rule 1200-03-09-.04(5). Additional insignificant activities may be added and operated at any time with the provision that a written notification shall be submitted to the Technical Secretary including an updated APC V.2 application form along with a truth, accuracy, and completeness statement signed by a responsible official.

Activity	ESRN	Insignificant Under Rule
Burn-off oven	53-0003-20	1200-03-09-.04(5)(a)4(i)
Glycerin Aerosol OT softening agent use	53-0003-03	1200-03-09-.04(5)(a)4(i) and 1200-03-09-.04(5)(c)3
Laboratory hoods	NA	1200-03-09-.04(5)(a)4(i) and 1200-03-09-.04(5)(f)19

TAPCR 1200-03-09-.04(5)

E3-6. 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 permittee, including time malfunction began, when it was detected, what was wrong, what was done to correct the malfunction, and when the malfunction was corrected.

TAPCR 1200-03-10-.02(1)(e)

E3-7. a) The application that was utilized in the preparation of this permit is dated August 29, 2019, and signed by Responsible Official Dennis Brennan, Global Director Engineering and Safety for the permitted facility. By email notification of January 9, 2024, the new Responsible Official is Dan Shenck, Plant Manager for the permitted facility. If this person (Dan Shenck) terminates employment or is assigned different duties and is no longer a Responsible Official for this facility as defined in part 1200-03-09-.02(11)(b)21 of the Tennessee Air Pollution Control Regulations, the owner or operator of this air contaminant source shall notify the Technical Secretary of the change. Said notification must be in writing and must be submitted within 30 days of the change. The notification shall include the name and title of the new Responsible Official and certification of truth and accuracy. All representations, agreement to terms and conditions, and covenants made by the former Responsible Official that were used in the establishment of the permit terms and conditions will continue to be binding on the facility

until such time that a revision to this permit is obtained that would change said representations, agreements, and/or covenants.

b) The application that was utilized in the preparation of this permit is dated August 29, 2019, and identifies David A. Wasil, former Environmental Manager, as the Principal Technical Contact for the permitted facility. By email notification of January 9, 2024, the new Principal Technical Contact for the permitted facility is Mike Rasmussen, Global Engineering Manager for the permitted facility. If this person (Mike Rasmussen) terminates employment or is assigned different duties and is no longer the Principal Technical Contact for this facility, the owner or operator of this air contaminant source shall notify the Technical Secretary of the change. Said notification must be in writing and must be submitted within 30 days of the change. The notification shall include the name and title of the new Principal Technical Contact and certification of truth and accuracy.

c) The application that was utilized in the preparation of this permit is dated August 29, 2019, and identifies David A. Wasil, former Environmental Manager, as the Billing Contact for the permitted facility. By email notification of January 9, 2024, the new Billing Contact is Dan Shenck, Plant Manager for the permitted facility. If this person (Dan Shenck) terminates employment or is assigned different duties and is no longer the Billing Contact for this facility, the owner or operator of this air contaminant source shall notify the Technical Secretary of the change. Said notification must be in writing and must be submitted within 30 days of the change. The notification shall include the name and title of the new Billing Contact and certification of truth and accuracy.

TAPCR 1200-03-09-.03(8)

E3-8. EPA requirements and other state requirements: This source shall comply with all applicable state and federal air pollution regulations. This includes, but is not limited to, federal regulations published under 40 CFR 63 for sources of hazardous air pollutants and 40 CFR 60, New Source Performance Standards.

TAPCR 1200-03-09-.03(8)

E3-9. Purchase orders and/or invoices for all VOC and HAP containing materials along with current safety data sheets must be maintained and kept available for inspection by the Technical Secretary or a Division representative. Records must be maintained on site.

TAPCR 1200-03-09-.03(8)

53-0003-01:	**Source Identification:**	Fuel Burning Installation consisting of Boilers 3, 4, & 5: This source consists of three boilers. All boilers use natural gas as the primary fuel with No. 1 and No. 2 fuel oil as back-up fuels. A substitute (mobile) boiler may be brought into service during routine maintenance periods of the three primary boilers. The three boilers are on a maintenance cycle interval of once every year (i.e., each boiler is serviced every year). Each boiler description is as follows: Boiler #3 - 55.6 MMBTU/hr boiler fired by natural gas as the primary fuel and No. 1 & No. 2 fuel oils as the back-up fuels. Boiler #4 - 52.185 MMBTU/hr boiler fired by natural gas as the primary fuel and No. 1 & No. 2 fuel oils as the back-up fuels. Unit provided with low NOx burner with flue gas recirculation for NOx reduction and a continuous oxygen trim system to optimize air/fuel ratio. Boiler #5 - 52.185 MMBTU/hr boiler fired by natural gas as the primary fuel and No. 1 & No. 2 fuel oils as the back-up fuels. Unit provided with low NOx burner with flue gas recirculation for NOx reduction and a continuous oxygen trim system to optimize air/fuel ratio. Substitute boiler – 10.468 MMBtu/hr boiler fired by natural gas as the primary fuel and No. 2 fuel oil as a back-up fuel. This boiler may be operated approximately four weeks per year during boiler inspection periods. This source is subject to 40 CFR Part 63 Subpart DDDDD (National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters). The rule is referred to as the Boiler MACT. Boilers #4 & #5 are subject to 40 CFR Part 60 Subpart Dc: Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

Conditions specific to source 53-0003-01.

E4-1. (a) The design heat input rate for this source is 159.97 million British Thermal Units per hour (MMBtu/hr). Should the permittee need to modify the source in a manner that increases the heat input rate of the source a construction permit or Title V modification shall first be applied for and received in accordance with TAPCR 1200-03-09-.01 and TAPCR 1200-03-09-.02(11)(d)1(i)(V) prior to making the change.

TAPCR 1200-03-09-.03(8), and the application dated August 29, 2019

Compliance Method: The permittee shall maintain documentation to demonstrate the heat input rate for the source. Documentation shall include, but is not limited to, manufacturer's specifications, purchase records, operating manuals, or a tag affixed to the unit by the manufacturer. These documents shall be kept readily available/accessible and made available upon request by the Technical Secretary or a Division representative.

(b) Only natural gas as the primary fuel and No. 1 and No. 2 fuel oils as back-up fuels shall be used as fuel(s) for this source. Should the permittee need to modify the source to allow the use of a fuel other than natural gas or No.1 or No. 2 fuel oils, a construction permit or Title V modification shall first be applied for and received in accordance with TAPCR 1200-03-09-.01 and TAPCR 1200-03-09-.02(11)(d)1(i)(V) prior to making the change.

TAPCR 1200-03-09-.03(8), and the application dated August 29, 2019

Compliance Method: The permittee shall maintain a record of the amount of fuel(s) used at this source in the log format of Attachment 5 or an alternative format which supplies the same information. This

log or a summary of this recordkeeping information shall be included in the semiannual reports required by condition **E2(a)**.

(c) Fuel oil may be used at this source for periodic testing of liquid fuel, maintenance, or operator training, not to exceed a combined total of 48 hours during any calendar year. Fuel oil may be used for any duration during periods of gas curtailment or gas supply interruptions. [Reference 40 CFR 63.7575: *Unit designed to burn gas 1 subcategory* includes any boiler or process heater that burns only natural gas, refinery gas, and/or other gas 1 fuels. Gaseous fuel boilers and process heaters that burn liquid fuel for periodic testing of liquid fuel, maintenance, or operator training, not to exceed combined total of 48 hours during any calendar year, are included in this definition. Gaseous fuel boilers and process heaters that burn liquid fuel during periods of gas curtailment or gas supply interruptions of any duration are also included in this definition.]

TAPCR 1200-03-09-.03(8), 40 CFR §63.7575, and the application dated August 29, 2019

Compliance Method: The permittee shall maintain a record of (1) the operating hours of this source when fuel oil is combusted at this source, and (2) the purpose of using fuel oil when fuel oil is combusted at this source. The log shall be maintained in the log format of Attachment 5 or an alternative format which supplies the same information. This log or a summary of this recordkeeping information shall be included in the MACT 40 CFR Part 63 Subpart DDDDD semiannual reports required by condition **E2(c)**.

E4-2. Particulate matter (PM) emitted from this source shall not exceed 3.77 pounds per hour on a daily average basis and 5.21 tons during any period of 12 consecutive months.

TAPCR 1200-03-06-.01(7), the agreement letter dated March 26, 2024 (Attachment 7) and the application dated August 29, 2019

Compliance Method: Compliance with the hourly emission limitation shall be assured by complying with the limitations and recordkeeping requirements of condition **E4-1**.

Compliance with the annual emission limitation shall be demonstrated by calculating actual quantities of PM emitted during each calendar month and each period of 12-consecutive months. The PM emissions shall be maintained in the log format in Attachment 5 or in an alternative format which contains the same information. These logs or a summary of these calculations shall be included in the semiannual reports required by condition **E2(a).**

Compliance with the PM emission limitations is also assured based on the following emission factors: 7.6 lb PM/10^6 ft^3 for natural gas (AP-42, Table 1.4-2) and 3.3 lb PM/1000 gal for fuel oil (AP-42, Tables 1.3-1 and 1.3-3). [Reference AP-42 Emission Factors in Attachments 9, 10, & 11]. These emission factors shall be used to calculate monthly PM emissions in the equations in Attachment 5.

E4-3. Nitrogen oxides (NO_X) emitted from this source shall not exceed 40.43 tons during any period of 12 consecutive months.

TAPCR 1200-03-06-.03(2), and the application dated August 29, 2019

Compliance Method: The permittee shall comply with the limitations and recordkeeping requirements of conditions **E4-1** and **E4-4** and shall calculate and record monthly and 12-consecutive month NOx emissions in the log format in Attachment 5 or in an alternative format which contains the same information. These logs or a summary of these calculations shall be included in the semiannual reports required by condition **E2(a)**.

Compliance with the NOx emission limitation is assured based on the following emission factors: boiler #3: 100 lb NOx/10^6 ft^3 for natural gas (AP-42, Table 1.4-1) and 20.0 lb NOx/1000 gal for fuel oil (AP-42, Table 1.3-1); boilers 4 & 5: 40 lb/ NOx/ 10^6 ft^3 for natural gas (manufacturer's information) and 24.4 lb NOx/1000 gal for fuel oil (manufacturer's information). [Reference AP-42 Emission Factors in Attachments 9, 10, & 11 and permit application manufacturer's emission factor information in Attachment 12]. These emission factors shall be used to calculate monthly NOx emissions in the equations in Attachment 5.

E4-4. To control emissions of nitrogen oxides (NO_X) from boilers 4 and 5, the permittee shall use only low-NO_X burners.

TAPCR 1200-03-06-.03(2), and the application dated August 29, 2019

Compliance Method: The permittee has specified that boiler units 4 and 5 are equipped with low-NOx burners and Flue Gas Recirculation; this source shall not operate unless the low-NOx burners and Flue Gas Recirculation are fully operational. Documentation from the manufacturer for this unit which specifies that these features are present, and which also provides NOx emission factors shall be retained for the life of the burner. The permittee shall be considered in compliance with this condition if the specifications for each burner indicate that NO_X emissions from fuel combustion are no greater than 0.05 lb/MMBtu when the burner operates at its design heat input capacity while burning natural gas. For each equipment item listed, the permittee shall retain copies of the manufacturer or vendor specifications for each burner subject to this condition. These specifications shall be retained for the life of the burner.

E4-5. (a) Sulfur dioxide (SO_2) emitted from this source shall not exceed 162.25 pounds per hour on a daily average basis and 60.36 tons during any period of 12 consecutive months.

TAPCR 1200-03-14-.01(3), the agreement letter dated March 26, 2024 (Attachment 7) and the application dated August 29, 2019

Compliance Method: Compliance with the hourly emission limitation shall be assured by the limitations and recordkeeping requirements of condition **E4-1**.

Compliance with the annual emission limitation shall be demonstrated by calculating actual quantities of SO_2 emitted during each calendar month and each period of 12-consecutive months. The SO_2 emissions shall be maintained in the log format in Attachment 5 or in an alternative log which contains the same information. These logs or a summary of these calculations shall be included in the semiannual reports required by condition **E2(a)**.

Compliance with the SO_2 emission limitations is also assured based on paragraph (b) of this condition and the following emission factors: 0.6 lb $SO_2/10^6$ ft^3 for natural gas (AP-42, Table 1.4-2) and 142(S) lb SO_2/1000 gal for fuel oil (AP-42, Table 1.3-1) where S is the weight % sulfur content of the fuel. [Reference AP-42 Emission Factors in Attachments 9, 10, & 11]. These emission factors shall be used to calculate monthly SO_2 emissions in the equations in Attachment 5.

(b) The sulfur content of the fuel oil used at this source shall not exceed 1.0 percent by weight.

TAPCR 1200-03-14-.01(3), the agreement letter dated March 26, 2024 (Attachment 7) and the application dated August 29, 2019

Compliance Method: Fuel oil supplier certification shall be obtained for each batch of fuel oil received and stored on site. This certification shall be maintained and kept available for inspection by the Technical Secretary or a Division representative in accordance with condition E3-3. These certifications or a summary of this information shall be included in the semiannual reports required by condition **E2(a)**.

E4-6. Volatile organic compounds (VOC) emitted from this source shall not exceed 3.77 tons during any period of 12 consecutive months.

TAPCR 1200-03-06-.03(2) and the application dated August 29, 2019

Compliance Method: The permittee shall comply with the limitations and recordkeeping requirements of condition **E4-1**.

Compliance with the VOC emission limitation is also assured based on the following emission factors: 5.5 lb VOC/10^6 ft^3 for natural gas (AP-42, Table 1.4-2) and 0.2 lb

VOC/1000 gal for fuel oil (AP-42, Table 1.3-3). [Reference AP-42 Emission Factors in Attachments 9, 10, & 11].

E4-7. Carbon monoxide (CO) emitted from this source shall not exceed 36.70 tons during any period of 12 consecutive months.

TAPCR 1200-03-06-.03(2) and the application dated August 29, 2019

Compliance Method: The permittee shall comply with the limitations and recordkeeping requirements of condition **E4-1**.

Compliance with the annual emission limitation shall be demonstrated by calculating actual quantities of CO emitted during each calendar month and each period of 12-consecutive months. The CO emissions shall be maintained in the log format in Attachment 5 or in an alternative log which contains the same information. These logs or a summary of these calculations shall be included in the semiannual reports required by condition **E2(a)**.

Compliance with the CO emission limitation is also assured based on the following emission factors: Boiler #3: 84 lb CO/10^6 ft^3 for natural gas (AP-42, Table 1.4-1) and 5.0 lb/1000 gal for fuel oil (AP-42, Table 1.3-1); Boilers #4 and 5: 40 lb CO/10^6 ft^3 for natural gas (Manufacturer's information) and 5.6 lb/1000 gal for fuel oil (Manufacturer's information). [Reference AP-42 Emission Factors in Attachments 9, 10, & 11 and permit application manufacturer's emission factor information in Attachment 12].

E4-8. The following annual emissions for this source are based on the allowable emissions included in the application dated August 29, 2019. These emission totals will be used to calculate annual emission fees:

Annual Emissions for Fees (tons per year)				
PM	SO_2	NOx	VOC	CO
5.21	60.36	40.43	3.77	36.70

TAPCR 1200-03-26-.02(6)

Applicability of 40 CFR part 63 subpart DDDDD: National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters

E4-9. The permittee is subject to and shall comply with all applicable requirements of 40 CFR part 63 subpart DDDDD, including the General Provisions. The permittee owns or operates an industrial, commercial, or institutional boiler or process heater as defined in 40 CFR §63.7575 that is located at, or is part of, a major source of HAP, except as specified in 40 CFR §63.7491. For purposes of 40 CFR part 63 subpart DDDDD, a major source of HAP is as defined in 40 CFR §63.2.

TAPCR 1200-03-09-.03(8) and 40 CFR §63.7485

E4-10. 40 CFR part 63 subpart DDDDD applies to new, reconstructed, and existing affected sources as described in paragraphs (1) and (2) of this condition.

(1) The affected source of 40 CFR part 63 subpart DDDDD is the collection at a major source of all existing industrial, commercial, and institutional boilers and process heaters (Boiler 3) within a subcategory as defined in 40 CFR §63.7575. A boiler or process heater is existing if it is not new or reconstructed (that is, the boiler was constructed or reconstruction commenced prior to June 4, 2010).

(2) The affected source of 40 CFR part 63 subpart DDDDD is each new or reconstructed industrial, commercial, or institutional boiler or process heater (Boilers 4 and 5), as defined in 40 CFR §63.7575, located at a major source. That is, the boiler was constructed or reconstruction began after June 4, 2010.

TAPCR 1200-03-09-.03(8) and 40 CFR §63.7490

E4-11. The compliance date for Boilers 4 and 5 was March 17, 2016, the startup date of each boiler. The compliance date for Boiler 3 was January 31, 2016. The permittee must meet the notification requirements in 40 CFR §63.7545 according to the schedule in 40 CFR §63.7545 and in 40 CFR part 63 subpart A.

TAPCR 1200-03-09-.03(8) and 40 CFR §63.7495

Compliance Method: The permittee shall retain a copy of all notifications required by 40 CFR part 63 subpart DDDDD for the service life of the respective boilers subject to this rule.

E4-12. This condition applies to the existing boiler (Boiler 3) and the new boilers (Boilers 4 and 5) designed to burn gas 1 fuels. The permittee must meet the requirements in **E4-12(1)** and **E4-12(2)** of this condition, except as provided in **E4-12(2)(b)** and **E4-12(2)(e)** of this condition. The permittee must meet these requirements at all times the affected unit is operating, except as provided in **E4-12(2)(f)** of this condition.

(1) The permittee must meet the work practice standard in Table 3 of 40 CFR part 63 subpart DDDDD for each boiler at the source, except as provided under 40 CFR §63.7522.

From Table 3 to Subpart DDDDD of Part 63 - Work Practice Standards

For a new boiler (Boilers 4 and 5) with a continuous oxygen trim system that maintains an optimum air to fuel ratio, the permittee must:
Conduct a tune-up of the boiler or process heater every 5 years as specified in 40 CFR §63.7540.

For an existing boiler (Boiler 3) without a continuous oxygen trim system and with heat input capacity of 10 million Btu per hour or greater, the permittee must:
Conduct a tune-up of the boiler annually as specified in 40 CFR §63.7540. Gas 1 units will conduct this tune-up as a work practice for all regulated emissions under this 40 CFR part 63 subpart DDDDD.

For an existing boiler (Boiler 3) located at a major source facility, not including limited use units:
The permittee must have a one-time energy assessment performed by a qualified energy assessor. An energy assessment completed on or after January 1, 2008, that meets or is amended to meet the energy assessment requirements in this table, satisfies the energy assessment requirement. A facility that operates under an energy management program compatible with ISO 50001 that includes the affected units also satisfies the energy assessment requirement. The energy assessment must include the following with extent of the evaluation for items a. to e. appropriate for the on-site technical hours listed in 40 CFR §63.7575:

a. A visual inspection of the boiler or process heater system.
b. An evaluation of operating characteristics of the boiler or process heater systems, specifications of energy using systems, operating and maintenance procedures, and unusual operating constraints.
c. An inventory of major energy use systems consuming energy from affected boilers and process heaters and which are under the control of the boiler/process heater owner/operator.
d. A review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage.
e. A review of the facility's energy management practices and provide recommendations for improvements consistent with the definition of energy management practices, if identified.
f. A list of cost-effective energy conservation measures that are within the facility's control.
g. A list of the energy savings potential of the energy conservation measures identified.
h. A comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments.

(2) At all times, the permittee must operate and maintain any affected source (as defined in 40 CFR §63.7490), including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

(a) Reserved

(b) As provided in 40 CFR §63.6(g), EPA may approve use of an alternative to the work practice standards in this condition.
(c) Reserved
(d) Reserved
(e) Boilers in the units designed to burn gas 1 fuels subcategory are not subject to the emission limits in Tables 1 and 2 or 11 through 13 of 40 CFR part 63 subpart DDDDD, or the operating limits in Table 4 40 CFR part 63 subpart DDDDD.
(f) These standards apply at all times the affected unit is operating, except during periods of startup and shutdown during which time the permittee must comply only with Table 3 of 40 CFR part 63 subpart DDDDD.

TAPCR 1200-03-09-.03(8) and 40 CFR §63.7500

Compliance Method: The permittee shall maintain at the facility a record of the initial and subsequent boiler tune-ups and the one-time facility energy assessment for the service life of each unit subject to rule 40 CFR part 63 subpart DDDDD. The permittee shall comply with the requirements of condition **E3-2** for recordkeeping of maintenance and repair activities associated with process equipment and air pollution control devices. The permittee shall include information on any boiler tune-ups conducted after December 31, 2023, in the MACT 40 CFR Part 63 Subpart DDDDD semiannual reports required by condition **E2(c)**.

E4-13. The permittee must comply with the emission limits, work practice standards, and operating limits in 40 CFR part 63 subpart DDDDD. These limits apply to the permittee at all times the affected unit is operating except for the periods noted in 40 CFR §63.7500(f).

TAPCR 1200-03-09-.03(8) and 40 CFR §63.7505

Compliance Method: The compliance requirements are stated in rule 40 CFR part 63 subpart DDDDD as stated above.

E4-14. For existing affected sources (Boiler 3) (as defined in 40 CFR §63.7490), the permittee must complete the initial compliance demonstration no later than 180 days after the compliance date that is specified for the source in 40 CFR §63.7495 and according to the applicable provisions in 40 CFR §63.7(a)(2) as cited in Table 10 of 40 CFR part 63 subpart DDDDD. The permittee must complete an initial tune-up by following the procedures described in 40 CFR §63.7540(a)(10)(i) through (vi) no later than the compliance date specified in 40 CFR §63.7495. The permittee must complete the one-time energy assessment specified in Table 3 of 40 CFR part 63 subpart DDDDD no later than the compliance date specified in 40 CFR §63.7495.

TAPCR 1200-03-09-.03(8) and 40 CFR §63.7510

Compliance Method: The permittee shall maintain at the facility a record of the initial Boiler 3 compliance demonstration, the initial and subsequent boiler tune-ups, and the one-time facility energy assessment for the service life of the affected unit.

E4-15. If the permittee is required to meet an applicable tune-up work practice standard, the permittee must conduct an annual, biennial, or 5-year performance tune-up according to 40 CFR §63.7540(a)(10), (11), or (12), respectively. Each annual tune-up specified in 40 CFR §63.7540(a)(10) must be no more than 13 months after the previous tune-up. Each biennial tune-up specified in 40 CFR §63.7540(a)(11) must be conducted no more than 25 months after the previous tune-up. Each 5-year tune-up specified in 40 CFR §63.7540(a)(12) must be conducted no more than 61 months after the previous tune-up.

TAPCR 1200-03-09-.03(8) and 40 CFR §63.7515

Compliance Method: The permittee shall maintain at the facility a record of the initial and subsequent boiler tune-ups for Boilers 3, 4, and 5 for the service life of each affected unit.

E4-16. If the permittee owns or operates an existing unit with a heat input capacity of less than 10 million Btu per hour or a unit designed to burn gas 1 subcategory fuel, the permittee must submit a signed statement in the Notification of Compliance Status report that indicates that the permittee conducted a tune-up of the unit. The permittee must include with the Notification of Compliance Status a signed certification that the energy assessment was completed according to Table 3 of 40 CFR part 63 subpart DDDDD and is an accurate depiction of the facility at the time of the assessment.

TAPCR 1200-03-09-.03(8) and 40 CFR §63.7530

Compliance Method: The permittee submitted an April 3, 2017, letter/ Notification of Compliance Status Report that states an initial tune -up of the boilers was conducted and a one-time facility energy assessment was performed. These records for boiler tune-ups and the energy assessment shall be maintained at the facility for the service life of each affected unit.

E4-17. The permittee must submit to the Technical Secretary all of the notifications in 40 CFR §§63.7(b) and (c), 63.8(e), (f)(4) and (6), and 63.9(b) through (h) that apply to the permittee by the dates specified. If the permittee is required to conduct an initial compliance demonstration as specified in 40 CFR §63.7530, the permittee must submit a Notification of Compliance Status (submit to the Technical Secretary at the address noted in condition **E2(b)** according to 40 CFR §63.9(h)(2)(ii). For the initial compliance demonstration for each boiler or process heater, the permittee must submit the Notification of Compliance Status, including all performance test results and fuel analyses, before the close of business on the 60th day following the completion of all performance test and/or other initial compliance demonstrations for all boiler or process heaters at the facility according to 40 CFR §63.10(d)(2). If the permittee is not required to conduct an initial compliance demonstration as specified in 40 CFR §63.7530(a), the Notification of Compliance Status must only contain the information specified in paragraphs (1) and (8).

(1) A description of the affected unit(s) including identification of which subcategories the unit is in, the design heat input capacity of the unit, a description of the add-on controls used on the unit to comply with 40 CFR part 63 subpart DDDDD, description of the fuel(s) burned, including whether the fuel(s) were a secondary material determined by the permittee or the EPA through a petition process to be a non-waste under 40 CFR §241.3 of this chapter, whether the fuel(s) were a secondary material processed from discarded non-hazardous secondary materials within the meaning of 40 CFR §241.3 of this chapter, and justification for the selection of fuel(s) burned during the compliance demonstration.

(8) In addition to the information required in 40 CFR §63.9(h)(2), the notification of compliance status must include the following certification(s) of compliance, as applicable, and signed by a responsible official:
- (i) "This facility complies with the required initial tune-up according to the procedures in 40 CFR §63.7540(a)(10)(i) through (vi)."
- (ii) "This facility has had an energy assessment performed according to 40 CFR §63.7530(e)."
- (iii) Except for units that burn only natural gas, refinery gas, or other gas 1 fuel, or units that qualify for a statutory exemption as provided in section 129(g)(1) of the Clean Air Act, include the following: "No secondary materials that are solid waste were combusted in any affected unit."

TAPCR 1200-03-09-.03(8) and 40 CFR §63.7545

Compliance Method: The permittee submitted an April 3, 2017, letter/ Notification of Compliance Status Report that states an initial tune -up of the boilers was conducted and a one-time facility energy assessment was performed. These records for boiler tune-ups, the initial compliance demonstration, and the energy assessment shall be maintained at the facility for the service life of each affected unit.

Applicability of 40 CFR Part 60 Subpart Dc: Standards of Performance for New Stationary Sources (NSPS): Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

E4-18. The permittee is subject to and shall comply with all applicable requirements of 40 CFR part 60 subpart Dc, including the General Provisions. The affected facility to which 40 CFR part 60 subpart Dc applies is each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989, (Boilers 4 and 5) and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/h)) or less, but greater than or equal to 2.9 MW (10 MMBtu/h).

TAPCR 1200-03-09-.03(8) and 40 CFR §60.40c

E4-19. (a) The owner or operator of each affected facility shall record and maintain records of the amount of each fuel combusted during each operating day. As an alternative to meeting the requirements of daily records of fuel usage, the owner or operator of an affected facility that combusts only natural gas, wood, fuels using fuel certification in 40 CFR §60.48c(f) to demonstrate compliance with the SO_2 standard, fuels not subject to an emissions standard (excluding opacity), or a mixture of these fuels may elect to record and maintain records of the amount of each fuel combusted

during each calendar month. Alternatively, the permittee shall record and maintain records of the amount of natural gas and/or fuel oil delivered to the property during each calendar month. All records required under this condition shall be maintained by the owner or operator of the affected facility for a period of five years following the date of such record.

TAPCR 1200-03-09-.03(8) and 40 CFR §60.48c(g)

Compliance Method: The permittee shall record the actual quantity of each fuel combusted during each calendar month by each source subject to 40 CFR Part 60 Subpart Dc in a log in the format of Attachment 5 or in an alternative format which provides the same information. The log must indicate if the natural gas and fuel oil (No. 1 and No. 2) is combusted by each source or delivered to the property. The log shall be retained in accordance with condition **E3-3**. This log or a summary of the recordkeeping information shall be submitted in the NSPS 40 CFR Part 60 Subpart Dc semiannual reports required by condition **E2(d)**.

(b) For distillate oil fuel supplier certification, the certification shall contain the following information: (1) the name of the fuel oil supplier; (2) a statement from the oil supplier that the fuel oil complies with the specifications under the definition of distillate oil in 60.41c; and (3) the sulfur content or maximum sulfur content of the oil.

TAPCR 1200-03-09-.03(8) and 40 CFR §60.48c(f)(1)

Compliance Method: The permittee shall maintain records of the name of the fuel oil supplier, a statement from the oil supplier that the fuel oil complies with the specifications under the definition of distillate oil in 60.41c, and the sulfur content of the fuel oil. The records shall be retained in accordance with condition **E3-3**. These records or a summary of this information shall be submitted in the NSPS 40 CFR Part 60 Subpart Dc semiannual reports required by condition **E2(d)**.

E4-20. For NSPS Subpart Dc reporting purposes, the owner or operator shall comply with the requirements of 40 CFR §60.487(c). The reporting schedule shall adhere to the requirements in conditions **E2(b)** and **E2(d)** of this permit.

TAPCR: 1200-03-09-.03(8) and 40 CFR Part 60 Subpart Dc

E4-21. For MACT Subpart DDDDD reporting purposes, the owner or operator shall comply with the requirements of 40 CFR §63.7550. The reporting schedule shall adhere to the requirements in conditions **E2(b)** and **E2(c)** of this permit.

TAPCR: 1200-03-09-.03(8) and 40 CFR Part 63 Subpart DDDDD

53-0003-03:	**Source Identification:**	Cellulose Casing Production: This Cellulose Casing Production source consists of 11 Baratte-Vissolver Units, 11 Extrusion Lines, Glycerin Application, and Wastewater Treatment. Emissions are controlled by a Bioway™ V-Spring System biofilter. This source is subject to 40 CFR Part 63, Subpart UUUU (National Emission Standards for Hazardous Air Pollutants for Cellulose Products Manufacturing). Referred to as the Cellulose Products Manufacturing MACT.

Conditions specific to source 53-0003-03.

E5-1. Carbon disulfide emitted from this source shall not exceed 1104 tons during any period of 12-consecutive months.

TAPCR: 1200-03-07-.07(2)

Compliance Method: Compliance with this limitation shall be demonstrated by the recordkeeping of condition **E5-2** and by the use of a pollution control device.

R**equirements of 40 CFR Part 63 Subpart UUUU (NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR CELLULOSE PRODUCTS MANUFACTURING), referred to as the Cellulose Products Manufacturing MACT.**

E5-2. This source is subject to and shall comply with all applicable requirements, including the General Provisions of 40 CFR Part 63 Subpart UUUU (NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR

CELLULOSE PRODUCTS MANUFACTURING), referred to as the Cellulose Products Manufacturing MACT. The requirements are as follows:

A. Reduce total uncontrolled sulfide emissions (reported as carbon disulfide) by at least 25% based on a 6-month rolling average;
B. Route each controlled vent stream through a closed-vent system to the control device; and
C. Comply with the work practice standard for closed-vent systems.

TAPCR 1200-03-09-.03(8) and 40 CFR §63.5555

Compliance Method: Compliance with this requirement shall be demonstrated with recordkeeping and by the use of a pollution control device. The following conditions apply.

(1) This source shall not operate without the use of a control device during periods when specified emission limits are not being met except during maintenance periods allowed by 40 CFR §63.5505.

(2) Operation of the control device shall be in accordance with the following monitoring parameters for the Biofilter.

a. The inlet gas temperature shall be continuously monitored and recorded, via electronic data recorder, as prescribed in Table 2 (Biofilter Monitoring Data) located as Attachment 2. The inlet temperature shall operate between 68°F and 119°F for optimum microorganism performance. The daily average temperature of the inlet gas shall be within the range of optimum performance.
b. In lieu of the effluent pH measurement, the effluent conductivity shall be continuously monitored and recorded, via electronic data recorder, as prescribed in Table 2 (Biofilter Monitoring Data). The conductivity range for optimum efficiency is 0 to 200 mili-Siemens per centimeter.
c. The pressure drop across the filter shall be continuously monitored and recorded, via electronic data recorder, as prescribed in Table 2 (Biofilter Monitoring Data). The pressure drop range for optimum efficiency is 0 to 8 inches of water column.

(3) The owner or operator shall maintain records that demonstrate compliance with the emission standards of 40 CFR 63 Subpart UUUU. Records in the form of a log, as prescribed in Table 3 (Calculation for MACT Compliance and MACT Material Balance and Calculation of Percent Reduction of Total Sulfide Emissions) located as Attachment 3 and Table 4 (Calculation of CS_2 and H_2S Emissions – MACT Material Balance and Most Recent Performance Test Information) located as Attachment 4 shall be used for this purpose. Tables 3 and 4 shall be used or alternative forms that convey similar information. Table 3 incorporates the data for the viscose process changes into the material balance per 40 CFR 63.5535(g). Table 4 shall be used to demonstrate compliance with the CS_2 and H_2S emission limitations.

(4) Continuous-monitoring data may be averaged over a prescribed time period. For example:12 five-minute time intervals may be averaged to obtain an hourly average for the continuous monitoring requirement, and 24-hour time intervals may be averaged to obtain a daily average for compliance demonstration.

For this source, an “inventory month” shall be used as the period and shall be utilized above where the term “month” is specified. An inventory month is defined as the time period used by the owner or operator for monthly inventory purposes and shall be between 28 and 34 days, inclusive. However, the inventory month for February may contain as few as 26 days. The 12-month limits shall consist of 12 consecutive inventory months. Any 12 consecutive inventory months can consist of 360 to 370 days, inclusive. This definition of inventory month is specified in order to utilize the inventory system currently in use by the company by which inventory at the facility is assessed shortly before the end of the month. The time period and number of days of each inventory month and 12 consecutive inventory month period shall be identified on each semiannual report.

A summary of the monitoring and recordkeeping data required by this condition including completed Tables 2, 3, and 4 (Attachments 2, 3, and 4) shall be included in the MACT 40 CFR Part 63 Subpart UUUU semiannual reports required by condition **E2(c)**.

E5-3. Hydrogen sulfide (H_2S) emitted from this source shall not exceed 285 tons during any period of 12 consecutive months.

TAPCR: 1200-03-07-.07(2) and the following background information: final settlement among Viskase, BCAAT , and TDEC, of December 5, 2014, resolving the petition filed by BCAAT on May 13, 2011 , Docket No.04.09-112841A (the "Appeal"), challenging TDEC's issuance of the following permits to Viskase: (1) Significant Modification to Title V Permit No. 558700; (2) Construction Permit 963557P; (3) Construction Permit 963558P; and (4) Construction Permit 963786F.

Compliance Method: Compliance with the monitoring and recordkeeping requirements of condition **E5-2** shall demonstrate compliance with this condition.

E5-4. For MACT reporting purposes, the owner or operator shall comply with the requirements of 40 CFR §63.5580. The reporting schedule shall adhere to the requirements in conditions **E2(b)** and **E2(c)** of this permit.

TAPCR: 1200-03-09-.03(8) and 40 CFR Part 63 Subpart UUUU

E5-5. For fee purposes, the maximum CS_2 emissions from the wastewater treatment process are estimated to be 56.2 tons per year. This value is not included in any emission limit for this source.

TAPCR: 1200-03-26

53-0003-07:	**Source Identification:**	Chemical Storage Tanks: This source consists of four identical chemical storage tanks with a capacity of 14,000 gallons each and dimensions of 10.5 feet diameter and 23.5 feet in length. This source is subject to federal rule 40 CFR Part 63, Subpart UUUU (National Emission Standards for Hazardous Air Pollutants for Cellulose Products Manufacturing). Referred to as the Cellulose Products Manufacturing MACT.

Conditions specific to source 53-0003-07.

E6-1. This permit is valid for the storage tanks listed below.

Tank I.D.	Contents	Capacity
18	Carbon Disulfide	14,000 Gallons
19	Carbon Disulfide	14,000 Gallons
21	Carbon Disulfide	14,000 Gallons
22	Carbon Disulfide	14,000 Gallons

TAPCR 1200-03-09-.03(8) and 40 CFR Part 63, Subpart UUUU, and the application dated August 29, 2019

E6-2. (a) Emissions from this source are subject to the work practice standards of Table 1 of 40 CFR 63 Subpart UUUU. The installed Nitrogen unloading and storage system satisfies the requirement of this provision.
(b) Tanks that contain carbon disulfide shall not be vented directly to the atmosphere under normal operating conditions.

TAPCR 1200-03-09-.03(8) and 40 CFR §63.5505(a) (Table 1 to 40 CFR Part 63, Subpart UUUU)

Compliance Method: Compliance certification with these requirements shall be submitted in accordance with conditions **E2(b)** and **E2(c)** of this permit.

E6-3. For MACT 40 CFR Part 63 Subpart UUUU reporting purposes, the owner or operator shall comply with the requirements of 40 CFR §63.5580. The reporting schedule shall adhere to the requirements in conditions **E2(b)** and **E2(c)** of this permit.

TAPCR 1200-03-09-.03(8) and 40 CFR Part 63, Subpart UUUU

E6-4. For fee purposes, the maximum CS_2 emissions from this source are estimated to be 1.84 tons per year. This value is not included in any emission limit for this source.

TAPCR 1200-03-26

53-0003-15:	**Source Identification:**	Lime Storage and Handling: This source consists of the lime storage tank with a dust collector/ baghouse containing 12 polyester/dacron felt bags as particulate matter control equipment. Pneumatic unloading of lime from bulk trucks to the storage bin. Lime is used for wastewater treatment.

Condition specific to source 53-0003-15.

E7-1. Particulate matter emitted from this source shall not exceed 1.36 lbs/hour on a daily average basis.

TAPCR: 1200-03-07-.01(5) and the agreement letter dated March 26, 2024 (Attachment 7)

Compliance Method: The permittee shall perform and record semiannual visual inspections of the exterior of the baghouse and the baghouse ductwork, including the baghouse exhaust. The permittee shall initiate, as well as record, corrective action within 24 hours and complete, as well as record, corrective action as expediently as practical if the permittee finds that an abrasion hole and/or emissions problem and/or plugging problem has developed during an inspection of the baghouse(s). Identification of an abrasion hole and/or emissions problem and/or plugging problem and corrective action(s) shall be noted in the semiannual inspection records. Inspection shall include the initials of the person performing the inspection(s) and corrective action(s), along with the date, time, and any relevant comments. Days that the source is not in operation shall be noted. These records shall be reported in accordance with condition **E2(a)**.

E8-1. [Reserved].

E8-2. [Reserved].

53-0003-23:	**Source Identification:**	Emergency Engine: This source consists of a generator with IC engine rated at 9.8 MMBtu/hr heat input and 1072 HP. The generator/engine set is a caterpillar power model D-399 unit using kerosene and diesel (No. 1 or No. 2 fuel oil) as fuel to generate 800 KW at 2,412 Btu/KWH and 1200 rpm. This source is subject to 40 CFR Part 63, Subpart ZZZZ (National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines). Referred to as the RICE MACT.

Conditions specific to source 53-0003-23.

E9-1. The design heat input rate for this source is 9.8 million British Thermal Units per hour (MMBtu/hr). Should the permittee need to modify the source in a manner that increases the heat input rate of the source a construction permit or Title V modification shall first be applied for and received in accordance with TAPCR 1200-03-09-.01 and TAPCR 1200-03-09-.02(11)(d)1(i)(V) prior to making the change.

TAPCR 1200-03-09-.03(8), application dated August 29, 2019

Compliance Method: The permittee shall maintain documentation to demonstrate the heat input rate for the source. Documentation shall include, but is not limited to, manufacturer's specifications, purchase records, operating manuals, or a tag affixed to the unit by the manufacturer. These documents shall be kept readily available/accessible and made available upon request by the Technical Secretary or a Division representative.

E9-2. (a) Kerosene and diesel fuels (No. 1 and No. 2 fuel oils) only shall be used as fuels for this source. Should the permittee need to modify the source to allow the use of a fuel other than kerosene and diesel fuels (No.1 and No.2 fuel oils), a construction permit or Title V modification shall first be applied for and received in accordance with TAPCR 1200-03-09-.01 and TAPCR 1200-03-09-.02(11)(d)1(i)(V) prior to making the change.

(b) The maximum amount of fuel oil combusted by this source shall not exceed 70 gallons per hour on a monthly average basis.

TAPCR: 1200-03-09-.03(8) and the application dated August 29, 2019

Compliance Method: The permittee shall maintain a monthly log of the actual quantity of fuel oil combusted by this source and the hours of operation in the log format of Attachment 6 or an alternative format which contains the same information. This log shall be maintained and kept available for inspection by the Technical Secretary or a Division representative in accordance with condition **E3-3**. This log or a summary of this recordkeeping information shall be included in the semiannual reports required by conditions **E2(a)** and **E2(c)**.

E9-3. The sulfur content of the fuel oil shall not exceed 0.5 percent by weight.

TAPCR 1200-03-09-.03(8), the agreement letter dated March 26, 2024, and the application dated August 29, 2019

Compliance Method: Fuel oil supplier certification shall be obtained for each batch of fuel oil received and stored on site. This certification shall be maintained and kept available for inspection by the Technical Secretary or a Division representative in accordance with condition E3-3. These certifications or a summary of this information shall be included in the semiannual reports required by condition **E2(a)**.

E9-4. Pollutants emitted from this source shall not exceed the following:

Pollutant	Emission Rate limit (daily average basis)	TAPCR rule citation
Particulates	0.6 lb/MMBtu heat input (5.8 lb/hr)	1200-03-06-.02(2)(a)
Sulfur Dioxide	5.0 lbs/hour	1200-03-14-.01(3) and agreement letter dated March 26, 2024 (Attachment 7)
Nitrogen Oxides	20.125 lbs/hour	1200-03-07-.07(2)
Carbon Monoxide	2.07 lbs/hour	1200-03-07-.07(2)
Volatile Organic Compounds	0.12 lbs/hour	1200-03-07-.07(2)

TAPCR 1200-03-.06- .02(2)(a), 1200-03-07-.07(2), 1200-03-14-.01(3), the agreement letter dated March 26, 2024 (Attachment 7) and the application dated August 29, 2019

Compliance Method: The above emission limits are based on stack test data from Caterpillar Power Generator Model D-399 included in the facility's permit renewal application dated August 29, 2019 (Attachment 13), and an average monthly fuel oil combustion rate of no more than 70 gallons per hour of fuel oil and a fuel sulfur content rate of no more than 0.5% by weight. The permittee shall maintain records of Fuel Oil Usage and Fuel Sulfur Content required in conditions **E9-2** and **E9-3** in accordance with condition **E3-3**. Compliance with the emission limitations of this

condition is based on compliance with the limitations and recordkeeping requirements of conditions **E9-2** and **E9-3**.

E9-5. (a) The permittee shall comply with the requirement of the NESHAP/MACT (National Emission Standards for Hazardous Air Pollutants/ Maximum Achievable Control Technology) standards of 40 CFR Part 63 Subpart ZZZZ for Stationary Reciprocating Internal Combustion Engines (RICE). For this source to maintain limited use status, the maximum operating time shall not exceed 100 hours per calendar year.

Per 40 CFR §63.6590(b)(3)(iv), the emergency engine does not have to meet the requirements of 40 CFR Part 63, Subpart ZZZZ and of Subpart A since it's an existing limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(b) Operating time for this source shall not exceed 99 hours per calendar year.

TAPCR 1200-03-09-.03(8), 40 CFR §63.6590 (b)(3)(iv), 40 CFR §63.6675, and the agreement statement to limited use status and maximum operating time of 99 hours per year for this source contained in the application dated August 29, 2019, (Attachment 13) and the agreement letter dated March 26, 2024 (Attachment 7).

Compliance Method: Compliance with the operating time limitations of this condition is based on compliance with the recordkeeping requirements of condition E9-2. The log or a summary of the recordkeeping information required by condition E9-2 shall be reported in the MACT Part 63 Subpart ZZZZ semiannual reports required by condition E2(c).

E9-6. The exhaust gases from the engine shall be discharged unobstructed vertically upwards to the ambient air from a stack with an exit diameter of 12 inches not less than 30 feet above ground level.

TAPCR 1200-03-09-.03(8) and the application dated August 29, 2019 (note no air quality modeling was indicated for this requirement)

Compliance Method: The permittee shall comply with the stack parameters listed in the above limitations of this condition and certify compliance for this condition in the annual compliance report required by condition **E2(b)**.

E9-7. For MACT Subpart ZZZZ reporting purposes, the owner or operator shall comply with the requirements of 40 CFR §63.6650. The reporting schedule shall adhere to the requirements in conditions **E2(b)** and **E2(c)** of this permit.

TAPCR: 1200-03-09-.03(8) and 40 CFR Part 63 Subpart ZZZZ

END OF PERMIT NUMBER: 577428

ATTACHMENT 1

OPACITY MATRIX DECISION TREE for VISIBLE EMISSION EVALUATION METHOD 9

Dated June 18, 1996

Amended September 11, 2013

Decision Tree PM for Opacity for Sources Utilizing EPA Method 9*

Notes:

PM = Periodic Monitoring required by 1200-03-09-.02(11)(e)(iii).

This Decision Tree outlines the criteria by which major sources can meet the periodic monitoring and testing requirements of Title V for demonstrating compliance with the visible emission standards set forth in the permit. It is not intended to determine compliance requirements for EPA's Compliance Assurance Monitoring (CAM) Rule (formerly referred to as Enhanced Monitoring – Proposed 40 CFR 64).

Examine each emission unit using this Decision Tree to determine the PM required.*

Use of continuous emission monitoring systems eliminates the need to do any additional periodic monitoring.

Visible Emission Evaluations (VEEs) are to be conducted utilizing EPA Method 9. The observer must be properly certified to conduct valid evaluations.

Typical Pollutants
Particulates, VOC, CO, SO_2, NO_x, HCl, HF, HBr, Ammonia, and Methane.

Initial observations are to be repeated within 90 days of startup of a modified source, if a new construction permit is issued for modification of the source.

A VEE conducted by TAPCD personnel after the Title V permit is issued will also constitute an initial reading.

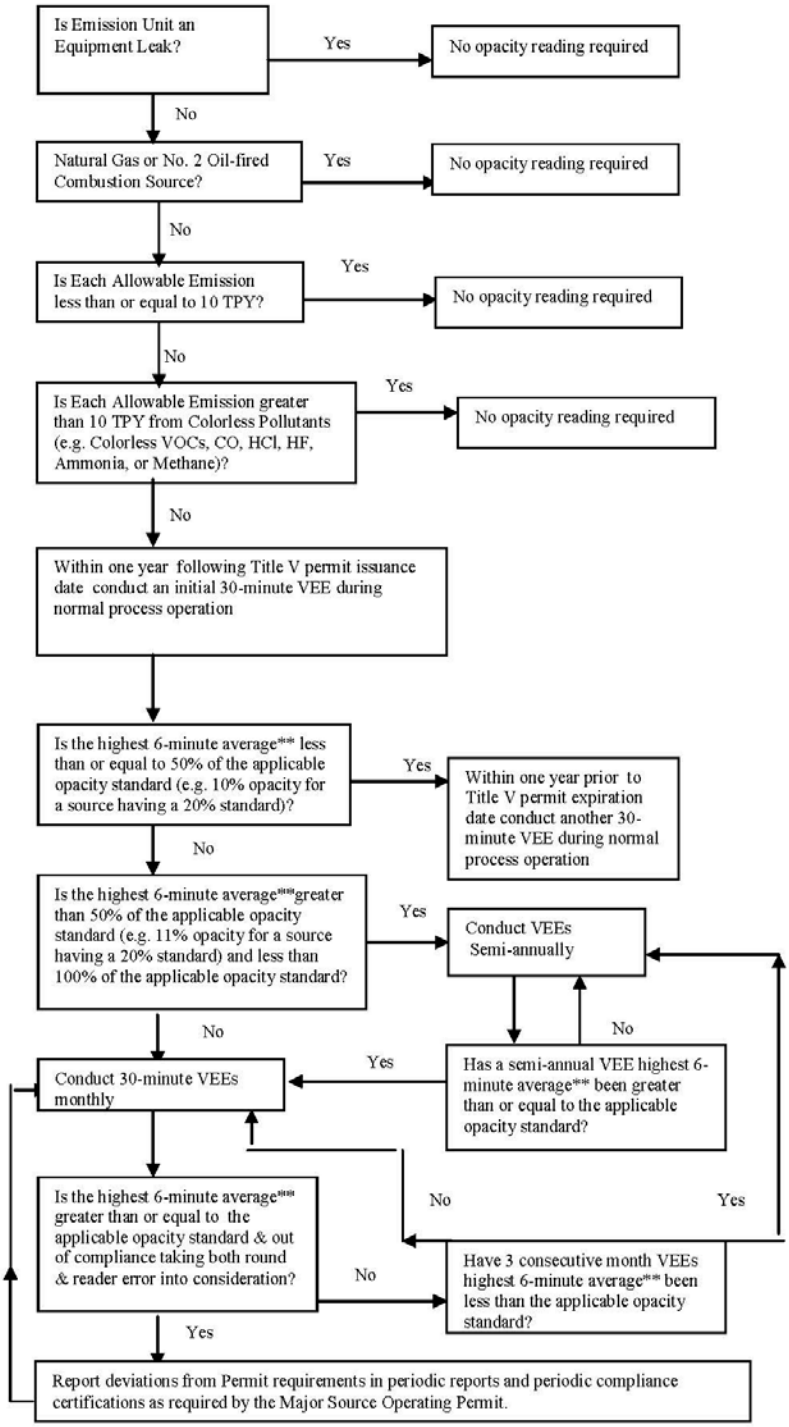
Reader Error
EPA Method 9, Non-NSPS or NESHAPS stipulated opacity standards:
The TAPCD guidance is to declares non-compliance when the highest six-minute average** exceeds the standard plus 6.8% opacity (e.g. 26.8% for a 20% standard).

EPA Method 9, NSPS or NESHAPS stipulate opacity standards:
EPA guidance is to allow only engineering round. No allowance for reader error is given.

*Not applicable to Asbestos manufacturing subject to 40 CFR 61.142

**Or second highest six-minute average, if the source has an exemption period stipulated in either the regulations or in the permit.

Dated June 18, 1996
Amended September 11, 2013



ATTACHMENT 2

Table 2: Log for Cellulose Casing Production Source 53-0003-03

Biofilter Monitoring Data

Table 2. Biofilter Monitoring Data Month_____Year_____

Day	Inlet Gas Temperature (°F)	Bioreactor 1		Bioreactor 2		Bioreactor 3		Bioreactor 4	
		Effluent Conductivity (mili-Siemens/cm)	Pressure Drop (inches of water)	Effluent Conductivity (mili-Siemens/cm)	Pressure Drop (inches of water)	Effluent Conductivity (mili-Siemens/cm)	Pressure Drop (inches of water)	Effluent Conductivity (mili-Siemens/cm)	Pressure Drop (inches of water)

Note: For compliance assurance, the minimum inlet temperature is 68°F and the maximum is 119°F. The minimum conductivity is 0 milli-Siemens/cm and the maximum is 200 milli-Siemens/cm. The differential pressure drop minimum is 0 inches of water and the maximum is 8 inches of water.

Days Days are production days of the inventory month as defined in condition E5-1 of the permit.

ATTACHMENT 3

Table 3: Log used for the Cellulose Casing Production Source 53-0003-03 Calculation for MACT Subpart UUUU Compliance

Table 3
Calculation for MACT Subpart UUUU Compliance
Viskase Loudon, TN. MACT Compliance Information for Cellulose Casing Production Source 53-0003-03
MACT Material Balance and Calculation of Percent Reduction of Total Sulfide Emissions

	Input				Input	Input								Input					
	("W")		**("A")**	**("X")**		**Capacity Factor Information**				**("U")**	**("R")**	**(BUR)***	**(XUR)**	**("M")**	**(W/M)**	**("P")**	**(XUR*(1-P))**	**(P+ XUR*(1-P))**	**Need**
				36.70%							**80.57%**		**=(BUR/A)**	**Process Credit Info.**					**>= 25%**
Month/YR	Pounds of CS_2 Input per Month at Scale (Lbs/Mo.)	Days	**95.0% * W** Pounds of CS_2 to Air (Lbs/Mo.)	**("B")** CS_2 to MACT System (Lbs/Mo.)	Input MACT Maint. Hrs.	Input Non-MACT Maint. Hours in the Month with the following Number of Reactors OFFLINE 1	2	3	4	MACT Capacity Factor Uptime (%)	**(UR)** Effective MACT System Removal	CS_2 Removed by MACT System (Lbs/Mo.)	MACT System Current Removal (%)	SAP Casing Produced (M Sq.m/Mo.)	Lbs CS_2 Weighed per M Sq.m. Casing	Monthly Process Credit (%)	MACT System Base Yr. Removal (%)	**Overall MACT Base Yr. Removal (%)**	**6-Month Rolling Average Removal (%)**
1991														1991 Base Yr:	22.92				

Overall MACT Removal % = [P + XUR*(1-P)]
This needs to be greater than or equal to 25% on a 6-Month Rolling Average for compliance
Note: The 6-Month Rolling Average weights the values for each month by the number of days in the month

W	Amount of CS_2 weighed at the scale during the month
95.00%	Percentage of CS_2 weighed that goes into the air as CS_2, H_2S, or COS based on previous testing & permit values
A	Amount of CS_2 weighed at the scale during the month that goes into the air
B	Amount of sulfides routed to the MACT equipment expressed as CS_2
X = B/A	Based on 9/21/23 Performance Test Results & Average CS2 used at Full Production, 36.70% of the sulfides that went into the air (expressed as CS2) went to the control device.
U	Uptime Capacity Factor Based on Each Reactor Performing Equivalently (e.g. Reduce MACT system removal capacity by 1/4 for each reactor that is OFFLINE)
R	Based on 9/21/23 Performance Test Results with 4 Reactors On-line 80.57% of the sulfides (expressed as CS2) that went to the control device were removed.
BUR*	The CS_2 removed by the MACT System is adjusted to show no removal during maintenance hours by multiplying BUR by (Days*24-Maint. Hrs)/ (Days*24)
M	M Square meters of Casing produced during the month from SAP accounting system
P	Process Credit % calculated by using current Lbs of CS_2 per M Sq.meters of Casing Produced / Lbs CS_2 Weighed compared to 1991 Base Year
Days	Days are production days of the inventory month as defined in condition E5-2 of the permit.

ATTACHMENT 4

Table 4: Log used to calculate and record Carbon Disulfide (CS_2) and Hydrogen Sulfide (H_2S) emissions from Cellulose Casing Production Source 53-0081-03

Table 4
Calculation of CS_2 and H_2S Emissions from Cellulose Casing Production Source 53-0081-03
MACT Material Balance and Performance Test Information

Note: This information is the same information that is used to determine MACT compliance														*Title V Permit Emission Calculations*			
	("W")		**("A")**	**("X")** **36.70%**		**Capacity Factor Information**				**("U")**	**("R")** **80.57%**	**(BUR)***	**(XUR) =(BUR/A)**	**72.0%** **55.06%**		**23.0%** **44.94%**	
Month/YR	Pounds of CS_2 Input per Month at Scale (Lbs/Mo)	Days	**95.0% * W** Pounds of CS_2 to Air (Lbs/Mo)	**("B")** CS_2 to MACT System (Lbs/Mo)	Input MACT Maint. Hrs.	Input Non-MACT Maint. Hours in the Month with the following Number of Reactors OFFLINE 1	2	3	4	MACT Capacity Factor Uptime (%)	**(UR)** Effective MACT System Removal	CS_2 Removed by MACT System (Lbs/Mo)	MACT System Current Removal (%)	CS_2 emissions (tons/mo)	12-mo. rolling avg. CS_2 emissions (tons/12-mo)	H_2S & COS as H_2S emissions (tons/mo)	12-mo. rolling avg. H_2S & COS as H_2S emissions (tons/12-mo)

W Amount of CS_2 weighed at the scale during the month
95.00% Percentage of CS_2 weighed that goes into the air as CS_2, H_2S, or COS based on previous testing & permit values
A Amount of CS_2 weighed at the scale during the month that goes into the air
B Amount of sulfides routed to the MACT equipment expressed as CS_2
X = B/A Based on 9/21/23 Performance Test Results & Average CS2 used at full production 36.70% of the sulfides that went into the air (expressed as CS2) went to the control device.
U Uptime Capacity Factor Based on Each Reactor Performing Equivalently (e.g. Reduce MACT system removal capacity by 1/4 for each reactor that is OFFLINE)
R Based on 9/21/23 Performance Test Results with 4 Reactors On-line 80.57% of the sulfides (expressed as CS2) that went to the control device were removed.
BUR* The CS2 removed by the MACT System is adjusted to show no removal during maintenance hours by multiplying BUR by (Days*24-Maint. Hrs)/(Days*24).
72.00% Percentage of CS2 weighed that goes into the air as CS2 based on previous testing & permit values
23.00% Percentage of CS2 weighed that goes into the air as H2S or COS (expressed in lbs CS2) based on previous testing & permit values
Note: Multiply by MW ratio to convert lbs CS2 to Lbs H2S = 23%x2x34.076/76.131 = 20.6%
55.06% Percentage of MACT System removal that is CS2 emissions, based on 9/21/23 Compliance Test

44.94%	Percentage of MACT System removal that is H2S or COS emissions, based on 9/21/23 Compliance Test.
Days	Days are production days of the inventory month as defined in condition E5-2 of the permit

ATTACHMENT 5

LOGS FOR BOILERS SOURCE 53-0003-01

Source 53-0003-01 Conditions E4-1(b) and E4-19 Recordkeeping Logs

Monthly Fuel Usage Month_____ Year_____

	Natural Gas Fuel Usage/ combusted (scf/month)	Fuel Oil Usage/ combusted (gal/month)	Fuel Oil Delivered** (gal/month)	Operating Hours using Fuel Oil (hr/month)*
Boiler #3				
Boiler #4				
Boiler #5				
Substitute Boiler				
Total				

*includes fuel oil usage during gas curtailment, gas supply interruption, boiler testing, maintenance, and operator training; Note fuel oil usage is allowed only during these time periods

**Boilers #4 and #5: For purposes of compliance with 40 CFR Subpart Dc, the log must indicate if the fuel is combusted or delivered to the property

Source 53-0003-01 Condition E4-1(c) Recordkeeping Logs

Monthly Fuel Oil Usage (Hours) Log for Source 53-0003-01 **Year_____**

For Testing, Maintenance, and Operator Training **Boiler # _____**

Month	Fuel Oil Usage/ Combusted (hours)			Month	Fuel Oil Usage/ Combusted (hours)		
	Testing	Maintenance	Operator Training		Testing	Maintenance	Operator Training
January				July			
February				August			
March				September			
April				October			
May				November			
June				December			
Total				**Total**			

Yearly Total _____ Fuel Oil Usage Hours for Testing, Maintenance, Operator Training

Monthly Fuel Oil Usage (Hours) Log for Source 53-0003-01 **Year_____**

For Natural Gas Curtailment, Supply Interruption **Boiler # _____**

Month	Fuel Oil Usage (hours)	Month	Fuel Oil Usage (hours)
January		July	
February		August	
March		September	
April		October	
May		November	
June		December	
Total		Total	

Yearly Total _____ Fuel Oil Usage Hours for Natural Gas Curtailment, Supply Interruptions

Source 53-0003-01 Conditions E4-2, E4-3, E4-5, E4-7 Recordkeeping Logs

Monthly Emissions Month_____ Year_____

	PM Emissions from Natural Gas (tons/ month)	PM Emissions from Fuel Oil (tons/ month)	Total PM Emissions (tons/ month)	SO_2 Emissions from Natural Gas (tons/ month)	SO_2 Emissions from Fuel Oil (tons/ month)	Total SO_2 Emissions (tons/ month)	NOx Emissions from Natural Gas (tons/ month)	NOx Emissions from Fuel Oil (tons/ month)	Total NOx Emissions (tons/ month)
Boiler #3									
Boiler #4									
Boiler #5									
Substitute Boiler									
Total									

Monthly Emissions Month_____ Year_____

	CO Emissions from Natural Gas (tons/ month)	CO Emissions from Fuel Oil (tons/ month)	Total CO Emissions (tons/ month)
Boiler #3			
Boiler #4			
Boiler #5			
Substitute Boiler			
Total			

12-Consecutive Month PM, SO_2, and NOx Emissions

Month/ Year	Total PM Emissions from Boilers #3, 4, 5, & substitute (tons/month)	Total PM Emissions from Boilers #3, 4, 5, & substitute (tons/12 consecutive months)	Total SO_2 Emissions from Boilers #3, 4, 5, & substitute (tons/month)	Total SO_2 Emissions from Boilers #3, 4, 5, & substitute (tons/12 consecutive months)	Total NOx Emissions from Boilers #3, 4, 5, & substitute (tons/month)	Total NOx Emissions from Boilers #3, 4, 5, & substitute (tons/12 consecutive months)
January						
February						
Etc.						
December						

12-Consecutive Month CO Emissions

Month/ Year	Total CO Emissions from Boilers #3, 4, 5, & substitute (tons/month)	Total CO Emissions from Boilers #3, 4, 5, & Substitute (tons/12 consecutive months)
January		
February		
Etc.		
December		

Natural Gas Emission Factors*

	PM Emission Factor (lb/MMscf)	SO_2 Emission Factor (lb/MMscf)	NOx Emission Factor (lb/MMscf)	CO Emission Factor (lb/MMscf)
Boilers #3 & substitute Natural Gas	7.6	0.6	100	84
Boilers #4 & 5 Natural Gas	7.6	0.6	40	40

* Reference Attachments 9 & 10 (AP-42 emission factors) & Attachment 12 [manufacturers data (boilers 4 & 5: for NOx) & CO]

Fuel Oil Emission Factors*

	PM Emission Factor (lb/1000 gal)	SO_2 Emission Factor (lb/1000 gal)	NOx Emission Factor (lb/1000 gal)	CO Emission Factor lb/1000 gal
Boilers #3 & substitute Fuel Oil	3.3	142S	20	5.0
Boilers #4 & 5 Fuel Oil	3.3	142S	24.4	5.6

* Reference Attachment 11 (AP-42 emission factors) & Attachment 12 [manufacturer's data (boilers 4 & 5: for NOx & CO]

SO2 emission factor: S is the fuel % sulfur content by weight

The permittee shall use the following equations:

[Monthly Emissions from Natural Gas (ton/month)] = [Fuel Usage (scf/month) x Emission Factor (lb/scf)] / 2000 lb/ton
[Monthly Emissions from Fuel Oil (ton/month)]= [Fuel Usage (gallons/month) x Emission Factor (lb/gallon)] / 2,000 lb/ton
[Total Monthly Emissions (tons/month)] = [Monthly Emissions from Natural Gas (tons/month)] +
[Monthly Emissions from Fuel Oil (tons/month)]

ATTACHMENT 6

LOG FOR EMERGENCY ENGINE SOURCE 53-0003-23

FUEL USAGE AND HOURS OF OPERATION

Example Log for source 53-0003-23 condition E9-2:
Emergency Generator Engine Fuel Usage and Operating Hours

Log for Monthly Engine Fuel Usage Operating Hours
Year_____

Month	Fuel Oil Usage (gal/month)	Operating time (hours/ month)	Fuel oil usage (average gal/hr)*
Jan			
Feb			
Dec			
Total (year)			

*column 2 (fuel oil usage gal/month) / column 3 (operating time hours/month) = monthly average fuel oil usage gal/hr

ATTACHMENT 7

Agreement Letter for Particulate Matter and Sulfur Dioxide Emission Limits, Fuel Oil Sulfur Content, and Operating Time (Hours) Limit Sources 53-0003-01, 15, and 23

March 26th, 2024

Tennessee Department of Environment & Conservation
Division of Air Pollution Control
William R. Snodgrass Tennessee Tower, 15th Floor.
312 Rosa L. Parks Avenue
Nashville, TN 37243

RE: Permit Agreement Letter
Viskase Companies, Inc.
106 Blair Bend Drive
Loudon, TN 37774
Emissions Source Reference No. 53-0003, Permit 577428

Dear Michelle Walker Owenby,

On behalf of Viskase Companies, Inc., the following permit limitations are agreed upon for the cellulose casing manufacturing located at the above referenced facility:

Source 01: Fuel Burning Installation (Boilers)

E4-2. Particulate matter (PM) emitted from this source shall not exceed 3.77 pounds per hour on a daily average basis and 5.21 tons during any period of 12 consecutive months.

TAPCR 1200-03-06-.01(7), the agreement letter dated March 26, 2024 (Attachment 7) and the application dated August 29, 2019

E4-5. (a) Sulfur dioxide (SO2) emitted from this source shall not exceed 162.25 pounds per hour on a daily average basis and 60.36 tons during any period of 12 consecutive months.

TAPCR 1200-03-14-.01(3), the agreement letter dated March 26, 2024 (Attachment 7) and the application dated August 29, 2019

(b) The sulfur content of the fuel oil used at this source shall not exceed 1.0 percent by weight.

TAPCR 1200-03-14-.01(3), the agreement letter dated March 26, 2024 (Attachment 7) and the application dated August 29, 2019

Viskase Corporation • 106 Blair Bend Drive • Loudon, TN 37774
Tel: 865-458-2071 Fax: 865-458-0239

Source 15: Lime Storage

E7-1. Particulate matter emitted from this source shall not exceed 1.36 lbs./hour on a daily average basis.

TAPCR: 1200-03-07-.01(5) and the agreement letter dated March 26, 2024 (Attachment 7)

Source 23: Emergency Engine

E9-3. The sulfur content of the fuel oil shall not exceed 0.5 percent by weight.

TAPCR 1200-03-09-.03(8), the agreement letter dated March 26, 2024, and the application dated August 29, 2019

E9-4. Pollutants emitted from this source shall not exceed the following:

Pollutant	Emission Rate limit (daily average basis)	TAPCR rule citation
Particulates	0.6 lb./MMBtu heat input (5.8 lb./hr.)	1200-03-06-.02(2)(a)
Sulfur Dioxide	5.0 lbs./hour	1200-03-14-.01(3) and agreement letter dated March 26, 2024 (Attachment 7)
Nitrogen Oxides	20.125 lbs./hour	1200-03-07-.07(2)
Carbon Monoxide	2.07 lbs/hour	1200-03-07-.07(2)
Volatile Organic Compounds	0.12 lbs/hour	1200-03-07-.07(2)

TAPCR 1200-03-.06- .02(2)(a), 1200-03-07-.07(2), 1200-03-14-.01(3), the agreement letter dated March 26, 2024 (Attachment 7) and the application dated August 29, 2019

E9-5. (a) The permittee shall comply with the requirement of the NESHAP/MACT (National Emission Standards for Hazardous Air Pollutants/ Maximum Achievable Control Technology) standards of 40 CFR Part 63 Subpart ZZZZ for Stationary Reciprocating Internal Combustion Engines (RICE). For this source to maintain limited use status, the maximum operating time shall not exceed 100 hours per calendar year.

Per 40 CFR §63.6590(b)(3)(iv), the emergency engine does not have to meet the requirements of 40 CFR Part 63, Subpart ZZZZ and of Subpart A since it's an existing limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(b) Operating time for this source shall not exceed 99 hours per calendar year.

TAPCR 1200-03-09-.03(8), 40 CFR §63.6590 (b)(3)(iv), 40 CFR §63.6675, and the agreement statement to limited use status and maximum operating time of 99 hours per year for this source contained in the application dated August 29, 2019, (Attachment 13) and the agreement letter dated March 26, 2024 (Attachment 7).

Viskase Companies, Inc. shall assure compliance with these limitations by emission factors, fuel usage, fuels used, time of operation, preventative maintenance, proper operation, testing, calibration, and recordkeeping.

Should you have any questions or require additional information, please contact Michael Rasmussen via phone at 865.458.0531 or via e-mail at Mike.Rasmussen@viskase.com

On behalf of Viskase Companies, Inc., I agree to the above limitations. I am authorized to represent and bind the facility in environmental affairs.

Sincerely,

Signature: _____

Name: Daniel Shenck

Title: Plant Manager

Date: March 26, 2024

Viskase Corporation • 106 Blair Bend Drive • Loudon, TN 37774
Tel: 865-458-2071 Fax: 865-458-0239

ATTACHMENT 8

Title V Fee Selection Form (APC 36)

DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF AIR POLLUTION CONTROL
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor, Nashville, TN 37243
Telephone: (615) 532-0554, Email: Air.Pollution.Control@TN.gov

TITLE V FEE SELECTION

Type or print and submit to the email address above.

FACILITY INFORMATION

1. Organization's legal name and SOS control number [as registered with the TN Secretary of State (SOS)]

2. Site name (if different from legal name)

3. Site address (St./Rd./Hwy.)	County name
City	Zip code

4. Emission source reference number	**5.** Title V permit number

FEE SELECTION

This fee selection is effective beginning January 1, _____. When approved, this selection will be effective until a new Fee Selection form is submitted. Fee Selection forms must be submitted on or before December 31 of the annual accounting period.

6. Payment Schedule (choose one):

Calendar Year Basis (January 1 – December 31) ☐ Fiscal Year Basis (July 1 – June 30) ☐

7. Payment Basis (choose one):

Actual Emissions Basis ☐ Allowable Emissions Basis ☐ Combination of Actual and Allowable Emissions Basis ☐

8. If Payment Basis is "Actual Emissions" or "Combination of Actual and Allowable Emissions", complete the following table for each permitted source and each pollutant for which fees are due for that source. See instructions for further details.

Source ID	Pollutant	Allowable or Actual Emissions	If allowable emissions: Specify condition number and limit. If actual emissions: Describe calculation method and provide example. Provide condition number that specifies method, if applicable.

8. (Continued)

Source ID	Pollutant	Allowable or Actual Emissions	If allowable emissions: Specify condition number and limit. If actual emissions: Describe calculation method and provide example. Provide condition number that specifies method, if applicable.

CONTACT INFORMATION (BILLING)

9. Billing contact			Phone number with area code
Mailing address (St./Rd./Hwy.)			Fax number with area code
City	State	Zip code	**Email address**

SIGNATURE BY RESPONSIBLE OFFICIAL

Based upon information and belief formed after reasonable inquiry, I, as the responsible person of the above mentioned facility, certify that the information contained in the submittal is accurate and true to the best of my knowledge. As specified in TCA Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

10. Signature		Date
Signer's name (type or print)	**Title**	Phone number with area code

ATTACHMENT 9

Section 1.4 of *AP-42, Fifth Edition, Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources*

NATURAL GAS COMBUSTION

Table 1.4-2

TABLE 1.4-2. EMISSION FACTORS FOR CRITERIA POLLUTANTS AND GREENHOUSE GASES FROM NATURAL GAS COMBUSTION[a]

Pollutant	Emission Factor ($lb/10^6$ scf)	Emission Factor Rating
CO_2[b]	120,000	A
Lead	0.0005	D
N_2O (Uncontrolled)	2.2	E
N_2O (Controlled-low-NO_X burner)	0.64	E
PM (Total)[c]	7.6	D
PM (Condensable)[c]	5.7	D
PM (Filterable)[c]	1.9	B
SO_2[d]	0.6	A
TOC	11	B
Methane	2.3	B
VOC	5.5	C

[a] Reference 11. Units are in pounds of pollutant per million standard cubic feet of natural gas fired. Data are for all natural gas combustion sources. To convert from $lb/10^6$ scf to $kg/10^6$ m^3, multiply by 16. To convert from $lb/10^6$ scf to 1b/MMBtu, divide by 1,020. The emission factors in this table may be converted to other natural gas heating values by multiplying the given emission factor by the ratio of the specified heating value to this average heating value. TOC = Total Organic Compounds. VOC = Volatile Organic Compounds.

[b] Based on approximately 100% conversion of fuel carbon to CO_2. $CO_2[lb/10^6 scf] = (3.67) (CON) (C)(D)$, where CON = fractional conversion of fuel carbon to CO_2, C = carbon content of fuel by weight (0.76), and D = density of fuel, $4.2x10^4$ $lb/10^6$ scf.

[c] All PM (total, condensible, and filterable) is assumed to be less than 1.0 micrometer in diameter. Therefore, the PM emission factors presented here may be used to estimate PM_{10}, $PM_{2.5}$ or PM_1 emissions. Total PM is the sum of the filterable PM and condensible PM. Condensible PM is the particulate matter collected using EPA Method 202 (or equivalent). Filterable PM is the particulate matter collected on, or prior to, the filter of an EPA Method 5 (or equivalent) sampling train.

[d] Based on 100% conversion of fuel sulfur to SO_2.
Assumes sulfur content is natural gas of 2,000 $grains/10^6$ scf. The SO_2 emission factor in this table can be converted to other natural gas sulfur contents by multiplying the SO_2 emission factor by the ratio of the site-specific sulfur content ($grains/10^6$ scf) to 2,000 $grains/10^6$ scf.

ATTACHMENT 10

Section 1.4 of *AP-42, Fifth Edition, Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources*

NATURAL GAS COMBUSTION

Table 1.4-1

Table 1.4-1. EMISSION FACTORS FOR NITROGEN OXIDES (NO_x) AND CARBON MONOXIDE (CO) FROM NATURAL GAS COMBUSTION[a]

Combustor Type (MMBtu/hr Heat Input) [SCC]	NO_x[b]		CO	
	Emission Factor ($lb/10^6$ scf)	Emission Factor Rating	Emission Factor ($lb/10^6$ scf)	Emission Factor Rating
Large Wall-Fired Boilers (>100) [1-01-006-01, 1-02-006-01, 1-03-006-01]				
Uncontrolled (Pre-NSPS)[c]	280	A	84	B
Uncontrolled (Post-NSPS)[c]	190	A	84	B
Controlled - Low NO_x burners	140	A	84	B
Controlled - Flue gas recirculation	100	D	84	B
Small Boilers (<100) [1-01-006-02, 1-02-006-02, 1-03-006-02, 1-03-006-03]				
Uncontrolled	100	B	84	B
Controlled - Low NO_x burners	50	D	84	B
Controlled - Low NO_x burners/Flue gas recirculation	32	C	84	B
Tangential-Fired Boilers (All Sizes) [1-01-006-04]				
Uncontrolled	170	A	24	C
Controlled - Flue gas recirculation	76	D	98	D
Residential Furnaces (<0.3) [No SCC]				
Uncontrolled	94	B	40	B

[a] Reference 11. Units are in pounds of pollutant per million standard cubic feet of natural gas fired. To convert from $lb/10^6$ scf to $kg/10^6$ m^3, multiply by 16. Emission factors are based on an average natural gas higher heating value of 1,020 Btu/scf. To convert from $1b/10^6$ scf to lb/MMBtu, divide by 1,020. The emission factors in this table may be converted to other natural gas heating values by multiplying the given emission factor by the ratio of the specified heating value to this average heating value. SCC = Source Classification Code. ND = no data. NA = not applicable.

[b] Expressed as NO_2. For large and small wall fired boilers with SNCR control, apply a 24 percent reduction to the appropriate NO_X emission factor. For tangential-fired boilers with SNCR control, apply a 13 percent reduction to the appropriate NO_X emission factor.

[c] NSPS=New Source Performance Standard as defined in 40 CFR 60 Subparts D and Db. Post-NSPS units are boilers with greater than 250 MMBtu/hr of heat input that commenced construction modification, or reconstruction after August 17, 1971, and units with heat input capacities between 100 and 250 MMBtu/hr that commenced construction modification, or reconstruction after June 19, 1984

ATTACHMENT 11

Section 1.3 of *AP-42, Fifth Edition, Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources*

FUEL OIL COMBUSTION

Tables 1.3-1, 1.3-2, 1.3-3

Table 1.3-1. CRITERIA POLLUTANT EMISSION FACTORS FOR FUEL OIL COMBUSTION[a]

Firing Configuration (SCC)[a]	SO_2[b]		SO_3[c]		NO_x[d]		CO[e]		Filterable PM[f]	
	Emission Factor ($lb/10^3$ gal)	EMISSION FACTOR RATING	Emission Factor ($lb/10^3$ gal)	EMISSION FACTOR RATING	Emission Factor ($lb/10^3$ gal)	EMISSION FACTOR RATING	Emission Factor ($lb/10^3$ gal)	EMISSION FACTOR RATING	Emission Factor ($lb/10^3$ gal)	EMISSION FACTOR RATING
Boilers > 100 Million Btu/hr										
No. 6 oil fired, normal firing (1-01-004-01), (1-02-004-01), (1-03-004-01)	157S	A	5.7S	C	47	A	5	A	9.19(S)+3.22	A
No. 6 oil fired, normal firing, low NO_x burner (1-01-004-01), (1-02-004-01)	157S	A	5.7S	C	40	B	5	A	9.19(S)+3.22	A
No. 6 oil fired, tangential firing, (1-01-004-04)	157S	A	5.7S	C	32	A	5	A	9.19(S)+3.22	A
No. 6 oil fired, tangential firing, low NO_x burner (1-01-004-04)	157S	A	5.7S	C	26	E	5	A	9.19(S)+3.22	A
No. 5 oil fired, normal firing (1-01-004-05), (1-02-004-04)	157S	A	5.7S	C	47	B	5	A	10	B
No. 5 oil fired, tangential firing (1-01-004-06)	157S	A	5.7S	C	32	B	5	A	10	B
No. 4 oil fired, normal firing (1-01-005-04), (1-02-005-04)	150S	A	5.7S	C	47	B	5	A	7	B
No. 4 oil fired, tangential firing (1-01-005-05)	150S	A	5.7S	C	32	B	5	A	7	B
No. 2 oil fired (1-01-005-01), (1-02-005-01), (1-03-005-01)	142S[h]	A	5.7S	C	24	D	5	A	2	A
No.2 oil fired, LNB/FGR, (1-01-005-01), (1-02-005-01), (1-03-005-01)	142S[h]	A	5.7S	A	10	D	5	A	2	A

Table 1.3-1. (cont.)

Firing Configuration (SCC)[a]	SO_2[b]		SO_3[c]		NO_x[d]		CO[e]		Filterable PM[f]	
	Emission Factor ($lb/10^3$ gal)	EMISSION FACTOR RATING	Emission Factor ($lb/10^3$ gal)	EMISSION FACTOR RATING	Emission Factor ($lb/10^3$ gal)	EMISSION FACTOR RATING	Emission Factor ($lb/10^3$ gal)	EMISSION FACTOR RATING	Emission Factor ($lb/10^3$ gal)	EMISSION FACTOR RATING
Boilers < 100 Million Btu/hr										
No. 6 oil fired (1-02-004-02/03) (1-03-004-02/03)	157S	A	2S	A	55	A	5	A	9.19(S)+3.22[i]	B
No. 5 oil fired (1-03-004-04)	157S	A	2S	A	55	A	5	A	10[i]	A
No. 4 oil fired (1-03-005-04)	150S	A	2S	A	20	A	5	A	7	B
Distillate oil fired (1-02-005-02/03) (1-03-005-02/03)	142S	A	2S	A	20	A	5	A	2	A
Residential furnace (A2104004/A2104011)	142S	A	2S	A	18	A	5	A	0.4[g]	B

a To convert from lb/103 gal to kg/103 L, multiply by 0.120. SCC = Source Classification Code.
b References 1-2,6-9,14,56-60. S indicates that the weight % of sulfur in the oil should be multiplied by the value given. For example, if the fuel is 1% sulfur, then S = 1.
c References 1-2,6-8,16,57-60. S indicates that the weight % of sulfur in the oil should be multiplied by the value given. For example, if the fuel is 1% sulfur, then S = 1.
d References 6-7,15,19,22,56-62. Expressed as NO2. Test results indicate that at least 95% by weight of NOx is NO for all boiler types except residential furnaces, where about 75% is NO. For utility vertical fired boilers use 105 lb/103 gal at full load and normal (>15%) excess air. Nitrogen oxides emissions from residual oil combustion in industrial and commercial boilers are related to fuel nitrogen content, estimated by the following empirical relationship: lb NO2 /103 gal = 20.54 + 104.39(N), where N is the weight % of nitrogen in the oil. For example, if the fuel is 1% nitrogen, then N = 1.
e References 6-8,14,17-19,56-61. CO emissions may increase by factors of 10 to 100 if the unit is improperly operated or not well maintained.
f References 6-8,10,13-15,56-60,62-63. Filterable PM is that particulate collected on or prior to the filter of an EPA Method 5 (or equivalent) sampling train. Particulate emission factors for residual oil combustion are, on average, a function of fuel oil sulfur content where S is the weight % of sulfur in oil. For example, if fuel oil is 1% sulfur, then S = 1.
g Based on data from new burner designs. Pre-1970's burner designs may emit filterable PM as high as 3.0 1b/103 gal.
h The SO2 emission factor for both no. 2 oil fired and for no. 2 oil fired with LNB/FGR, is 142S, not 157S. Errata dated April 28, 2000. Section corrected May 2010.
i The PM factors for No.6 and No. 5 fuel were reversed. Errata dated April 28, 2000. Section corrected May 2010.

Table 1.3-2. CONDENSABLE PARTICULATE MATTER EMISSION FACTORS FOR OIL COMBUSTION[a]

Firing Configuration[b] (SCC)	Controls	CPM - TOT[c, d]		CPM - IOR[c, d]		CPM - ORG[c, d]	
		Emission Factor ($lb/10^3$ gal)	EMISSION FACTOR RATING	Emission Factor ($lb/10^3$ gal)	EMISSION FACTOR RATING	Emission Factor ($lb/10^3$ gal)	EMISSION FACTOR RATING
No. 2 oil fired (1-01-005-01, 1-02-005-01, 1-03-005-01)	All controls, or uncontrolled	1.3[d, e]	D	65% of CPM-TOT emission factor[c]	D	35% of CPM-TOT emission factor[c]	D
No. 6 oil fired (1-01-004-01/04, 1-02-004-01, 1-03-004-01)	All controls, or uncontrolled	1.5[f]	D	85% of CPM-TOT emission factor[d]	E	15% of CPM-TOT emission factor[d]	E

[a] All condensable PM is assumed to be less than 1.0 micron in diameter.
[b] No data are available for numbers 3, 4, and 5 oil. For number 3 oil, use the factors provided for number 2 oil. For numbers 4 and 5 oil, use the factors provided for number 6 oil.
[c] CPM-TOT = total condensable particulate matter.
CPM-IOR = inorganic condensable particulate matter.
CPM-ORG = organic condensable particulate matter.
[d] To convert to lb/MMBtu of No. 2 oil, divide by 140 MMBtu/10^3 gal. To convert to lb/MMBtu of No. 6 oil, divide by 150 MMBtu/10^3 gal.
[e] References: 76-78.
[f] References: 79-82.

Table 1.3-3. EMISSION FACTORS FOR TOTAL ORGANIC COMPOUNDS (TOC), METHANE, AND NONMETHANE TOC (NMTOC) FROM UNCONTROLLED FUEL OIL COMBUSTION[a]

EMISSION FACTOR RATING: A

Firing Configuration (SCC)	TOC[b] Emission Factor ($lb/10^3$ gal)	Methane[b] Emission Factor ($lb/10^3$ gal)	NMTOC[b] Emission Factor ($lb/10^3$ gal)
Utility boilers			
No. 6 oil fired, normal firing (1-01-004-01)	1.04	0.28	0.76
No. 6 oil fired, tangential firing (1-01-004-04)	1.04	0.28	0.76
No. 5 oil fired, normal firing (1-01-004-05)	1.04	0.28	0.76
No. 5 oil fired, tangential firing (1-01-004-06)	1.04	0.28	0.76
No. 4 oil fired, normal firing (1-01-005-04)	1.04	0.28	0.76
No. 4 oil fired, tangential firing (1-01-005-05)	1.04	0.28	0.76
Industrial boilers			
No. 6 oil fired (1-02-004-01/02/03)	1.28	1.00	0.28
No. 5 oil fired (1-02-004-04)	1.28	1.00	0.28
Distillate oil fired (1-02-005-01/02/03)	0.252	0.052	0.2
No. 4 oil fired (1-02-005-04)	0.252	0.052	0.2
Commercial/institutional/residential combustors			
No. 6 oil fired (1-03-004-01/02/03)	1.605	0.475	1.13
No. 5 oil fired (1-03-004-04)	1.605	0.475	1.13
Distillate oil fired (1-03-005-01/02/03)	0.556	0.216	0.34
No. 4 oil fired (1-03-005-04)	0.556	0.216	0.34
Residential furnace (A2104004/A2104011)	2.493	1.78	0.713

a To convert from lb/103 gal to kg/103 L, multiply by 0.12. SCC = Source Classification Code.
b References 29-32. Volatile organic compound emissions can increase by several orders of magnitude if the boiler is improperly operated or is not well maintained.

ATTACHMENT 12

EMISSION FACTORS FOR NITROGEN OXIDES (NOx) AND CARBON MONOXIDE (CO) BOILERS 4 &5 (53-0003-01) NATURAL GAS AND FUEL OIL COMBUSTION PERMIT APPLICATION/ MANUFACTURER'S DATA

Page 23 of August 29, 2019, Permit Application

Viskase Corporation
106 Blair Blend Drive
Loudon, Tennessee
53-0003-01

Three (3) Natural Gas-Fired/No. 1 or No. 2 Fuel Oil Boilers - Boiler # 3, #4 and #5
Boilers #4 and #5 have Low-NOx burners with Flue Gas Recirculation

Operation Configuration

Boiler #3 and Boiler #4 or #5 may be operated simultaneously

Boiler Usage

Boiler #	Rating BTU/Hr	Natural Gas BTU/ft^3	No. 2 Oil BTU/Gal	Gas Usage Rate ft^3/Hr	Oil Usage Rate Gal/hr
3	55,600,000	1020	140,000.00	54,509.80	397.1
4	52,185,000	1020	140,000.00	51,161.80	372.8
5	52,185,000	1020	140,000.00	51,161.80	372.8

Emission Factors

	PM	SO_2	NO_x	CO	VOC	
Natural Gas Combustions*	7.60	0.60	100	84	5.50	lb/10^6 ft^3
Boiler #4 and #5**			0.04	0.04		lb/10^6 BTU
Fuel Oil Combustion***	3.30	142 S	24	5	0.20	lb/10^3 Gal
Boiler #4 and #5****			0.17	0.04		lb/10^6 BTU
*AP-42 Emission Factors for Narual Gas						
Table 1.4-1. EMISSION FACTORS FOR NITROGEN OXIDES (NOx) AND CARBON MONOXIDE (CO) FROM NATURAL GAS COMBUSTION						
TABLE 1.4-2. EMISSION FACTORS FOR CRITERIA POLLUTANTS AND GREENHOUSE GASES FROM NATURAL GAS COMBUSTION						
**Based on Manufacturer specification for Boilers #4 and #5 for Natural gas at 1000 BTU/ft3						
***AP-42 Emission Factors for No. 2 Fuel Oil						
Table 1.3-1. CRITERIA POLLUTANT EMISSION FACTORS FOR FUEL OIL COMBUSTION (Sulfur Percentage is 1%)						
Table 1.3-3. EMISSION FACTORS FOR TOTAL ORGANIC COMPOUNDS (TOC), METHANE, AND NONMETHANE TOC (NMTOC) FROM UNCONTROLLED FUEL OIL COMBUSTION						
Table 1.3-4. CUMULATIVE PARTICLE SIZE DISTRIBUTION AND SIZE-SPECIFIC EMISSION FACTORS FOR UTILITY BOILERS FIRING RESIDUAL OIL						
****Based on Manufacturer specification for Boilers #4 and #5 for No. 2 oil at 140000 BTU/Gal						

Natural Gas Combustions Emission	PM	SO_2	NO_x	CO	VOC	Basis
Boiler #3	0.41	0.03	5.45	4.58	0.30	AP-42
Boiler #4	0.39	0.03	1.89	1.90	0.28	Manuf Spec
Boiler #5	0.39	0.03	1.89	1.90	0.28	Manuf Spec
Total (lb./hr)	1.19	0.09	9.23	8.39	0.86	
Total (TPY)	5.22	0.41	40.42	36.74	3.78	

No. 2 Fuel Oil Combustion Emission	PM	SO_2	NO_x	CO	VOC	Basis
Boiler #3	1.31	56.39	9.67	2.22	0.08	AP-42
Boiler #4	1.23	52.94	9.08	2.09	0.07	Manuf Spec
Boiler #5	1.23	52.94	9.08	2.09	0.07	Manuf Spec
Total (lb./hr)	3.77	162.26	27.84	6.40	0.23	
Total (TPY)	0.091	60.36	0.67	0.154	0.005	

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Viskase Companies, Inc.
106 Blair Bend Drive
Loudon, Tennessee

53-0003-01 **Three (3) Natural Gas-Fired/No. 1 or No. 2 Oil Boilers**

Replacement of the two (2) Coal fired boilers with two (2) NEW Natural Gas-Fired/No. 1 or No. 2 Oil Boilers.

The two (2) new boilers will have Low-NO_x Burners with Flue Gas Recirculation.

Proposed Operation Configuration:

1. **Boiler 3 and one New Boiler (4 or 5) will be operated simultaneously**
2. **Boiler 4 or 5 will be used as a standby**

Boiler No.	Status	Rating BTU/Hr	Natural Gas BTU/Ft^3	No. 2 Oil BTU/Gal	Gas Usage Rate FT^3/Hr	Oil Usage Rate Gal/Hr
3	EXISTING	55,600,000	1020	140000	54509.8	397.1
4	NEW	48,171,000	1020	140000	47226.5	344.1
5	NEW	48,171,000	1020	140000	47226.5	344.1

AP-42 Natural Gas Combustion Emission Factors (Lbs/10^6 Ft^3), 5^{Th} Ed., 7/98

PM	SO_2	NO_x	CO	VOC
7.6	0.6	100	84	5.5

NO_x[1]	CO[1]
36	37

[1] Based on Manufacturer specifications for Boilers 4 and 5 for Natural Gas at 1000 BTU/Ft^3

AP-42 Fuel Oil Combustion Emission Factors (Lbs/10^3 Gal), 5^{Th} Ed., 5/10

PM[2]	SO_2	NO_x	CO	VOC
3.3	142S	24	5	0.2

NO_x[3]	CO[3]
24.4	5.2

[2] Includes Filterable and Condensable.

[1] Based on Manufacturer specifications for Boilers 4 and 5 for No. 2 Oil at 140000 BTU/Gal

ATTACHMENT 13

EMERGENCY ENGINE (SOURCE 53-0003-23)
EMISSIONS FROM FUEL OIL COMBUSTION
PERMIT APPLICATION/ MANUFACTURER'S DATA

Page 59 of August 29, 2019, Permit Application

Viskase Corporation
106 Blair Blend Drive
Loudon, Tennessee
53-0003

Diesel Emergency Generator (PG -1) **53-0003-23**

Fuel Usage Rate	70	gal/hr	Based on 40 CFR 63 Subpart ZZZZ Viskase requests the
Heat Input	9.8	MM BTU/hr	Generator be designated as a Limited Use Stationary
Operating Hour	99	hr/yr	RICE per §63.6675.

Emission rate data is based on stack test information from Caterpillar for a Model D-399 Generator

Allowable Pollutant Emission Rates			Emission Estimates		
Pollutant	Emission Rate	Units	Pollutant	lb/hr	TPY
PM	0.6	lb/MM BTU	PM	5.88	0.29
SO_2	5	lb/hr	SO_2	5	0.25
NO_x	20.125	lb/hr	NO_x	20.125	1.00
CO	2.07	lb/hr	CO	2.07	0.10
VOC	0.12	lb/hr	VOC	0.12	0.01

The Generator is subject to 40 CFR 63 Subpart ZZZZ as an Existing Source. Viskase requests the Generator be designated as a Limited Use Stationary RICE which does not have to meet the requirements of Subpart ZZZZ. As a limited Use Stationary RICE the Generator mist operate less than 100 hours per year.

GHG Emission Calculation

Global Warming Potential (GWP) Factors[1]

CO_2	CH_4	N_2O
GWP	GWP	GWP
1	21	310

[1] From Table A-1 of Subpart A of Part 98

HHV[2]	CO_2 EF[2]	CH_4 EF[2]	N_2O EF[2]	
MM BTU/gal	Kg CO_2/MM BTU	Kg CO_2/MM BTU	Kg CO_2/MM BTU	Distillate Fuel Oil No. 2
0.138	73.96	0.003	0.0006	

[2] From Tables C-1 and C-2 of Subpart C of Part 98

Emission estimates using Equation (C-1) of Subpart C - General Stationary Fuel Combustion Sources
Greenhouse Gas Emissions at 99 hr/yr (Maximum Non-Emergency Operation per Subpart ZZZZ)

	CO_2	CH_4	N_2O	Total CO2e
Ton/hr	0.71	0.00002898	0.000005796	
Metric Ton/year	70.73	0.0029	0.0006	70.73
Ton/year	77.97	0.0032	0.0006	77.97

1 metrics ton 1.10231131 ton

Page Number	Revision Number	Date of Revision
59	0	N/A

TITLE V PERMIT STATEMENT

Facility Name: Viskase Companies, Inc. SOS # 000461691
City: Loudon
County: Loudon

Date Application Received: August 30, 2019
Date Application Deemed Complete: August 30, 2019

Emission Source Reference No.: 53-0003
Permit No.: 577428

This narrative is being provided to assist the reader in understanding the content of the attached Title V operating permit. This Title V Permit Statement is written pursuant to Tennessee Air Pollution Control Rule 1200-3-9-.02(11)(f)1.(v). The primary purpose of the Title V operating permit is to consolidate and identify existing state and federal air requirements applicable to **Viskase Companies, Inc.** and to provide practical methods for determining compliance with these requirements. The following narrative is designed to accompany the Title V Operating Permit. It initially describes the facility receiving the permit, then the applicable requirements and their significance, and finally the compliance status with those applicable requirements. This narrative is intended only as an adjunct for the reviewer and has no legal standing. Any revisions made to the permit in response to comments received during the public participation process will be described in an addendum to this narrative.

Acronyms

PSD - Prevention of Significant Deterioration
NESHAP - National Emission Standards for Hazardous Air Pollutants
NSPS - New Source Performance Standards
MACT - Maximum Achievable Control Technology
NSR - New Source Review

I. Identification Information

A. Source Description

List and describe emission source(s): **53-0003 Viskase Companies, Inc.**

53-0003-01:	Fuel Burning Installation (Boilers 3, 4, & 5): Three Boilers and one temporary/ substitute mobile source boiler – Boilers subject to Boiler NESHAP/ MACT, 40 CFR Part 63 Subpart DDDDD and NSPS Subpart Dc (units 4 &5)
53-0003-03:	Cellulose Casing Production – Source subject to Cellulose Products Manufacturing NESHAP/ MACT, 40 CFR Part 63 Subpart UUUU
53-0003-07:	Chemical Storage Tanks – Source subject to Cellulose Products Manufacturing NESHAP/ MACT, 40 CFR Part 63 Subpart UUUU
53-0003-15:	Lime Storage and Handling: lime storage tank and pneumatic unloading of lime from bulk truck
53-0003-23:	Emergency Engine (for Generator) – source subject to RICE NESHAP/ MACT, 40 CFR Part 63 Subpart ZZZZ

B. Facility Classification

1. Attainment or Non-Attainment Area Location: *Area **is** designated as an-**attainment** area.*
2. Class I or Class II area: *Company **is** located in a **Class II** area.*

C. Regulatory Status

1. PSD/NSR: This facility **is** a major source under **PSD.**
2. Title V Major Source Status by Pollutant

Pollutant	Is the pollutant emitted?	If emitted, what is the facility's status?		Potential To Emit (TPY)
		Major Source Status	Non-Major Source Status	
PM	Yes		X	11.46
PM_{10}	Yes		X	
SO_2	Yes		X	60.61
VOC	Yes	X		1165.82
NO_X	Yes		X	41.43
CO	Yes		X	36.8
Individual HAP	Yes	X		1162.04
Total HAPs	Yes	X		1162.04
CO_2e	Yes		X	55,685.26
H_2S	Yes		X	285.0

3. MACT Standards: This facility **is** a major source for HAPs. This facility **is** subject to a proposed or final MACT Standard.

MACT Applicability:
Fuel Burning Installation Boilers (53-0003-01) are subject to Boiler MACT, 40 CFR Part 63 Subpart DDDDD
Cellulose Casing Production (53-0003-03)– Source subject to Cellulose Products Manufacturing MACT, 40 CFR Part 63 Subpart UUUU
Chemical Storage Tanks (53-0003-07)– Source subject to Cellulose Products Manufacturing MACT, 40 CFR Part 63 Subpart UUUU
Emergency Engine (53-0003-23) – source subject to RICE MACT, 40 CFR Part 63 Subpart ZZZZ

4. Program Applicability: Are the following programs applicable to the facility?
   PSD ***Yes***
   NESHAP ***Yes***
   NSPS ***Yes***

II. Compliance Information

A. Compliance Status:
   Is the facility currently in compliance with all applicable requirements? ***yes***
B. Are there any applicable requirements that will become effective during the permit term? ***no***

III. Other Requirements

A. Emissions Trading: The facility **is not** involved in an emission-trading program.
B. Acid Rain Requirements: This facility **is not** subject to any requirements in Title IV of the Clean Air Act.
C. Prevention of Accidental Releases: *yes*
D. Use of AP-42 Emission Factors: the use of AP-42 emission factors for compliance assurance with pollutant emission limits; these emission factors are used for calculating emissions from the boilers of source 53-0003-01. The use of AP-42 emission factors is justified by the use of pipeline quality natural gas and fuel oil that meets industry standards.

IV. Title V Renewal Permit 577428 – renewal permit changes vs. permit 567428

Changes Made in Title V Renewal Permit 577428

Condition or Section	Modification
Cover page	Revised source descriptions and revised for 8/29/2019 permit application date reference and 3/26/2024 agreement letter reference
Sections A-D	Revised permit shell conditions for revised & new template/ shell conditions
Conditions D11, D12, D13, D14	New permit shell conditions: D11: Emission Standards for Hazardous Air Pollutants, D12: Standards of Performance for New Stationary Sources, D13: Dispensing Facilities, D14: Internal Combustion Engines
Table of Contents	Added references to new Attachments 5, 6, 7, 8, 9, 10, 11, 12, and 13
Condition B7	Removed emergency provisions language and marked condition "Reserved"
Condition E1	Updated fee table allowable emissions and revised fee language for new fee template phrasing; removed insignificant activity glycerin addition emissions (source 03) from VOC amount in table
Condition E2(a)	Updated semiannual reporting requirements
Condition E2(b)	Updated language for annual compliance certification and revised addresses of EFO and EPA for reports submittal
Condition E2(c)	Added condition for MACT reports submittal requirements for MACT subparts DDDDD, UUUU, ZZZZ
Condition E2(d)	Added condition for NSPS reports submittal requirements for NSPS subpart Dc
Condition E2(e)	Added condition for accidental releases / 112r reporting
Condition E2(f)	Added condition for records retention time
Condition E3-1	Revised condition for opacity requirements & reporting per current language (condition was E3-2 in permit 567428)
Condition E3-2	Added condition for requirements for maintenance & repair of air pollution control devices and process equipment
Condition E3-3	Revised General Recordkeeping requirements condition for current language (condition was E3-1 in permit 567428
Condition E3-4	Added condition for Malfunctions and chapter 20 condition
Condition E3-5	Updated condition for insignificant activities (condition was E3-3 in permit 567428)
Condition E3-6	Added condition for monitoring system malfunctions and response
Condition E3-7	Updated facility contacts condition for new Responsible Official, technical contact, billing contact
Condition E3-8	EPA & state requirements condition (condition was E3-6 in permit 567428)
Condition E3-9	Purchase orders and invoices for VOC and HAP containing materials condition (condition was E3-4 in permit 567428)
Condition E4-1	Revised boiler (source 01) heat input limit condition, added fuel type restrictions, and added fuel oil usage restriction and operating time limit for fuel oil usage; moved recordkeeping requirements to new Attachment 5 for fuel usage and operating time (hours using fuel oil); recordkeeping includes pollutant emission calculations
Condition E4-2	Revised PM emission limit condition per current language & referenced new Attachment 5 for emissions recordkeeping/ calculations; added reference to agreement letter dated March 26, 2024
Condition E4-3	Revised NOx emission limit condition per current language & referenced new Attachment 5 for emissions recordkeeping/ calculations
Condition E4-4	Revised NOx control condition per current language
Condition E4-5	Revised SO2 emission limit condition per current language & referenced new Attachment 5 for emissions recordkeeping/ calculations; added reference to agreement

Changes Made in Title V Renewal Permit 577428

Condition or Section	Modification
	letter dated March 26, 2024
Condition E4-6	Revised VOC emission limit condition per current language & referenced new Attachment 5 for emissions recordkeeping/ calculations
Condition E4-7	Revised CO emission limit condition per current language & referenced new Attachment 5 for emissions recordkeeping/ calculations
Condition E4-8	Fee pollutant emissions condition
Condition E4-9	MACT subpart DDDDD applicability
Condition E4-10	MACT subpart DDDDD applicability continued
Condition E4-11	MACT subpart DDDDD compliance dates and added compliance method and compliance dates for each boiler
Condition E4-12	MACT subpart DDDDD requirements for boilers that are in gas 1 fuels subcategory and added compliance method
Condition E4-13	MACT subpart DDDDD requirements / compliance periods; added compliance method
Condition E4-14	MACT subpart DDDDD requirements/ compliance with initial demonstration, boiler tune-up, energy assessment; added compliance method
Condition E4-15	MACT subpart DDDDD requirements/ compliance with boiler tune-up requirements; added compliance method
Condition E4-16	MACT subpart DDDDD requirements/ compliance with boiler energy assessment requirements; added compliance method
Condition E4-17	MACT subpart DDDDD requirements/ compliance with compliance demonstration, notification of compliance status (NOCS), boiler tune-up and energy assessment requirements; added compliance method
Condition E4-18	NSPS subpart Dc applicability
Condition E4-19	NSPS subpart Dc requirements recordkeeping of fuel usage and fuel oil sulfur content; added compliance methods and referenced new attachment 5 for recordkeeping log
Condition E4-20	Added condition to reference conditions for reporting of NSPS subpart Dc monitoring/ recordkeeping data
Condition E4-21	Added condition to reference conditions for reporting of MACT subpart DDDDD information
Condition E5-1	CS2 emission limit for cellulose casing production (source 03)
Condition E5-2	MACT subpart UUUU requirements for source includes monitoring and recordkeeping of biofilter control device parameters
Condition E5-3	H2S emission limit for source 03
Condition E5-4	MACT reporting – reference to condition E2(c)
Condition E5-5	Fee emissions – CS2 from wastewater treatment
Condition E6-1	Revised listing of chemical storage tanks (source 07) compliance provisions
Condition E6-2	Revised MACT subpart UUUU requirements and compliance method language & reporting
Condition E6-3	MACT subpart UUUU reporting – reference to condition E2(c)
Condition E6-4	Fee emissions condition- CS2 emissions from source 07
Condition E7-1	Revised lime storage tank PM limit (source 15) compliance method language and revised TAPCR rule cite for PM emission limit; added reference to agreement letter dated March 26, 2024
Condition E9-1	Added engine (source 23) heat input limit and moved pollutant emission limits to E9-1
Condition E9-2	Revised engine fuel type condition and added fuel usage limit in condition and referenced new recordkeeping log in attachment 6

Changes Made in Title V Renewal Permit 577428

Condition or Section	Modification
Condition E9-3-	Revised engine fuel sulfur content limit condition for current language/ recordkeeping; added reference to agreement letter dated March 26, 2024
Condition E9-4	Engine pollutant emission limits condition moved (was condition E9-1 in permit 567428); revised TAPCR rule cites for emission limits; & added Attachment references (Attachments 6 & 13) for recordkeeping log and engine test data; added reference to agreement letter dated March 26, 2024
Condition E9-5	Revised engine operating hours condition -requirements & recordkeeping; added reference to agreement letter dated March 26, 2024
Condition E9-6	Engine stack parameters (height & diameter) condition (moved from E9-4 in permit 567428)
Condition E9-7	Added condition to reference conditions for reporting of MACT subpart ZZZZ monitoring/ recordkeeping data
Attachment 1	Opacity matrix decision tree for EPA method 9
Attachment 2	Table 2: Log for Biofilter Monitoring Data (53-0003-03)
Attachment 3	Table 3: Log for MACT Subpart UUUU Compliance (53-0003-03); updated for 9/21/23 performance test results
Attachment 4	Table 4: Log to Calculate and Record Carbon Disulfide (CS_2) and Hydrogen Sulfide (H_2S) Emissions (53-0003-03); updated for 9/21/23 performance test results
Attachment 5	Added new attachment for Boilers (53-0003-01) Logs for Boilers - Fuel Usage and Emissions
Attachment 6	Added new attachment for Emergency Engine (53-0003-23) Log for fuel usage and Operating hours
Attachment 7	Added new attachment for agreement letter dated March 26, 2024, for PM, SO2 Emission Limits, Fuel Oil Sulfur Content, Operating Hours (53-0003-01, 15, 23)
Attachment 8	Added new attachment for Title V Fee Selection Form (APC-36)
Attachment 9	Added new attachment for Boilers (53-0003-01) Section 1.4 of AP-42, Fifth Edition, Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources, Natural Gas Combustion, Table 1.4-2
Attachment 10	Added new attachment for Boilers (53-0003-01) Section 1.4 of AP-42, Fifth Edition, Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources, Natural Gas Combustion, Table 1.4-1
Attachment 11	Added new attachment for Boilers (53-0003-01) Section 1.3 of AP-42, Fifth Edition, Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources, Fuel Oil Combustion, Tables 1.3-1, 1.3-2, and 1.3-3
Attachment 12	Added new attachment for Boilers (53-0003-01) Emission Factors for Nitrogen Oxides (NOx) from Boilers 4 &5 (53-0003-01) - Natural Gas and Fuel Oil Combustion - Permit Application/ Manufacturer's Data
Attachment 13	Added new attachment for Emergency Engine (53-0003-23) Emissions from Fuel Oil Combustion - Permit Application/ Manufacturer's Data

V. Public Participation Procedures

For renewal permit 577428 notification of the draft permit was mailed to the following environmental agencies:

1. EPA
2. Knox County Dept. of Air Quality Management
3. North Carolina Department of Environment and Natural Resources
4. Eastern Band of Cherokee Office of Environment & Natural Resources
5. Tennessee Dept. of Environment and Conservation, Division of Air Pollution Control, Knoxville Environmental Field Office

TITLE V PERMIT STATEMENT: PUBLIC COMMENTS (Title V Renewal 577428)

Company/ Facility Name: Viskase Companies, Inc. SOS # 000461691
City: Loudon
County: Loudon n

Date Application Received: August 30, 2019
Date Application Deemed Complete: August 30, 2019

Emission Source Reference No.: 53-0003
Permit No.: 577428

Date of Public Notice: April 1, 2024
Date of Public Hearing: TBD

Comment Summary

Commenter	Comment	Response

Date draft/proposed Title V permit 577428 sent to public notice (placed on TNDAPC website): April 1, 2024

Date draft/proposed Title V permit 577428 sent to EPA for review: April 1, 2024

Date comments received from public: TBD

Date comments received from EPA: TBD

Title V permit Renewal 577428 was issued on TBD, 2024

From:	Air.Pollution Control
To:	APC Permitting
Subject:	FW: Title V Renewal Viskase (53-0003)
Date:	Friday, August 30, 2019 8:56:57 AM
Attachments:	Cover Letter Viskase Title V renewal 2019 signed.pdf Viskase (53-003) Title V Permit Renewal_Application Final 001 Signed.pdf

---

From: David Wasil [mailto:David.Wasil@viskase.com]
Sent: Friday, August 30, 2019 7:45 AM
To: Air.Pollution Control
Cc: APC KnoxEFO
Subject: [EXTERNAL] Title V Renewal Viskase (53-0003)

To whom It May Concern:

Attached is a cover letter and Title V Renewal Application for Viskase Companies, Inc (53-0003).

Please contact me if you have any questions or concerns.

David A. Wasil
Environmental Manager
Viskase Companies, Inc.
106 Blair Bend Drive
Loudon, TN 37774
Plant Operator: (865) 458-2071 xt 240
Office: (865) 458-0240
Fax: (865) 458-0239
Mobile: (865) 363-7790
Email: David.wasil@viskase.com
www.viskase.com

VISKASE®
Casing Solutions Worldwide

August 30, 2019

Tennessee Department of Environment and Conservation
Division of Air Pollution Control
Attn.: Ms. Michelle Walker Owenby
William R. Snodgrass Tennessee Tower
312 Rosa Parks Avenue,15th Floor
Nashville, TN 37243

RE: Title V Air Permit Renewal Application
Viskase (53-0003) Loudon, TN

Respected Madam:

Viskase Companies, Inc. (Viskase) operates its manufacturing plant located in Loudon, Tennessee (Facility). Viskase has been operating its Facility under the terms and conditions of the Title V permit number 567428 for source number 53-0003. This air permit is set to expire on February 29, 2020. Title V permit renewal application package is due to your office between June 4, 2019 and September 2, 2019. Significant Modification I was issued on June 28, 2016 with the same expiration date. Construction Permits 963557P and 963558P Amendment 5 have both been issued against the referenced permit. Both were amended July 5, 2019.

Viskase hired Environmental Compliance Consulting Services, LLC (ECCS) to assist Viskase with the Title V permit renewal application submission matters. Accordingly, ECCS completed this air permit application package, on behalf of Viskase. Attached are all relevant APC forms and air emission tracking spreadsheet for your ready reference. The renewal application (electronic PDF copy) along with this cover letter is being emailed to air.pollution.control@tn.gov.

Since issuance of the last Title V permit significant modification on June 28,2016 no changes have taken place at the Facility. The Facility continues to maintain on-going compliance with all the terms and conditions of the referenced air permit.

Please do not hesitate to contact our consultant, Arup Bandyopadhyay of ECCS by electronic mail at arup@envcompliancesvc.com or call him at (615) 337-6636, if you have any questions or require further information.

I am the responsible official for this Facility and formally request that TDEC act on this request for a renewal of the Title V Operating Permit. Based on information and belief formed after reasonable inquiry, the statements and information in this document are true, accurate, and complete. If you have any questions concerning this application, you can also contact Mr. David Wasil, our Plant Environmental Coordinator at (865) 458-2071, ext. 240.

Sincerely,

Dennis Brennan
Global Director Engineering and Safety

Enclosures: as above.

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State of Tennessee
Department of Environment and Conservation
Division of Air Pollution Control
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor
Nashville, TN 37243
Telephone: (615) 532-0554

TITLE V PERMIT APPLICATION
INDEX OF AIR POLLUTION PERMIT APPLICATION FORMS

Section 1: Identification and Diagrams		
This application contains the following forms:	APC Form 1, Facility Identification	1
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Section 2: Emission Source Description Forms		
		Total number of this form
This application contains the following forms (one form for each incinerator, printing operation, fuel burning installation, etc.):	APC Form 3, Stack Identification	7
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	APC Form 5, Stationary Gas Turbines or Internal Combustion Engines	1
	APC Form 6, Storage Tanks	5
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	APC Form 33, Stage I and Stage II Vapor Recovery Equipment	0
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Section 3: Air Pollution Control System Forms		
		Total number of this form
This application contains the following forms (one form for each control system in use at the facility):	APC Form 11, Control Equipment - Miscellaneous	0
	APC Form 13, Adsorbers	0
	APC Form 14, Catalytic or Thermal Oxidation Equipment	0
	APC Form 15, Cyclones/Settling Chambers	0
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	APC Form 18, Baghouse/Fabric Filters	1

(OVER)

Section 4: Compliance Demonstration Forms

		Total number of this form
This application contains the following forms (one form for each incinerator, printing operation, fuel burning installation, etc.):	APC Form 19, Compliance Certification - Monitoring and Reporting - Description of Methods for Determining Compliance	5
	APC Form 20, Continuous Emissions Monitoring	0
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	APC Form 31, Compliance Plan and Compliance Certification	1
	APC Form 32, Air Monitoring Network	0

Section 5: Statement of Completeness and Certification of Compliance

I have reviewed this application in its entirety and to the best of my knowledge, and based on information and belief formed after reasonable inquiry, the statements and information contained in this application are true, accurate, and complete. I have provided all the information that is necessary for compliance purposes and this application consists of 75 pages and they are numbered from page 1 to 60. The status of this facility's compliance with all applicable air pollution control requirements, including the enhanced monitoring and compliance certification requirements of the Federal Clean Air Act, is reported in this application along with the methods to be used for compliance demonstration.

Name and Title of Responsible Official	Telephone Number with Area Code
Dennis Brennan, Global Director Engineering and Safety	(865) 458 - 2071
Signature of Responsible Official	**Date of Application**
Dennis Brennan	August 29, 2019

(For definition of responsible official, see instructions for APC Form 1)

State of Tennessee
Department of Environment and Conservation
Division of Air Pollution Control
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor
Nashville, TN 37243
Telephone: (615) 532-0554

TITLE V PERMIT APPLICATION
FACILITY IDENTIFICATION

SITE INFORMATION			
1. Organization's legal name Viskase Corporation			For APC Use Only: APC company point no.
2. Site name (if different from legal name) Viskase Corporation			For APC Use Only: APC Log/Permit no.
3. Site address (St./Rd./Hwy.) 106 Blair Blend Drive			NAICS or SIC Code
City or distance to nearest town Loudon, TN 37774		Zip code 37774	County name Loudon
4. Site location (in Lat./Long)	Latitude 35.74366		Longitude -84.32458

CONTACT INFORMATION (RESPONSIBLE OFFICIAL)			
5. Responsible official contact Dennis Brennan			Phone number with area code 865 - 458 - 2071
6. Mailing address (St./Rd./Hwy.) 106 Blair Blend Drive			Fax number with area code N/A
City Loudon	State TN	Zip code 37774	Email address dennis.brennan@viskase.com

CONTACT INFORMATION (TECHNICAL)			
7. Principal technical contact David A. Wasil			Phone number with area code 865 - 458 - 2071
8. Mailing address (St./Rd./Hwy.) 106 Blair Blend Drive			Fax number with area code N/A
City Loudon	State TN	Zip code 37774	Email address david.wasil@viskase.com

CONTACT INFORMATION (BILLING)			
11. Billing contact David A. Wasil			Phone number with area code 865 - 458 - 2071
12. Mailing address (St./Rd./Hwy.) 106 Blair Blend Drive			Fax number with area code N/A
City Loudon	State TN	Zip code 37774	Email address david.wasil@viskase.com

TYPE OF PERMIT REQUESTED

13. Permit requested for:

Initial application to operate :		Minor permit modification :	
Permit renewal to operate :	✓	Significant modification :	
Administrative permit amendment :		Construction permit :	

(OVER)

HAZARDOUS AIR POLLUTANTS, DESIGNATIONS, AND OTHER PERMITS ASSOCIATED WITH FACILITY

14. Is this facility subject to the provisions governing prevention of accidental releases of hazardous air contaminants contained in Chapter 1200-03-32 of the Tennessee Air Pollution Control regulations?

[✓] Yes [ ] No

If the answer is Yes, are you in compliance with the provisions of Chapter 1200-03-32 of the Tennessee Air Pollution Control regulations?

[✓] Yes [ ] No

15. If facility is located in an area designated as "Non-Attainment" or "Additional Control", indicate the pollutant(s) for the designation.

PM 2.5 and Ozone (8-hour standard)

16. List all valid Air Pollution permits issued to the sources contained in this application [identify all permits with most recent permit numbers and emission source reference numbers listed on the permit(s)].

i) Title V permit #567428 Significant Modification dated June 28, 2016. ii) Amendment #5 to permit #963557P. iii) Amendment #5 to permit #963558P.

17. Page number:	Revision number:	Date of revision:
1	0	N/A

State of Tennessee
Department of Environment and Conservation
Division of Air Pollution Control
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor
Nashville, TN 37243
Telephone: (615) 532-0554

TITLE V PERMIT APPLICATION
OPERATIONS AND FLOW DIAGRAMS

1. Please list, identify, and describe briefly process emission sources, fuel burning installations, and incinerators that are contained in this application. Please attach a flow diagram for this application.

53-0003-01 Boilers #3, #4, and #5
53-0003-03 Cellulose Casing Production
53-0003-07 Four (4) Chemical Storage Tanks
53-0003-15 Lime Storage Tank and Pneumatic Unloading of Bulk Trucks
53-0003-23 Diesel-Powered Emergency Generator

2. List all insignificant activities which are exempted because of size or production rate and cite the applicable regulations.

Source	Regulation
Glycerin/Aerosol OT Softening Agent Use (53-0003-03)	1200-3-9-.04(5)(a)4(i) and 1200-3-9-.04 (5)(C)3
Burn-Off Oven (53-0003-02)	1200-3-9-.04(5)(a)4(i)
Laboratory Hoods	1200-3-9-.04(5)(a)4(i) and 1200-3-9-.04 (5)(f)19

3. Are there any storage piles?

YES _____ NO X

4. List the states that are within 50 miles of your facility.

North Carolina

5. Page number:	Revision Number:	Date of Revision:
2	0	N/A

State of Tennessee
Department of Environment and Conservation
Division of Air Pollution Control
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor
Nashville, TN 37243
Telephone: (615) 532-0554

TITLE V PERMIT APPLICATION
EMISSION SUMMARY FOR THE FACILITY OR FOR THE SOURCES CONTAINED IN THIS APPLICATION

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name: Viskase Corporation (53-0003)

EMISSIONS SUMMARY TABLE – CRITERIA AND SELECTED POLLUTANTS

2. Complete the following emissions summary for regulated air pollutants at this facility or for the sources contained in this application.

Air Pollutant	Summary of Maximum Allowable Emissions		Summary of Actual Emissions	
	Tons per Year	Reserved for State use (Pounds per Hour- Item 4, APC 28)	Tons per Year	Reserved for State use (Pounds per Hour- Item 4, APC 28)
Particulate Matter (TSP)	11.47			
Sulfur Dioxide	60.61		(Incudes 744 hrs on oil @ 1% S)	
Volatile Organic Compounds	1107.79***			
Carbon Monoxide	36.84			
Lead	N/A			
Nitrogen Oxides	41.42			
Total Reduced Sulfur	285 (as H2S)****		(CS2 not included here included as VOC)	
Mercury	N/A			
Asbestos	N/A			
Beryllium	N/A			
Vinyl Chlorides	N/A			
Fluorides	N/A			
Gaseous Fluorides	N/A			
Greenhouse Gases in CO_2 Equivalents	55685			
CS2 (Reported in VOC)	(1104) ***		(also Reported as VOC)	
H2S (Reported in	reduced sulfur)****			
Total VOC (for Fees)	1168.53			

(Continued on next page)

(Continued from previous page)

EMISSIONS SUMMARY TABLE – HAZARDOUS AIR POLLUTANTS

3. Complete the following emissions summary for regulated air pollutants that are hazardous air pollutant(s) at this facility or for the sources contained in this application.

Air Pollutant & CAS	Summary of Maximum Allowable Emissions		Summary of Actual Emissions	
	Tons per Year	Reserved for State use (Pounds per Hour- Item 5, APC 28)	Tons per Year	Reserved for State use (Pounds per Hour- Item 5, APC 28)

4. Page number: 3 | Revision number: 0 | Date of revision: N/A

State of Tennessee
Department of Environment and Conservation
Division of Air Pollution Control
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor
Nashville, TN 37243
Telephone: (615) 532-0554

TITLE V PERMIT APPLICATION
COMPLIANCE PLAN AND COMPLIANCE CERTIFICATION

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name:
Viskase Corporation

2. List all the process emission source(s) or fuel burning installation(s) or incinerator(s) that are part of this application.

53-0003-01 Boilers #3, #4, and #5; 53-0003-03 Cellulose Casing Production
53-0003-07 Four (4) Chemical Storage Tanks
53-0003-15 Lime Storage Tank and Pneumatic Unloading of Bulk Trucks
53-0003-23 Diesel Generator

COMPLIANCE PLAN AND CERTIFICATION

3. Indicate that source(s) which are contained in this application are presently in compliance with all applicable requirements, by checking the following:

X_____ A. Attached is a statement of identification of the source(s) currently in compliance. We will continue to operate and maintain the source(s) to assure compliance with all the applicable requirements for the duration of the permit.

X_____ B APC 30 form(s) includes new requirements that apply or will apply to the source(s) during the term of the permit. We will meet such requirements on a timely basis.

4. Indicate that there are source(s) that are contained in this application which are not presently in full compliance, by checking both of the following:

_____ A. Attached is a statement of identification of the source(s) not in compliance, non-complying requirement(s), brief description of the problem, and the proposed solution.

_____ B. We will achieve compliance according to the following schedule:

Action	Deadline

Progress reports will be submitted:

Start date: _____ and every 180 days thereafter until compliance is achieved.

5. State the compliance status with any applicable compliance assurance monitoring and compliance certification requirements that have been promulgated under section 114(a)(3) of the Clean Air Act as of the date of submittal of this APC 31.

6. Page number: 4 Revision number: Date of revision:

Viscase Corporation
106 Blair Blend Drive
Loudon, TN
53-0003

Attachment to APC V.31 Compliance Plan and Compliance Certification

Item 3: Statement of Identification of the sources currently in compliance.

It is Viskase Corporation's understanding that all of the sources are in compliance and Viskase Corporation will continue to operate and maintain the sources to assure compliance with all the applicable requirements for the duration of the permit.

The Sources applied for in this application and believed to be in compliance include:

Application Source Number	Description
ESRN 01	Boilers #3, #4, and #5
ESRN 03	Cellulose Casing Production
ESRN 07	Four (4) Chemical Storage Tanks
ESRN 15	Lime Storage and Pneumatic Unloading of Bulk Trucks
ESRN 23	Limited Use Generator

Name and Title of Responsible Official — Date

Dennis P Brennan — August 29, 2019

Dennis Brennan, Global Director Engineering and Safety

Viskase Corporation
106 Blair Blend Drive
Loudon, Tennessee
53-0003

Emission Summary[1]		Current Allowable Emissions						
	Pollutant	Particulate	SO_2	VOC	VOC[2]	CO	NO_x	H_2S
Source No.	Source Description	Allowable (Tons/year)	Allowable (Tons/year)	Allowable (Tons/year)		Allowable (Tons/year)	Allowable (Tons/year)	Allowable (Tons/year)
01	Boilers #3, #4, #5	5.22	60.36	3.78		36.74	40.42	
03	Cellulose Casing Production			1104	58.9			285
07	Four Chemical Storage Tanks				1.84			
15	Lime Storage and Pneumatic Unloading of Bulk Trucks	5.96						
23	Generator	0.29	0.25	0.01		0.1	1	
		11.47	60.61	1107.79	60.74	36.84	41.42	285

[1]Emissions Summary is based on Permit Allowables or Estimated Emissions using emission factors at 8760 hr/yr.

[2]Emissions shown in this column are for FEES only and not Limits per Permit Condition E5-4

a. 58.9 TPY - Consists of 56.2 TPY from Wasterwater and 2.7 TPY from Glycerine Addition

Total VOC (for Fees Purpose) 1168.53

Page Number	Revision Number	Date of Revision
6	0	N/A

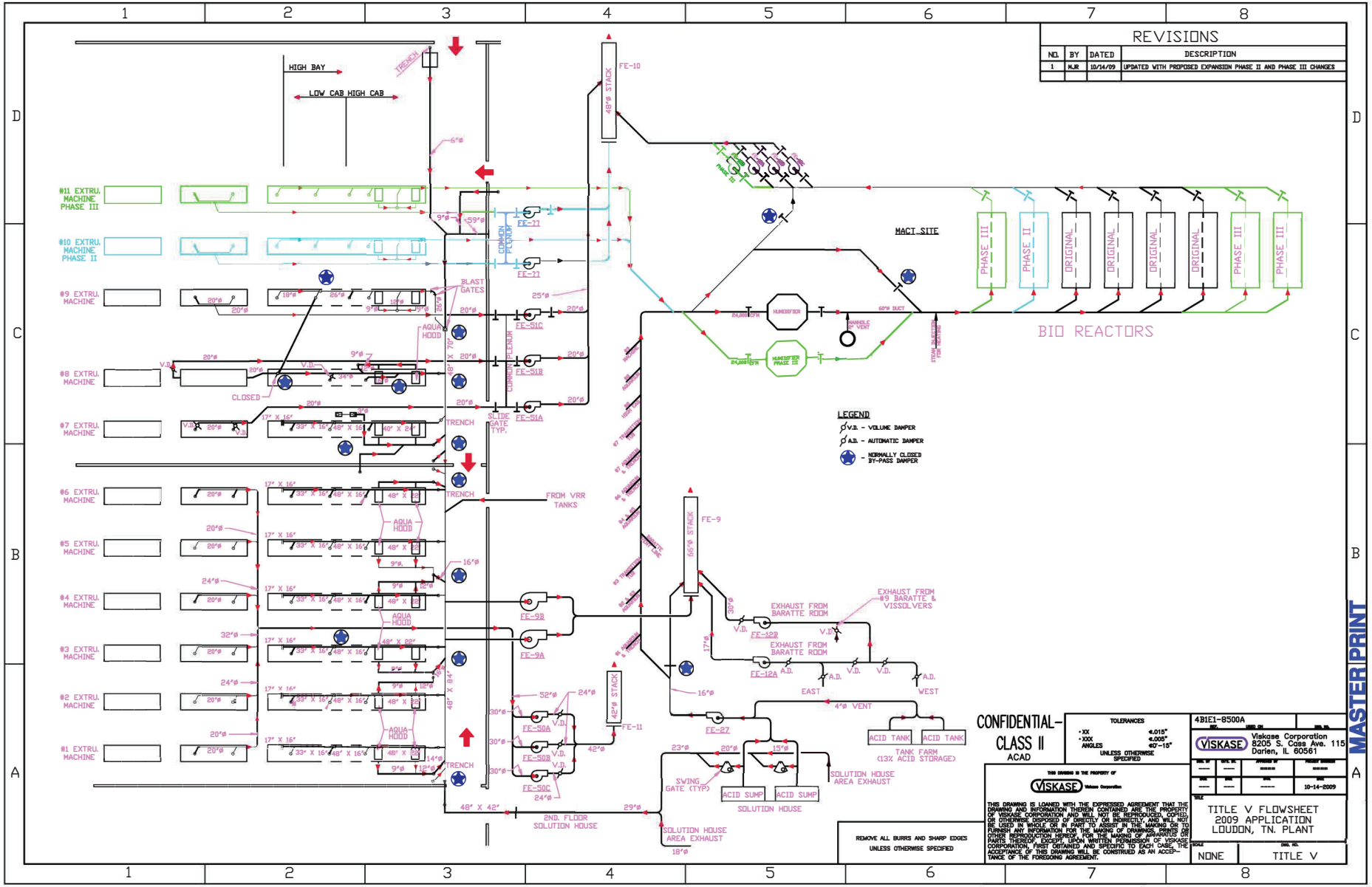
Viskase Corporation
106 Blair Blend Drive
Loudon, Tennessee
53-0003

Greenhouse Gas (GHG) Emission Summary

	Pollutant	CO_2	CH_4	N_2O	Total CO_{2e}
Source No.	Source Description	Tons	Tons	Tons	Tons
01	Boilers #3, #4, #5	55549.66	26.17	31.20	55607.03
23	Generator	77.97	0.07	0.20	78.23
	Total	**55627.62**	**26.24**	**31.39**	**55685.26**

Vicinity Map
Viskase Corporation
106 Blair Blend Drive
Loudon, TN 37774

ECCS
Environmental Compliance
Consulting Services, LLC


REVISIONS
NO. BY DATED DESCRIPTION
1 MJR 10/14/09 UPDATED WITH PROPOSED EXPANSION PHASE II AND PHASE III CHANGES
HIGH BAY
LOW CAB HIGH CAB
#11 EXTRU. MACHINE PHASE III
#10 EXTRU. MACHINE PHASE II
#9 EXTRU. MACHINE
#8 EXTRU. MACHINE
#7 EXTRU. MACHINE
#6 EXTRU. MACHINE
#5 EXTRU. MACHINE
#4 EXTRU. MACHINE
#3 EXTRU. MACHINE
#2 EXTRU. MACHINE
#1 EXTRU. MACHINE
FE-10
FE-9
FE-11
FE-27
FE-12A
FE-12B
FE-9A
FE-9B
FE-50A
FE-50B
FE-50C
FE-51A
FE-51B
FE-51C
FE-71
BLAST GATES
AQUA HOOD
TRENCH
FROM VRR TANKS
MACT SITE
PHASE III
PHASE II
ORIGINAL
BIO REACTORS
HUMIDIFIER
HUMIDIFIER PHASE III
LEGEND
V.D. - VOLUME DAMPER
A.D. - AUTOMATIC DAMPER
- NORMALLY CLOSED BY-PASS DAMPER
EXHAUST FROM BARATTE ROOM
EXHAUST FROM #9 BARATTE & VISSOLVERS
EAST
WEST
4'ø VENT
ACID TANK
TANK FARM (13% ACID STORAGE)
SOLUTION HOUSE AREA EXHAUST
SWING GATE (TYP)
ACID SUMP
SOLUTION HOUSE
2ND. FLOOR SOLUTION HOUSE
CONFIDENTIAL-CLASS II
ACAD
TOLERANCES
UNLESS OTHERWISE SPECIFIED
VISKASE
Viskase Corporation
8205 S. Cass Ave. 115
Darien, IL 60561
4B1E1-8500A
10-14-2009
TITLE V FLOWSHEET
2009 APPLICATION
LOUDON, TN. PLANT
NONE
TITLE V
REMOVE ALL BURRS AND SHARP EDGES
UNLESS OTHERWISE SPECIFIED
MASTER PRINT

State of Tennessee
Department of Environment and Conservation
Division of Air Pollution Control
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor
Nashville, TN 37243
Telephone: (615) 532-0554

TITLE V PERMIT APPLICATION
FUEL BURNING NON-PROCESS EQUIPMENT

GENERAL IDENTIFICATION AND DESCRIPTION

1. **Facility name:**
Viskase Corporation

2. **Stack ID or flow diagram point identification (s):**
Stack #2

FUEL BURNING EQUIPMENT DESCRIPTION

3. List all fuel burning equipment that is at this fuel burning installation (please complete an APC 4 form for each piece of fuel burning equipment).
Boilers #3, #4, and #5

4. Fuel burning equipment identification number:
Boiler #3 (53-0003-01)

5. Fuel burning equipment description:
Natural gas fired or fuel oil fired boiler

6. Year of installation or last modification of fuel burning equipment.
1964

7. Furnace type:
Combustion Engineering Type A, Size 400 vertical water tube

8. Manufacturer model number (if available):
Combustion Engineering Type A

9. Location of this fuel burning installation in UTM coordinates: UTM Vertical: 584.00 North UTM Horizontal: 416.00 East

10. Normal operating schedule: 24 Hrs./Day 7 Days/Wk. 365 Days/Yr.

FUELS, CONTROLS, AND MONITORING DESCRIPTION

11. Maximum rated heat input capacity (in million BTU/Hour)
55.6

12. If wood is used as a fuel, specify the amount of wood used as a fraction of total heat input.
N/A

13. Fuels:	Primary fuel	Backup fuel #1	Backup fuel #2	Backup fuel #3
Fuel name	Natural Gas	No. 1 Fuel Oil	No. 2 Fuel Oil	
Actual yearly consumption	23,500,049 cu. ft.	gallons	gallons	

14. If emissions from this fuel burning equipment are controlled for compliance, please specify the type of control:
N/A

15. If emissions from this fuel burning equipment are monitored for compliance, please specify the type of monitoring:
N/A

16. Describe any fugitive emissions associated with this process, such as outdoor storage piles, open conveyors, material handling operations, etc. (please attach a separate sheet if necessary).
N/A

17. Page number: 10 Revision Number: 0 Date of Revision: N/A

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TITLE V PERMIT APPLICATION
FUEL BURNING NON-PROCESS EQUIPMENT

GENERAL IDENTIFICATION AND DESCRIPTION

1. **Facility name:**
Viskase Corporation

2. **Stack ID or flow diagram point identification (s):**
Stack #4

FUEL BURNING EQUIPMENT DESCRIPTION

3. List all fuel burning equipment that is at this fuel burning installation (please complete an APC 4 form for each piece of fuel burning equipment).
Natural Gas Fired/ No. 1 and No. 2 Fuel (Back-up) Boiler #4 with low-NOx burners with Flue Gas recirculation

4. Fuel burning equipment identification number:
Boiler #4 (53-0003-01)

5. Fuel burning equipment description:
Four (4) Pass Stream Packaged Fire tube.

6. Year of installation or last modification of fuel burning equipment.
2015

7. Furnace type:
Fire tube

8. Manufacturer model number (if available):
PFTA1300-4LG150S

9. Location of this fuel burning installation in UTM coordinates: UTM Vertical: 741833 m UTM Horizontal: 3958614 m

10. Normal operating schedule: 24 Hrs./Day 7 Days/Wk. 365 Days/Yr.

FUELS, CONTROLS, AND MONITORING DESCRIPTION

11. Maximum rated heat input capacity (in million BTU/Hour)
52.185

12. If wood is used as a fuel, specify the amount of wood used as a fraction of total heat input.
N/A

13. Fuels:	Primary fuel	Backup fuel #1	Backup fuel #2	Backup fuel #3
Fuel name	Natural Gas	#1 or #2 fuel oil		
Actual yearly consumption	193,243,480 cu. ft.			

14. If emissions from this fuel burning equipment are controlled for compliance, please specify the type of control:
N/A

15. If emissions from this fuel burning equipment are monitored for compliance, please specify the type of monitoring:
N/A

16. Describe any fugitive emissions associated with this process, such as outdoor storage piles, open conveyors, material handling operations, etc. (please attach a separate sheet if necessary).
N/A

17. Page number: 11 Revision Number: 0 Date of Revision: N/A

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TITLE V PERMIT APPLICATION
FUEL BURNING NON-PROCESS EQUIPMENT

GENERAL IDENTIFICATION AND DESCRIPTION

1. **Facility name:**
Viskase Corporation

2. **Stack ID or flow diagram point identification (s):**
Stack #5

FUEL BURNING EQUIPMENT DESCRIPTION

3. List all fuel burning equipment that is at this fuel burning installation (please complete an APC 4 form for each piece of fuel burning equipment).
Natural Gas Fired/ No. 1 and No. 2 Fuel (Back-up) Boiler #5 with low-NOx burners with Flue Gas recirculation

4. Fuel burning equipment identification number:
Boiler #5 (53-0003-01)

5. Fuel burning equipment description:
Four (4) Pass Stream Packaged Fire tube

6. Year of installation or last modification of fuel burning equipment.
2015

7. Furnace type:	8. Manufacturer model number (if available):
Fire tube	PFTA1300-4LG150S

9. Location of this fuel burning installation in UTM coordinates: UTM Vertical: 741833 m UTM Horizontal: 3958614 m

10. Normal operating schedule: 24 Hrs./Day 7 Days/Wk. 365 Days/Yr.

FUELS, CONTROLS, AND MONITORING DESCRIPTION

11. Maximum rated heat input capacity (in million BTU/Hour)	12. If wood is used as a fuel, specify the amount of wood used as a fraction of total heat input.
52.185	N/A

13. Fuels:	Primary fuel	Backup fuel #1	Backup fuel #2	Backup fuel #3
Fuel name	Natural Gas	#1 or #2 fuel oil		
Actual yearly consumption	205,799,092 cu. ft.			

14. If emissions from this fuel burning equipment are controlled for compliance, please specify the type of control:
N/A

15. If emissions from this fuel burning equipment are monitored for compliance, please specify the type of monitoring:
N/A

16. Describe any fugitive emissions associated with this process, such as outdoor storage piles, open conveyors, material handling operations, etc. (please attach a separate sheet if necessary).
N/A

17. Page number:	Revision Number:	Date of Revision:
12	0	N/A

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TITLE V PERMIT APPLICATION
FUEL BURNING NON-PROCESS EQUIPMENT

GENERAL IDENTIFICATION AND DESCRIPTION

1. **Facility name:**
Viskase Corporation

2. **Stack ID or flow diagram point identification (s):**
Substitute Boiler Stack

FUEL BURNING EQUIPMENT DESCRIPTION

3. List all fuel burning equipment that is at this fuel burning installation (please complete an APC 4 form for each piece of fuel burning equipment).
Natural Gas Fired/ No. 2 Fuel Substitute Boiler

4. Fuel burning equipment identification number:
N/A

5. Fuel burning equipment description:
Substitute Boiler - 10.468 MMBtu/hr boiler fired by Natural Gas as the primary fuel and No. 2 Fuel oil as the back-up fuel. This boiler may be operated for approximately 4 weeks during the boiler inspection period. (See attachment for APC 4 for further explanation)

6. Year of installation or last modification of fuel burning equipment.
N/A

7. Furnace type:
N/A

8. Manufacturer model number (if available):
N/A

9. Location of this fuel burning installation in UTM coordinates: UTM Vertical: 741833 m UTM Horizontal: 3958614 m

10. Normal operating schedule: 24 Hrs./Day 7 Days/Wk. 28 Days/Yr.

FUELS, CONTROLS, AND MONITORING DESCRIPTION

11. Maximum rated heat input capacity (in million BTU/Hour)
10.468

12. If wood is used as a fuel, specify the amount of wood used as a fraction of total heat input.
N/A

13. Fuels:	Primary fuel	Backup fuel #1	Backup fuel #2	Backup fuel #3
Fuel name	Natural Gas	#2 fuel oil		
Actual yearly consumption	N/A			

14. If emissions from this fuel burning equipment are controlled for compliance, please specify the type of control:
N/A

15. If emissions from this fuel burning equipment are monitored for compliance, please specify the type of monitoring:
N/A

16. Describe any fugitive emissions associated with this process, such as outdoor storage piles, open conveyors, material handling operations, etc. (please attach a separate sheet if necessary).
N/A

17. Page number: 13 Revision Number: 0 Date of Revision: N/A

Viskase Corporation
106 Blair Blend Drive
Loudon, TN
53-0003

Attachment to APC 4 Substitute Boiler

Subject: Operational Flexibility Scenario

Application Source Number	Description
ESRN 01	Boilers #3, #4, and #5

Currently, Title V Operating Permit # 567428 for Viskase includes three (3) boilers under a single permit unit – Boiler #3, #4 and #5.

Boiler	Heat Input Capacity MMBtu/hr	Primary Fuel	Secondary Fuel
Boiler #3	55.6	Natural Gas	No. 1 or No. 2 Fuel Oil
Boiler #4	52.185	Natural Gas	No. 1 or No. 2 Fuel Oil
Boiler #5	52.185	Natural Gas	No. 1 or No. 2 Fuel Oil

Every year alternatively, each of the boilers is taken out of service for inspection and maintenance, if needed. During this period only two of three boilers are running or available to run. If one of these boilers were to go down, the remaining boiler would be under a strain to generate enough steam to supply the facility by itself. Therefore, the company brings in a "substitute" boiler for this, in case it is needed during this maintenance period. This "substitute" boiler, which has a maximum heat input of about 10.468 MMBtu/hour, will be brought in on a trailer and will be hooked up to steam lines until maintenance is completed. The "substitute" boiler has the following characteristics:

ID	**Maximum Heat Input**	**Type of Fuel**
Substitute Boiler	10.468 MMBtu/hour	Natural Gas or No. 2 Fuel oil

10.468 MMBtu/hour is equivalent to 10,263 cu. ft/hour Natural Gas or 75 gal/hr No. 2 Fuel Oil.

8625 lbs steam per hour @ 150 psi

Operating at 8,760 hours per year at maximum capacity, based on AP-42 Natural Gas and Fuel Oil combustion emission factors, emissions from the "substitute" boilers are equivalent to:

Fuel Type	Particulate	SO_2	NO_x	CO	VOC
Natural Gas, TPY	0.34	0.03	4.5	3.8	0.3
No. 2 Fuel Oil, TPY	1.1	23.3	6.6	0.7	0.07

Viskase will usually idle the "substitute" boiler during the maintenance period and at the end of the maintenance period will operate the boiler long enough to burn off any fuel oil which is left over, because the boiler cannot be shipped while containing a tank full off fuel oil. The "substitute" boiler may not be needed at all during the maintenance period, but will be available, if needed. Depending on rental boiler availability, the boiler maximum heat input may vary.

The above information was submitted to the Tennessee Division of Air Pollution Control as an "Operational Flexibility" modification.

State of Tennessee
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TITLE V PERMIT APPLICATION
STACK IDENTIFICATION

GENERAL IDENTIFICATION AND DESCRIPTION

1. **Facility name:**
Viskase Corporation

2. **Emission source (identify):**
Boiler #3 (53-0003-01)

STACK DESCRIPTION

3. Stack ID (or flow diagram point identification):
Stack #2

4. Stack height above grade in feet:
70

5. Velocity (data at exit conditions):
59 (Actual feet per second) N/A

6. Inside dimensions at outlet in feet:
3.0

7. Exhaust flow rate at exit conditions (ACFM):
25,000

8. Flow rate at standard conditions (DSCFM):
14,350

9. Exhaust temperature:
400 Degrees Fahrenheit (°F)

10. Moisture content (data at exit conditions):
7 Percent N/A Grains per dry standard cubic foot (gr./dscf.)

11. Exhaust temperature that is equaled or exceeded during ninety (90) percent or more of the operating time (<u>for stacks subject to diffusion equation only</u>):
N/A (°F)

12. If this stack is equipped with continuous pollutant monitoring equipment required for compliance, what pollutant(s) does this equipment monitor (e.g., Opacity, SO_2, NO_x, etc.)?
N/A

Complete the appropriate APC form(s) 4, 5, 7, 8, 9, or 10 for each source exhausting through this stack.

BYPASS STACK DESCRIPTION

13. Do you have a bypass stack?
_____ Yes X No

If yes, describe the conditions which require its use & complete APC form 4 for the bypass stack. Please identify the stack number(s) of flow diagram point number(s) exhausting through this bypass stack.

14. Page number: 15 Revision Number: 0 Date of Revision: N/A

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TITLE V PERMIT APPLICATION
STACK IDENTIFICATION

GENERAL IDENTIFICATION AND DESCRIPTION

1. **Facility name:**
Viskase Corporation

2. **Emission source (identify):**
Boiler #4 (53-0003-01)

STACK DESCRIPTION

3. Stack ID (or flow diagram point identification):
Stack #4

4. Stack height above grade in feet:
50

5. Velocity (data at exit conditions):
35.2 (Actual feet per second)

6. Inside dimensions at outlet in feet:
3

7. Exhaust flow rate at exit conditions (ACFM):
14,929

8. Flow rate at standard conditions (DSCFM):
8,081

9. Exhaust temperature:
400 Degrees Fahrenheit (°F)

10. Moisture content (data at exit conditions):
10.5 Percent
N/A Grains per dry standard cubic foot (gr./dscf.)

11. Exhaust temperature that is equaled or exceeded during ninety (90) percent or more of the operating time (<u>for stacks subject to diffusion equation only</u>):
N/A (°F)

12. If this stack is equipped with continuous pollutant monitoring equipment required for compliance, what pollutant(s) does this equipment monitor (e.g., Opacity, SO_2, NO_x, etc.)?
N/A

Complete the appropriate APC form(s) 4, 5, 7, 8, 9, or 10 for each source exhausting through this stack.

BYPASS STACK DESCRIPTION

13. Do you have a bypass stack?
_____ Yes X No

If yes, describe the conditions which require its use & complete APC form 4 for the bypass stack. Please identify the stack number(s) of flow diagram point number(s) exhausting through this bypass stack.

14. Page number: 16 Revision Number: 0 Date of Revision: N/A

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TITLE V PERMIT APPLICATION
STACK IDENTIFICATION

GENERAL IDENTIFICATION AND DESCRIPTION

1. **Facility name:**

Viskase Corporation

2. **Emission source (identify):**

Boiler #5 (53-0003-01)

STACK DESCRIPTION

3. Stack ID (or flow diagram point identification):

Stack #5

4. Stack height above grade in feet:

50

5. Velocity (data at exit conditions):

35.2 (Actual feet per second)

6. Inside dimensions at outlet in feet:

3

7. Exhaust flow rate at exit conditions (ACFM):

14,929

8. Flow rate at standard conditions (DSCFM):

8081

9. Exhaust temperature:

400 Degrees Fahrenheit (°F)

10. Moisture content (data at exit conditions):

10.5 Percent

N/A Grains per dry standard cubic foot (gr./dscf.)

11. Exhaust temperature that is equaled or exceeded during ninety (90) percent or more of the operating time (<u>for stacks subject to diffusion equation only</u>):

N/A (°F)

12. If this stack is equipped with continuous pollutant monitoring equipment required for compliance, what pollutant(s) does this equipment monitor (e.g., Opacity, SO_2, NO_x, etc.)?

N/A

Complete the appropriate APC form(s) 4, 5, 7, 8, 9, or 10 for each source exhausting through this stack.

BYPASS STACK DESCRIPTION

13. Do you have a bypass stack?

_____ Yes X No

If yes, describe the conditions which require its use & complete APC form 4 for the bypass stack. Please identify the stack number(s) of flow diagram point number(s) exhausting through this bypass stack.

14. Page number: 17 Revision Number: 0 Date of Revision: N/A

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TITLE V PERMIT APPLICATION
COMPLIANCE CERTIFICATION - MONITORING AND REPORTING
DESCRIPTION OF METHODS USED FOR DETERMINING COMPLIANCE

All sources that are subject to 1200-03-09-.02(11) of the Tennessee Air Pollution Control Regulations are required to certify compliance with all applicable requirements by including a statement within the permit application of the methods used for determining compliance. This statement must include a description of the monitoring, recordkeeping, and reporting requirements and test methods. In addition, the application must include a schedule for compliance certification submittals during the permit term. These submittals must be no less frequent than annually and may need to be more frequent if specified by the underlying applicable requirement or the Technical Secretary.

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name: Viskase Corporation
2. Process emission source, fuel burning installation, or incinerator (identify): Boilers #3, #4, and #5
3. Stack ID or flow diagram point identification(s): Stack #2, #4, and #5

METHODS OF DETERMINING COMPLIANCE

4. This source as described under Item #2 of this application will use the following method(s) for determining compliance with applicable requirements (and special operating conditions from an existing permit). Check all that apply and attach the appropriate form(s)

- [ ] Continuous Emission Monitoring (CEM) - APC 20
  Pollutant(s): _____
- [ ] Emission Monitoring Using Portable Monitors - APC 21
  Pollutant(s): _____
- [ ] Monitoring Control System Parameters or Operating Parameters of a Process - APC 22
  Pollutant(s): _____
- [ ] Monitoring Maintenance Procedures - APC 23
  Pollutant(s): _____
- [ ] Stack Testing - APC 24
  Pollutant(s): _____
- [x] Fuel Sampling & Analysis (FSA) - APC 25
  Pollutant(s): Sulfur Dioxide (SO2)
- [x] Recordkeeping - APC 26
  Pollutant(s): Particulate and SO2
- [ ] Other (please describe) - APC 27
  Pollutant(s): _____

5. Compliance certification reports will be submitted to the Division according to the following schedule:
   Start date: Per Title V Permit
   And every 30 days thereafter.
6. Compliance monitoring reports will be submitted to the Division according to the following schedule:
   Start date: Per Title V Permit
   And every 30 days thereafter.
7. Page number: 18 Revision number: 0 Date of revision: N/A

State of Tennessee
Department of Environment and Conservation
Division of Air Pollution Control
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TITLE V PERMIT APPLICATION
COMPLIANCE DEMONSTRATION BY FUEL SAMPLING AND ANALYSIS

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name:
Viskase Corporation

2. Stack ID or flow diagram point identification(s):
Stack #2, Stack #4 and Stack#5

3. Emission source (identify):
Boilers #3, #4 and #5 (53-0003-01)

MONITORING THROUGH FUEL SAMPLING AND ANALYSIS

4. Pollutant(s) being monitored:
Sulfur Dioxide (SO2)

5. Fuel being sampled:
No. 1 Oil, and No. 2 Oil

6. List the fuel sample collecting and analyzing method used (if an ASTM method is not applicable, propose a method acceptable to the Technical Secretary).
Vendor provided Specification sheet listing the oil sulfur content for the fuel oil as required by permit condition E4-3 in accordance with 40 CFR 63 Subpart DDDDD requirements.

7. Compliance demonstration frequency (specify the frequency with which compliance will be demonstrated):
N/A

8. Page number:	Revision number:	Date of revision:
19	0	N/A

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TITLE V PERMIT APPLICATION
COMPLIANCE DEMONSTRATION BY RECORDKEEPING

Recordkeeping shall be acceptable as a compliance demonstration method provided that a correlation between the parameter value recorded and the applicable requirement is established.

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name:
Viskase Corporation

2. Stack ID or flow diagram point identification(s):
Stack #2, #4 and #5

3. Emission source (identify):
Boiler #3, #4, and #5

MONITORING AND RECORDKEEPING DESCRIPTION

4. Pollutant(s) or parameter being monitored:
Particulate Matter, Sulfur Dioxide (SO2), and Nitrogen Oxides (NOx)

5. Material or parameter being monitored and recorded:
Fuel Oil and Natural Gas usage, Sulfur content of fuel oil burned, monthly hours of operation of each boiler (#3, #4 and #5) for the combustion of Natural Gas and/or Fuel Oil

6. Method of monitoring and recording:
1. Monthly record of Natural Gas and Fuel Oil usage
2. Monthly record of Fuel Oil sulfur content
3. Monthly record of operating hours for Natural Gas and Fuel Oil combusted

7. Compliance demonstration frequency (specify the frequency with which compliance will be demonstrated):
Monthly

8. Page number:	Revision number:	Date of revision:
20	0	N/A

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TITLE V PERMIT APPLICATION
EMISSIONS FROM PROCESS EMISSION SOURCE / FUEL BURNING INSTALLATION / INCINERATOR

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name: Viskase Corporation

2. Stack ID or flow diagram point identification(s): Stack #2, #4 and #5

3. Process emission source / Fuel burning installation / Incinerator (identify): Boiler #3, #4, and #5

EMISSIONS SUMMARY TABLE – CRITERIA AND FUGITIVE EMISSIONS

4. Complete the following emissions summary for regulated air pollutants. Fugitive emissions shall be included. Attach calculations and emission factor references.

Air Pollutant	Maximum Allowable Emissions		Actual Emissions	
	Tons per Year	Reserved for State use (Pounds per Hour - Item 7, APC 30)	Tons per Year	Reserved for State use (Pounds per Hour- Item 8, APC 30)
Particulate Matter (TSP)	5.22			
(Fugitive Emissions)	N/A			
Sulfur Dioxide	60.36		(744 hrs on oil @ 1% sulfur)	
(Fugitive Emissions)	N/A			
Volatile Organic Compounds	3.78			
(Fugitive Emissions)	N/A			
Carbon Monoxide	36.74			
(Fugitive Emissions)	N/A			
Lead	N/A			
(Fugitive Emissions)	N/A			
Nitrogen Oxides	40.42			
(Fugitive Emissions)	N/A			
Total Reduced Sulfur	N/A			
(Fugitive Emissions)	N/A			
Mercury	N/A			
(Fugitive Emissions)	N/A			

(Continued on next page)

(Continued from last page)

AIR POLLUTANT	Maximum Allowable Emissions		Actual Emissions	
	Tons per Year	Reserved for State use (Pounds per Hour - Item 7, APC 30)	Tons per Year	Reserved for State use (Pounds per Hour- Item 8, APC 30)
Asbestos	N/A			
(Fugitive Emissions)	N/A			
Beryllium	N/A			
(Fugitive Emissions)	N/A			
Vinyl Chloride	N/A			
(Fugitive Emissions)	N/A			
Fluorides	N/A			
(Fugitive Emissions)	N/A			
Gaseous Fluorides	N/A			
(Fugitive Emissions)	N/A			
Greenhouse Gases in CO_2 Equivalents	55607			

EMISSIONS SUMMARY TABLE – FUGITIVE HAZARDOUS AIR POLLUTANTS

5. Complete the following emissions summary for regulated air pollutants that are hazardous air pollutant(s). Fugitive emissions shall be included. Attach calculations and emission factor references.

Air Pollutant & CAS	Maximum Allowable Emissions		Actual Emissions	
	Tons per Year	Reserved for State use (Pounds per Hour - Item 7, APC 30)	Tons per Year	Reserved for State use (Pounds per Hour- Item 8, APC 30)

6. Page number: 21 Revision number: 0 Date of revision N/A

State of Tennessee
Department of Environment and Conservation
Division of Air Pollution Control
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TITLE V PERMIT APPLICATION
CURRENT EMISSIONS REQUIREMENTS AND STATUS

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name:	2. Emission source number
Viskase Corporation	53-0003-01

3. Describe the process emission source / fuel burning installation / incinerator.

Boilers #3, #4, and #5 Three Natural Gas-Fired/ No. 1 and No. 2 Fuel Oil Boilers

EMISSIONS AND REQUIREMENTS

4. Identify if only a part of the source is subject to this requirement	5. Pollutant	6. Applicable requirement(s): TN Air Pollution Control Regulations, 40 CFR, permit restrictions, air quality based standards	7. Limitation	8. Maximum actual emissions	9. Compliance status (In/Out)
	Particulate	Boilers #3, #4 and #5: 3.77 lbs/hr	5.21 TPY	<5.21 TPY	IN
	Sulfur Dioxide	Boilers #3, #4 and #5: 162.25 lbs/hr	60.36 TPY	<60.36 TPY	IN
	NOx	Boilers #3, #4 and #5: 27.69 lbs/hr	40.43 TPY	<40.43 TPY	IN
	CO	Boilers #3, #4 and #5: 8.38 lbs/hr	36.70 TPY	<36.70 TPY	IN
	VOC	Boilers #3, #4 and #5: 0.86 lb/hr	3.77 TPY	<3.77 TPY	IN
		40 CFR 63 Subpart DDDDD	Work Practices	Standard	IN
Boilers #3, #4, #5		40 CFR 63 Subpart DDDDD	Monthly record	keeping	IN
	Sulfur Dioxide	Sulfur Content	1.0% sulfur	<1.0% sulfur cont.	IN
		40 CFR 60 Subpart Dc	Monthly Fuel	usage	

10. Other applicable requirements (new requirements that apply to this source during the term of this permit)

11. Page number:	Revision number:	Date of revision:
22	0	N/A

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106 Blair Blend Drive
Loudon, Tennessee
53-0003-01

Three (3) Natural Gas-Fired/No. 1 or No. 2 Fuel Oil Boilers - Boiler # 3, #4 and #5
Boilers #4 and #5 have Low-NOx burners with Flue Gas Recirculation

Operation Configuration

Boiler #3 and Boiler #4 or #5 may be operated simultaneously

Boiler Usage

Boiler #	Rating BTU/Hr	Natural Gas BTU/ft^3	No. 2 Oil BTU/Gal	Gas Usage Rate ft^3/Hr	Oil Usage Rate Gal/hr
3	55,600,000	1020	140,000.00	54,509.80	397.1
4	52,185,000	1020	140,000.00	51,161.80	372.8
5	52,185,000	1020	140,000.00	51,161.80	372.8

Emission Factors

	PM	SO_2	NO_x	CO	VOC	
Natural Gas Combustions*	7.60	0.60	100	84	5.50	$lb/10^6$ ft^3
Boiler #4 and #5**			0.04	0.04		$lb/10^6$ BTU
Fuel Oil Combustion***	3.30	142 S	24	5	0.20	$lb/10^3$ Gal
Boiler #4 and #5****			0.17	0.04		$lb/10^6$ BTU
*AP-42 Emission Factors for Narual Gas						
Table 1.4-1. EMISSION FACTORS FOR NITROGEN OXIDES (NOx) AND CARBON MONOXIDE (CO) FROM NATURAL GAS COMBUSTION						
TABLE 1.4-2. EMISSION FACTORS FOR CRITERIA POLLUTANTS AND GREENHOUSE GASES FROM NATURAL GAS COMBUSTION						
**Based on Manufacturer specification for Boilers #4 and #5 for Natural gas at 1000 BTU/ft3						
***AP-42 Emission Factors for No. 2 Fuel Oil						
Table 1.3-1. CRITERIA POLLUTANT EMISSION FACTORS FOR FUEL OIL COMBUSTION (Sulfur Percentage is 1%)						
Table 1.3-3. EMISSION FACTORS FOR TOTAL ORGANIC COMPOUNDS (TOC), METHANE, AND NONMETHANE TOC (NMTOC) FROM UNCONTROLLED FUEL OIL COMBUSTION						
Table 1.3-4. CUMULATIVE PARTICLE SIZE DISTRIBUTION AND SIZE-SPECIFIC EMISSION FACTORS FOR UTILITY BOILERS FIRING RESIDUAL OIL						
****Based on Manufacturer specification for Boilers #4 and #5 for No. 2 oil at 140000 BTU/Gal						

Natural Gas Combustions Emission	**PM**	**SO_2**	**NO_x**	**CO**	**VOC**	**Basis**
Boiler #3	0.41	0.03	5.45	4.58	0.30	AP-42
Boiler #4	0.39	0.03	1.89	1.90	0.28	Manuf Spec
Boiler #5	0.39	0.03	1.89	1.90	0.28	Manuf Spec
Total (lb./hr)	1.19	0.09	9.23	8.39	0.86	
Total (TPY)	5.22	0.41	40.42	36.74	3.78	

No. 2 Fuel Oil Combustion Emission	**PM**	**SO_2**	**NO_x**	**CO**	**VOC**	**Basis**
Boiler #3	1.31	56.39	9.67	2.22	0.08	AP-42
Boiler #4	1.23	52.94	9.08	2.09	0.07	Manuf Spec
Boiler #5	1.23	52.94	9.08	2.09	0.07	Manuf Spec
Total (lb./hr)	3.77	162.26	27.84	6.40	0.23	
Total (TPY)	0.091	60.36	0.67	0.154	0.005	

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53-0003

Three (3) Natural Fas-Fired/No.1 or No. 2 Fuel Oil Boilers 53-0003-01
Boiler #3, #4 and #5
Boiler #4 and #5 have Low-Nox burners with Flue Gas Recirculation
Operation Configuration
Boiler #3 and Boiler #4 or #5 may be operated simultaneously

Boiler Usage

Boiler #	Rating BTU/Hr	Natural Gas BTU/ft^3	No. 2 Oil BTU/Gal	Gas Usage Rate ft^3/Hr	Oil Usage Rate Gal/hr
3	55600000	1020	140000	54509.8	397.1
4	52185000	1020	140000	51161.8	372.8
5	52185000	1020	140000	51161.8	372.8

Greenhouse Gas Emission Development

Global Warming Potential (GWP) Factors [1]

CO_2 GWP	CH_4 GWP	N_2O GWP
1	25	298

[1] From Table A-1 of Subpart A of Part 98

Emission Factors for GHG - Natural Gas

HHV[2] MM Btu/Ft^3	CO_2 EF[2] Kg CO_2/MM Btu	CH_4 EF[2] Kg CH_4/MM Btu	N_2O EF[2] Kg N_2O/MM Btu
0.001026	53.06	1.00E-03	1.00E-04

Emission Factors for GHG - No. 2 Fuel Oil

HHV[2] MM Btu/Ft^3	CO_2 EF[2] Kg CO_2/MM Btu	CH_4 EF[2] Kg CO_2/MM Btu	N_2O EF[2] Kg CO_2/MM Btu
0.138	73.96	3.00E-03	6.00E-04

[2] From Tables C-1 and C-2 of Subpart C of Part 98

Emission estimates using Equation (C-1) of Subpart C - General Stationary Fuel Combustion Sources
Gas Combustion

	CO_2 Metric Tons	CH_4 Metric Tons	N_2O Metric Tons
Metriic Ton/hr	5.75	0.0001	0.000011
Metric Ton/year	50393.79	0.95	0.09

	CO_2 CO2e	CH_4 CO2e	N_2O CO2e	Total CO2e
Metric Ton/year	50393.8	23.74	28.30	50,445.85
Ton/yr	55549.66	26.17	31.20	55,607.03
			1 metrics ton	1.102311 ton

State of Tennessee
Department of Environment and Conservation
Division of Air Pollution Control
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TITLE V PERMIT APPLICATION
MISCELLANEOUS PROCESSES

GENERAL IDENTIFICATION AND DESCRIPTION

1. **Facility name:**
Viskase Corporation

2. **Process emission source (identify):**
Cellulose Casing Production (53-0003-03)

3. Stack ID or flow diagram point identification (s):
N/A

4. Year of construction or last modification:
2018 Modification

If the emissions are controlled for compliance, attach an appropriate Air Pollution Control system form.

5. Normal operating schedule: 24 Hrs./Day 7 Days/Wk. 365 Days/Yr.

6. Location of this process emission source in UTM coordinates: UTM Vertical : 584 M North UTM Horizontal: 417 M East

7. Describe this process (Please attach a flow diagram of this process) and check one of the following:

[ ] Batch [✓] Continuous

PROCESS MATERIAL INPUT AND OUTPUT

8. List the types and amounts of raw materials input to this process:

Material	Storage/Material handling process	Average usage (units)	Maximum usage (units)
Carbon Disulfide	Piped from storage tank	533 lbs/hr	580 lbs/hr
Wood Pulp	Stored on Pallets	1,870 lbs/hr	2,035 lbs/hr
Sodium Hydroxide	Piped from storage tank	1,468 lbs/hr	1,596 lbs/hr
Continued to 2nd form			

9. List the types and amounts of primary products produced by this process:

Material	Storage/Material handling process	Average usage (units)	Maximum usage (units)
Food Grade Cellulose	Stacked and Wrapped on Pallets	13,614,000 gross lbs/yr	15,691,000 gross lbs/yr

10. Process fuel usage:

Type of fuel	Max heat input (10^6 BTU/Hr.)	Average usage (units)	Maximum usage (units)
N/A			

11. List any solvents, cleaners, etc., associated with this process:
N/A

If the emissions and/or operations of this process are monitored for compliance, please attach the appropriate Compliance Demonstration form.

12. Describe any fugitive emissions associated with this process, such as outdoor storage piles, open conveyors, open air sand blasting, material handling operations, etc. (please attach a separate sheet if necessary).

Fugitive emission from Carbon Disulfide unloading activities and wastewater stream.
Fugutuve Emissions quantified on APC 28 and included in supporting calculations.

13. Page number:	Revision Number:	Date of Revision:
25	0	N/A

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TITLE V PERMIT APPLICATION
MISCELLANEOUS PROCESSES

GENERAL IDENTIFICATION AND DESCRIPTION

1. **Facility name:**
Viskase Corporation

2. **Process emission source (identify):**
Cellulose Casing Production (53-0003-03)

3. Stack ID or flow diagram point identification (s):
N/A

4. Year of construction or last modification:
2018 Modification

If the emissions are controlled for compliance, attach an appropriate Air Pollution Control system form.

5. Normal operating schedule: 24 Hrs./Day 7 Days/Wk. 365 Days/Yr.

6. Location of this process emission source in UTM coordinates: UTM Vertical : 584 M North UTM Horizontal: 417 M East

7. Describe this process (Please attach a flow diagram of this process) and check one of the following:

[ ] Batch [✓] Continuous

PROCESS MATERIAL INPUT AND OUTPUT

8. List the types and amounts of raw materials input to this process:

Material	Storage/Material handling process	Average usage (units)	Maximum usage (units)
Sulfuric Acid	Piped from storage tank	2,540 lbs/hr	2,760 lbs/hr
Glycerine	Piped from storage tank	231 lbs/hr	251 lbs/hr
Aerosol OT	Diluted from Drum	3.12 lbs/hr	3.39 lbs/hr

9. List the types and amounts of primary products produced by this process:

Material	Storage/Material handling process	Average usage (units)	Maximum usage (units)

10. Process fuel usage:

Type of fuel	Max heat input (10^6 BTU/Hr.)	Average usage (units)	Maximum usage (units)
N/A			

11. List any solvents, cleaners, etc., associated with this process:
N/A

If the emissions and/or operations of this process are monitored for compliance, please attach the appropriate Compliance Demonstration form.

12. Describe any fugitive emissions associated with this process, such as outdoor storage piles, open conveyors, open air sand blasting, material handling operations, etc. (please attach a separate sheet if necessary).

13. Page number: 26 Revision Number: 0 Date of Revision: N/A

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TITLE V PERMIT APPLICATION
STACK IDENTIFICATION

GENERAL IDENTIFICATION AND DESCRIPTION

1. **Facility name:**
Viskase Corporation

2. **Emission source (identify):**
Cellulose Casing Production (53-0003-03)

STACK DESCRIPTION

3. Stack ID (or flow diagram point identification):
FE-9

4. Stack height above grade in feet:
96

5. Velocity (data at exit conditions):
65.5 _____ (Actual feet per second)

6. Inside dimensions at outlet in feet:
5.4

7. Exhaust flow rate at exit conditions (ACFM):
90,000

8. Flow rate at standard conditions (DSCFM):
84,721

9. Exhaust temperature:
88 _____ Degrees Fahrenheit (°F)

10. Moisture content (data at exit conditions):
2.3 _____ Percent 7.7 _____ Grains per dry standard cubic foot (gr./dscf.)

11. Exhaust temperature that is equaled or exceeded during ninety (90) percent or more of the operating time (<u>for stacks subject to diffusion equation only</u>):
N/A _____ (°F)

12. If this stack is equipped with continuous pollutant monitoring equipment required for compliance, what pollutant(s) does this equipment monitor (e.g., Opacity, SO_2, NO_x, etc.)?
N/A

Complete the appropriate APC form(s) 4, 5, 7, 8, 9, or 10 for each source exhausting through this stack.

BYPASS STACK DESCRIPTION

13. Do you have a bypass stack?
_____ Yes X _____ No

If yes, describe the conditions which require its use & complete APC form 4 for the bypass stack. Please identify the stack number(s) of flow diagram point number(s) exhausting through this bypass stack.

14. Page number: 27 Revision Number: 0 Date of Revision: N/A

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TITLE V PERMIT APPLICATION
STACK IDENTIFICATION

GENERAL IDENTIFICATION AND DESCRIPTION

1. **Facility name:**

Viskase Corporation

2. **Emission source (identify):**

Cellulose Casing Production (53-0003-03)

STACK DESCRIPTION

3. Stack ID (or flow diagram point identification):

FE-10

4. Stack height above grade in feet:

96

5. Velocity (data at exit conditions):

45.1 _____ (Actual feet per second)

6. Inside dimensions at outlet in feet:

4

7. Exhaust flow rate at exit conditions (ACFM):

34,000

8. Flow rate at standard conditions (DSCFM):

30,952

9. Exhaust temperature:

93.9 _____ Degrees Fahrenheit (°F)

10. Moisture content (data at exit conditions):

4.5 _____ Percent

15.5 _____ Grains per dry standard cubic foot (gr./dscf.)

11. Exhaust temperature that is equaled or exceeded during ninety (90) percent or more of the operating time (<u>for stacks subject to diffusion equation only</u>):

N/A _____ (°F)

12. If this stack is equipped with continuous pollutant monitoring equipment required for compliance, what pollutant(s) does this equipment monitor (e.g., Opacity, SO_2, NO_x, etc.)?

N/A

Complete the appropriate APC form(s) 4, 5, 7, 8, 9, or 10 for each source exhausting through this stack.

BYPASS STACK DESCRIPTION

13. Do you have a bypass stack?

_____ Yes X _____ No

If yes, describe the conditions which require its use & complete APC form 4 for the bypass stack. Please identify the stack number(s) of flow diagram point number(s) exhausting through this bypass stack.

14. Page number: 28 Revision Number: 0 Date of Revision: N/A

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TITLE V PERMIT APPLICATION
STACK IDENTIFICATION

GENERAL IDENTIFICATION AND DESCRIPTION

1. **Facility name:**

Viskase Corporation

2. **Emission source (identify):**

Cellulose Casing Production (53-0003-03)

STACK DESCRIPTION

3. Stack ID (or flow diagram point identification):

FE-11

4. Stack height above grade in feet:

66

5. Velocity (data at exit conditions):

49.4 _____ (Actual feet per second)

6. Inside dimensions at outlet in feet:

3.5

7. Exhaust flow rate at exit conditions (ACFM):

28,500

8. Flow rate at standard conditions (DSCFM):

26,209

9. Exhaust temperature:

97.5 _____ Degrees Fahrenheit (°F)

10. Moisture content (data at exit conditions):

2.9 _____ Percent 9.8 _____ Grains per dry standard cubic foot (gr./dscf.)

11. Exhaust temperature that is equaled or exceeded during ninety (90) percent or more of the operating time (<u>for stacks subject to diffusion equation only</u>):

N/A _____ (°F)

12. If this stack is equipped with continuous pollutant monitoring equipment required for compliance, what pollutant(s) does this equipment monitor (e.g., Opacity, SO_2, NO_x, etc.)?

N/A

Complete the appropriate APC form(s) 4, 5, 7, 8, 9, or 10 for each source exhausting through this stack.

BYPASS STACK DESCRIPTION

13. Do you have a bypass stack?

_____ Yes X _____ No

If yes, describe the conditions which require its use & complete APC form 4 for the bypass stack. Please identify the stack number(s) of flow diagram point number(s) exhausting through this bypass stack.

14. Page number: 29 Revision Number: 0 Date of Revision: N/A

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TITLE V PERMIT APPLICATION
COMPLIANCE CERTIFICATION - MONITORING AND REPORTING
DESCRIPTION OF METHODS USED FOR DETERMINING COMPLIANCE

All sources that are subject to 1200-03-09-.02(11) of the Tennessee Air Pollution Control Regulations are required to certify compliance with all applicable requirements by including a statement within the permit application of the methods used for determining compliance. This statement must include a description of the monitoring, recordkeeping, and reporting requirements and test methods. In addition, the application must include a schedule for compliance certification submittals during the permit term. These submittals must be no less frequent than annually and may need to be more frequent if specified by the underlying applicable requirement or the Technical Secretary.

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name: Viskase Corporation
2. Process emission source, fuel burning installation, or incinerator (identify): Cellulose Casing Production (53-0003-03)
3. Stack ID or flow diagram point identification(s): FE-9, FE-10, FE-11

METHODS OF DETERMINING COMPLIANCE

4. This source as described under Item #2 of this application will use the following method(s) for determining compliance with applicable requirements (and special operating conditions from an existing permit). Check all that apply and attach the appropriate form(s)

- [ ] Continuous Emission Monitoring (CEM) - APC 20
  Pollutant(s): _____
- [ ] Emission Monitoring Using Portable Monitors - APC 21
  Pollutant(s): _____
- [x] Monitoring Control System Parameters or Operating Parameters of a Process - APC 22
  Pollutant(s): Carbon Disulfide
- [ ] Monitoring Maintenance Procedures - APC 23
  Pollutant(s): _____
- [ ] Stack Testing - APC 24
  Pollutant(s): _____
- [ ] Fuel Sampling & Analysis (FSA) - APC 25
  Pollutant(s): _____
- [x] Recordkeeping - APC 26
  Pollutant(s): Carbon Disulfide
- [ ] Other (please describe) - APC 27
  Pollutant(s): _____

5. Compliance certification reports will be submitted to the Division according to the following schedule:
   Start date: Per Title V Permit
   And every 30 days thereafter.
6. Compliance monitoring reports will be submitted to the Division according to the following schedule:
   Start date: Per Title V Permit
   And every 30 days thereafter.
7. Page number: 30 Revision number: 0 Date of revision: N/A

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TITLE V PERMIT APPLICATION - COMPLIANCE DEMONSTRATION BY MONITORING CONTROL SYSTEM PARAMETERS OR OPERATING PARAMETERS OF A PROCESS

The monitoring of a control system parameter or a process parameter shall be acceptable as a compliance demonstration method provided that a correlation between the parameter value and the emission rate of a particular pollutant is established.

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name:	2. Stack ID or flow diagram point identification(s)
Viskase Corporation	FE-10

3. Emission source:

Cellulose Casing Production (53-0003-03)

MONITORING DESCRIPTION

4. Pollutant(s) being monitored:

Carbon Disulfide

5. Description of the method of monitoring and establishment of correlation between the parameter value and the emission rate of a particular pollutant:

Viskase Corporation uses a Bioway (TM) V-Spring System biofilter control for the control of carbon disulfide emissions for compliance with 40 CFR 63, Subpart UUUU (National Emission Standards for Hazardous Air Pollutants: Cellulose Products Manufacturing). Viskase monitors the following parameters as a requirement of Subpart UUUU - Inlet Gas Temperature, Biofilter Effluent Conductivity and Pressure Drop (delta P) across the filter media bed.

Inlet Gas Temperature is monitored in order to ensure the microorganisms environment is maintained at the proper level of optimum performance. The temperature is to be maintained between 68 degrees F and 119 degrees F for optimum microorganism performance. If the temperature is too high the microorganisms can be harmed or killed and the carbon disulfide emission control will be inhibited. This occurs when the temperature reaches 120-130 degrees F. If the temperature is too low, the microorganism activity will be hampered and carbon disulfide emission control will again be compromised. The operating range is 68-119 degrees F.

Biofilter Effluence Conductivity is monitored as another indicator of microorganism health and function. The conductivity which is measured in millisiemens/cm is operated within a range of 0 and 200 millisiemens/cm.

Biofilter Effluent Pressure Drop is an indicator of the density of the biomass in the filter. As the biomass increases in the filter the pressure drop increases. The manufacturer specification recommends operating up to a (delta P) of 8 inches of water. Once a prescribed (delta P) is reached the media is washed with a caustic solution.

The Inlet Gas Temperature, Effluent Conductivity and Pressure Drop are continuously monitored and electronically recorded every 5 minutes. The 12 hourly readings are averaged to produce the hourly average value for the specific parameter. The hourly averages are then used to produce the daily average for the specific parameter. There are alarms on the monitoring systems that alert Viskase personnel in the event that any of the parameters being monitored fall outside the set operating ranges.

Table 3 (Calculation for MACT Compliance - MACT Material Balance and Calculation of Percent Reduction of Total Sulfide Emissions and Table 4 (Calculations of CS2 and H2S Emissions - MACT Material Balance and Performance Test Information) that follow this form are used in the compliance demonstration for Subpart UUUU. Table 3 and 4 contain revised emission factors and control efficiencies that were established during the emission source testing conducted on May 29, 2019.

6. Compliance demonstration frequency (specify the frequency with which compliance will be demonstrated):

Daily, Monthly and on a 6-month rolling average per 40 CFR 63 Subpart UUUU

7. Page number:	Revision number:	Date of revision:
31	0	N/A

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Department of Environment and Conservation
Division of Air Pollution Control
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TITLE V PERMIT APPLICATION
COMPLIANCE DEMONSTRATION BY RECORDKEEPING

Recordkeeping shall be acceptable as a compliance demonstration method provided that a correlation between the parameter value recorded and the applicable requirement is established.

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name:
Viskase Corporation

2. Stack ID or flow diagram point identification(s):
N/A

3. Emission source (identify):
Cellulose Casing Production (53-0003-03)

MONITORING AND RECORDKEEPING DESCRIPTION

4. Pollutant(s) or parameter being monitored:
Carbon Disulfide and Hours of Operation

5. Material or parameter being monitored and recorded:
Carbon Disulfide Usage and Hours of Operation

6. Method of monitoring and recording:
The total quantity of carbon disulfide used per month and the number of operational hours per month are manually recorded.

7. Compliance demonstration frequency (specify the frequency with which compliance will be demonstrated):
Monthly

8. Page number:	Revision number:	Date of revision:
32	0	N/A

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Division of Air Pollution Control
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TITLE V PERMIT APPLICATION
EMISSIONS FROM PROCESS EMISSION SOURCE / FUEL BURNING INSTALLATION / INCINERATOR

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name:	2. Stack ID or flow diagram point identification(s):
Viskase Corporation	FE-9, FE-10, FE-11

3. Process emission source / Fuel burning installation / Incinerator (identify):
Cellulose Casing Production (53-0003-03)

EMISSIONS SUMMARY TABLE – CRITERIA AND FUGITIVE EMISSIONS

4. Complete the following emissions summary for regulated air pollutants. Fugitive emissions shall be included. Attach calculations and emission factor references.

Air Pollutant	Maximum Allowable Emissions		Actual Emissions	
	Tons per Year	Reserved for State use (Pounds per Hour - Item 7, APC 30)	Tons per Year	Reserved for State use (Pounds per Hour- Item 8, APC 30)
Particulate Matter (TSP)	N/A			
(Fugitive Emissions)	N/A			
Sulfur Dioxide	N/A			
(Fugitive Emissions)	N/A			
Volatile Organic Compounds	1,104 CS2			
(Fugitive Emissions)	56.2 CS2 Wastewater			
Carbon Monoxide	N/A			
(Fugitive Emissions)	N/A			
Lead	N/A			
(Fugitive Emissions)	N/A			
Nitrogen Oxides	N/A			
(Fugitive Emissions)	N/A			
Total Reduced Sulfur	285 (as H2S)		(CS2 not included in the 285)	
(Fugitive Emissions)	N/A			
Mercury	N/A			
(Fugitive Emissions)	N/A			

(Continued on next page)

(Continued from last page)

AIR POLLUTANT	Maximum Allowable Emissions		Actual Emissions	
	Tons per Year	Reserved for State use (Pounds per Hour - Item 7, APC 30)	Tons per Year	Reserved for State use (Pounds per Hour- Item 8, APC 30)
Asbestos	N/A			
(Fugitive Emissions)	N/A			
Beryllium	N/A			
(Fugitive Emissions)	N/A			
Vinyl Chloride	N/A			
(Fugitive Emissions)	N/A			
Fluorides	N/A			
(Fugitive Emissions)	N/A			
Gaseous Fluorides	N/A			
(Fugitive Emissions)	N/A			
Greenhouse Gases in CO_2 Equivalents	N/A			
VOC (Fugitive)	2.7 Glycerin Addition			

EMISSIONS SUMMARY TABLE – FUGITIVE HAZARDOUS AIR POLLUTANTS

5. Complete the following emissions summary for regulated air pollutants that are hazardous air pollutant(s). Fugitive emissions shall be included. Attach calculations and emission factor references.

Air Pollutant & CAS	Maximum Allowable Emissions		Actual Emissions	
	Tons per Year	Reserved for State use (Pounds per Hour - Item 7, APC 30)	Tons per Year	Reserved for State use (Pounds per Hour- Item 8, APC 30)
CS2 (***Reported in VOC)	***			
H2S (***Reported in red, Sulfur)	***			

6. Page number: 33 | Revision number: 0 | Date of revision: N/A

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TITLE V PERMIT APPLICATION
CURRENT EMISSIONS REQUIREMENTS AND STATUS

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name:	2. Emission source number
Viskase Corporation	53-0003-03

3. Describe the process emission source / fuel burning installation / incinerator.

Cellulose Casing Production (53-0003-03)

EMISSIONS AND REQUIREMENTS

4. Identify if only a part of the source is subject to this requirement	5. Pollutant	6. Applicable requirement(s): TN Air Pollution Control Regulations, 40 CFR, permit restrictions, air quality based standards	7. Limitation	8. Maximum actual emissions	9. Compliance status (In/Out)
	CS2	Permit Condition E5-1	1104 tons/12 mo	<1104 tons/12 mo	IN
	H2S	Permit Condition E5-2	285 tons/12 mo	<285 tons/12 mo	IN
	Visible. Em.	Permit Condition E3-2	20% Opacity	<20% Opacity	IN
	TRS (as CS2)	40 CFR 63 Subpart UUUU	25% reduction	>=25% Contrl Eff	IN

10. Other applicable requirements (new requirements that apply to this source during the term of this permit)

11. Page number:	Revision number:	Date of revision:
34	N/A	N/A

Viskase Corporation
106 Blair Blend Drive
Loudon, Tennessee
53-0003

Table 3: Calculation for MACT Compliance

Viskase Loudon, TN. MACT Compliance Information
MACT Material Balance and Calculation of Percent Reduction of Total Sulfide Emissions

	Input				Input	Input								Input					
	("W")		("A")	("X") 40.23%		Capacity Factor Information				("U")	("R") 83.19%	(BUR)*	(XUR) = (BUR/A)	("M") (W/M) Process Credit Info		("P")	(XUR*(1-P))	(P+ XUR* (1-P))	Need >= 25%
Month	Pounds of CS2 Input per Month at Scale (Lbs/Mo.)	Days	95.0% *W Pounds of CS2 to Air (Lbs/Mo.)	("B") CS2 to MACT System (Lbs/Mo.)	Input MACT Maint. Hrs.	Input Non-MACT Maint. Hours in the Month with the following Number of Reactors OFFLINE 1	2	3	4	MACT Capacity Factor Uptime (%)	(UR) Effective MACT System Removal	CS2 Removed by MACT System (Lbs/Mo.)	MACT System Current Removal (%)	SAP Casing Produced (M Sq.m/Mo.)	Lbs CS2 Weighed per M Sq.m. Casing	Monthly Process Credit (%)	MACT System Base Yr. Removal (%)	Overall MACT Base Yr. Removal (%)	6-Month Rolling Average Removal (%)
1991														1991 Base Yr.	22.92				

Overall MACT Removal % = [P + XUR*(1-P)]
This needs to be greater than or equal to 25% on a 6-Month Rolling Average for compliance
Note: The 6-Month Rolling Average weights the values for each month by the number of days in the month

W — Amount of CS_2 weighed at the scale during the month
95.00% Percentage of CS_2 weighed that goes into the air as CS_2, H_2S or COS based on previous testing & permit values
A — Amount of CS_2 weighed at the scale during the month that goes into the air
B — Amount of sulfides routed to the MACT equipment expressed as CS_2
X = B/A — Based on 5-29-19 Performance Test Results & Average CS_2 used during May 26-29, 2019. During performance test 40.23% of the sulfides that went into the air (expressed as CS_2) went to the control device.
U — Uptime Capacity Factor Based on Each Reactor Performing Equivalently (e.g., Reduce MACT System removal capacity by 1/4 for each reactor that is OFFLINE)
R — Based on 5-29-2019 Performance Test Results with 4 Reactors On-line. During the performance test 83.19% of the sulfides (expressed as CS_2) that went to the control device were removed
BUR* — The CS_2 removed by the MACT System is adjusted to show no removal during maintenance hours by multiplying BUR by (Days*24-Maint. Hrs)/(Days*24)
M — M Square meters of Casing produced during the month from SAP accounting system
P — Process Credit % calculated by using current Lbs of CS_2 per M Sq. meters of Casing Produced / Lbs CS_2 Weighed compared to 1991 Base Year
Days — Days are production days of the inventory month as defined in Conditions E5-1 of the permit

Viskase Corporation
106 Blair Blend Drive
Loudon, Tennessee
53-0003

Table 4: Calculation of CS_2 and H_2S Emissions

MACT Material Balance & Performance Test Information

Note: This information is the same information that is used to determine MACT compliance														Title V Permit Emission Calculations			
	("W")		("A")	("X") 40.23%		Capacity Factor Information				("U")	("R") 83.19%	(BUR)*	(XUR) = (BUR/A)	72.0% 61.34%	12-mo. Rolling avg.	23.0% 38.66%	12-mo. Rolling avg.
	Pounds of CS_2 Input per Month at Scale (Lbs/Mo.)		95.0% *W	("B")		Input Non-MACT Maint. Hours in the Month with the following Number of				MACT Capacity Factor Uptime (%)	(UR)	CS_2 Removed by MACT System (Lbs/Mo.)	MACT System Current Removal (%)	CS2 emissions (tons/mo.)	CS2 emissions (tons/12-mo.)	H2S & COS as H2S emissions (tons/mo.)	H_2S & COS as H_2S emissions (tons/12-mo.)
Month		Days	Pounds of CS_2 to Air (Lbs/Mo.)	CS_2 to MACT System (Lbs/Mo.)	Input MACT Maint. Hrs.	1	2	3	4		Effective MACT System Removal						

W Amount of CS_2 weighed at the scale during the month

95.00% Percentage of CS_2 weighed that goes into the air as CS_2, H_2S or COS based on previous testing & permit values

A Amount of CS_2 weighed at the scale during the month that goes into the air

B Amount of sulfides routed to the MACT equipment expressed as CS_2

X = B/A Based on 5-29-2019 Performance Test Results & Average CS_2 used during May 26-29, 2019. During performance test 40.23% of the sulfides that went into the air (expressed as CS_2) went to the control device.

U Uptime Capacity Factor Based on Each Reactor Performing Equivalently (e.g. Reduce MACT system removal capacity by 1/4 for each reactor that is OFFLINE)

R Based on 5-23-2019 Performance Test Results with 4 Reactors On-line. During the performance test 83.19% of the sulfides (expressed as CS_2) that went to the control device were removed

BUR* The CS_2 removed by the MACT System is adjusted to show no removal during maintenance hours by multiplying BUR by (Days*24-Maint. Hrs)/(Days*24).

72% Percentage of CS_2 weighed that goes into the air as CS_2 based on previous testing and permit values

23% Percentage of H_2S weighed that goes into the air as H_2S or COS (expressed in lbs CS_2) based on previous testing and permit values

Note: Multiply by MW ratio to convert lbs CS_2 to Lbs H_2S = 23%x2x34.076/76.131 = 20.6%

61.34% Percentage of MACT System removal that is CS_2 emissions, based on 5-29-2019 Compliance Test

38.66% Percentage of MACT System removal that is H_2S or COS emissions, based on 5-29-2019 Compliance Test

Days Days are production days of the inventory month as defined in Conditions E5-1 of the permit

Condition E5-1 and Condition E5-3

State of Tennessee
Department of Environment and Conservation
Division of Air Pollution Control
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor
Nashville, TN 37243
Telephone: (615) 532-0554

TITLE V PERMIT APPLICATION
STORAGE TANKS

GENERAL IDENTIFICATION AND DESCRIPTION

1. **Facility name:** Viskase Corporation

2. **Process emission source (identify):** 53-0003-07

STORAGE TANK DESCRIPTION

3. Storage tank identification: Storage Tank #18

4. Location of the storage tank or tank farm in UTM coordinates: UTM Vertical: 584 .00 North UTM Horizontal: 417.00 East

5. Storage tank capacity:	6. Year of installation:	7. Tank height	8. Tank diameter:
14,000 (Gallons)	1972	23.5 ± (Feet)	10.5 ± (Feet)

9. Color of tank: ___X___ White _____ Other Specify_____

10. Is this tank equipped with a submerged fill pipe? ___X___ Yes _____ No

11. Type of storage tank:

_____Open top tank ____X____Fixed roof _____Fixed roof w/internal floating roof _____X Tank Other (specify)
_____Pressurized tank _____External floating roof _____Variable vapor space is under water in_____

12. For fixed roof tanks:
A. Tank configuration (check one):: _____Vertical (upright cylinder) ____X____Horizontal
B. Tank roof type: _____Cone roof – indicate tank roof height _____(ft)
(check one) _____Dome roof – indicate tank roof height _____(ft)
Indicate shell radius_____(ft)

FLOATING ROOF TANK DESCRIPTION

13. For Floating Rook tanks (both internal and external) – shell condition (check one):
_____ Light rust _____ Dense rust _____ Gunite lined

14. For External Floating Roof tanks:

A. Tank construction (check one): _____ Welded tank _____ Riveted tank

B. Rim Seal system description (check one):

_____Shoe Mounted Primary	_____Vapor Mounted Primary	_____Liquid Mounted Primary
_____Shoe Primary, Rim Secondary	_____Vapor Primary, Rim Secondary	_____Liquid Primary, Rim Secondary
_____Liquid Primary w/Weather Shield	_____Shoe Primary and Secondary	_____Vapor Primary w/Weather Shield

C. Roof type (check one): : _____ Pontoon roof _____ Double Deck roof

D. Roof fitting types (indicate the number of each type):

Access Hatch (24" Diameter well)
_____Bolted cover, gasketed
_____Unbolted cover, gasketed
_____Unbolted cover, ungasketed

Unslotted Guide-Pole Well
(8" Diameter Unslotted Pole, 21" Dia. Well)
_____Ungasketed sliding cover
_____Gasketed sliding cover

Gauge-Float Well (20" Diameter)
_____Unbolted cover, ungasketed
_____Unbolted cover, gasketed
_____Bolted cover, gasketed

Gauge-Hatch/Sample Well (8" Dia.)
_____Weighted Mechanical Actuation Gasketed
_____ Weighted Mechanical Actuation Ungasketed

Vacuum Breaker (10" Dia. Well)
_____Weighted Mechanical Actuation Gasketed
_____ Weighted Mechanical Actuation Ungasketed

Roof Drain
_____Open
_____ 90% Closed

Slotted Guide-Pole/Sample Well
(8" Slotted Pole, 21" Dia. Well)
_____Ungasketed Sliding Cover, without Float
_____Ungasketed Sliding Cover, with Float
_____Gasketed Sliding Cover, without Float
_____ Gasketed Sliding Cover, with Float

Roof Leg (3" Dia.)
_____Adjustable, Pontoon area
_____Adjustable, Center area
_____Adjustable, Double-Deck roofs
_____Fixed

Roof Leg (2 ½" Dia.)
_____Adjustable, Pontoon area
_____Adjustable, Center area
_____Adjustable, Double-Deck roofs
_____Fixed

15. For Internal Floating Roof tanks:

A. Rim Seal system description:

_____ Liquid Mounted Primary
_____ Vapor Mounted Primary
_____ Liquid Mounted Primary plus Secondary Seal
_____ Vapor Mounted Primary plus Secondary Seal

B. Number of Columns: _____

C. Effective Column diameter: _____ (Feet)

D. Deck Type (check one): _____ Welded _____ Bolted

E. Total Deck Seam length: _____ (Feet)

F. Deck Area: _____ (Square Feet)

G. Deck Fitting types (indicate the number of each type):

Access Hatch (24" Dia.)
_____ Bolted cover, gasketed
_____ Unbolted cover, gasketed
_____ Unbolted cover, ungasketed

Automatic Gauge Float Well
_____ Bolted cover, gasketed
_____ Unbolted cover, gasketed
_____ Unbolted cover, ungasketed

Column Well
____ Built-up Column-Sliding cover, gasketed
____ Built-up Column-Sliding cover, ungasketed
____ Pipe Column-Flexible fabric sleeve seal
____ Pipe Column-Sliding cover, gasketed
____ Pipe Column-Sliding cover, ungasketed

Ladder well
_____ Sliding cover, gasketed
_____ Sliding cover, ungasketed

Sample Pipe and Well
_____ Slotted Pipe-Sliding cover, gasketed
_____ Slotted Pipe-Sliding cover, ungasketed
_____ Sample Well-Slit fabric seal, 10% open area
_____ Stub Drain, 1 inch diameter

Roof Leg or Hanger Well
_____ Adjustable
_____ Fixed

Vacuum Breaker

_____ Weighted Mechanical Actuation, gasketed
_____ Weighted Mechanical Actuation, ungasketed

16. For variable vapor space tanks:

Volume expansion capacity N/A (Gallons)

TANK CONTENTS AND OPERATION DESCRIPTION

17. Complete the flowing table for materials to be stored in this tank:

Material or component stored	Wt. %	Material Annual Throughput (Gal./Yr.)	Material stored Daily Average (Gallons)	Component Molecular weights (Lb./Lb. Mole)	Component Vapor Pressures (PSIA)	Material storage pressure(PSIA)	Material average storage temp. (Deg. F)
CS2	100	112,000	11,500	76	7.7	18.7	50

Multipurpose tank with variable composition:

_____ Yes X No

18. Describe the operation this tank will serve:

Cellulose Casing Production.

Nitrogen unloading and a nitrogen blanket are used for storage required by Subpart UUUU.

19. Page number: 37 | Revision Number: 0 | Date of Revision: N/A

State of Tennessee
Department of Environment and Conservation
Division of Air Pollution Control
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor
Nashville, TN 37243
Telephone: (615) 532-0554

TITLE V PERMIT APPLICATION
STORAGE TANKS

GENERAL IDENTIFICATION AND DESCRIPTION

1. **Facility name:** Viskase Corporation

2. **Process emission source (identify):** 53-0003-07

STORAGE TANK DESCRIPTION

3. Storage tank identification: Storage Tank #19

4. Location of the storage tank or tank farm in UTM coordinates: UTM Vertical: 584 .00 North UTM Horizontal: 417.00 East

5. Storage tank capacity:	6. Year of installation:	7. Tank height	8. Tank diameter:
14,000 (Gallons)	1972	23.5 ± (Feet)	10.5 ± (Feet)

9. Color of tank: ___X___ White _____ Other Specify_____

10. Is this tank equipped with a submerged fill pipe? ___X___ Yes _____ No

11. Type of storage tank:

_____Open top tank ____X____Fixed roof _____Fixed roof w/internal floating roof ____X Tank____ Other (specify)
_____Pressurized tank _____External floating roof _____Variable vapor space is under water in_____

12. For fixed roof tanks:
A. Tank configuration (check one):: _____Vertical (upright cylinder) ____X____Horizontal
B. Tank roof type: _____Cone roof – indicate tank roof height _____(ft)
(check one) _____Dome roof – indicate tank roof height _____(ft)
Indicate shell radius_____(ft)

FLOATING ROOF TANK DESCRIPTION

13. For Floating Rook tanks (both internal and external) – shell condition (check one):
_____ Light rust _____ Dense rust _____ Gunite lined

14. For External Floating Roof tanks:

A. Tank construction (check one): _____ Welded tank _____ Riveted tank

B. Rim Seal system description (check one):

_____Shoe Mounted Primary
_____Shoe Primary, Rim Secondary
_____Liquid Primary w/Weather Shield
_____Vapor Mounted Primary
_____Vapor Primary, Rim Secondary
_____Shoe Primary and Secondary
_____Liquid Mounted Primary
_____Liquid Primary, Rim Secondary
_____Vapor Primary w/Weather Shield

C. Roof type (check one): : _____ Pontoon roof _____ Double Deck roof

D. Roof fitting types (indicate the number of each type):

Access Hatch (24" Diameter well)
_____Bolted cover, gasketed
_____Unbolted cover, gasketed
_____Unbolted cover, ungasketed

Unslotted Guide-Pole Well
(8" Diameter Unslotted Pole, 21" Dia. Well)
_____Ungasketed sliding cover
_____Gasketed sliding cover

Gauge-Float Well (20" Diameter)
_____Unbolted cover, ungasketed
_____Unbolted cover, gasketed
_____Bolted cover, gasketed

Gauge-Hatch/Sample Well (8" Dia.)
_____Weighted Mechanical Actuation Gasketed
_____ Weighted Mechanical Actuation Ungasketed

Vacuum Breaker (10" Dia. Well)
_____Weighted Mechanical Actuation Gasketed
_____ Weighted Mechanical Actuation Ungasketed

Roof Drain
_____Open
_____ 90% Closed

Slotted Guide-Pole/Sample Well
(8" Slotted Pole, 21" Dia. Well)
_____Ungasketed Sliding Cover, without Float
_____Ungasketed Sliding Cover, with Float
_____Gasketed Sliding Cover, without Float
_____ Gasketed Sliding Cover, with Float

Roof Leg (3" Dia.)
_____Adjustable, Pontoon area
_____Adjustable, Center area
_____Adjustable, Double-Deck roofs
_____Fixed

Roof Leg (2 ½" Dia.)
_____Adjustable, Pontoon area
_____Adjustable, Center area
_____Adjustable, Double-Deck roofs
_____Fixed

15. For Internal Floating Roof tanks:

A. Rim Seal system description:

_____ Liquid Mounted Primary
_____ Vapor Mounted Primary
_____ Liquid Mounted Primary plus Secondary Seal
_____ Vapor Mounted Primary plus Secondary Seal

B. Number of Columns: _____

C. Effective Column diameter: _____ (Feet)

D. Deck Type (check one): _____ Welded _____ Bolted

E. Total Deck Seam length: _____ (Feet)

F. Deck Area: _____ (Square Feet)

G. Deck Fitting types (indicate the number of each type):

Access Hatch (24" Dia.)
_____ Bolted cover, gasketed
_____ Unbolted cover, gasketed
_____ Unbolted cover, ungasketed

Automatic Gauge Float Well
_____ Bolted cover, gasketed
_____ Unbolted cover, gasketed
_____ Unbolted cover, ungasketed

Column Well
____ Built-up Column-Sliding cover, gasketed
____ Built-up Column-Sliding cover, ungasketed
____ Pipe Column-Flexible fabric sleeve seal
____ Pipe Column-Sliding cover, gasketed
____ Pipe Column-Sliding cover, ungasketed

Ladder well
_____ Sliding cover, gasketed
_____ Sliding cover, ungasketed

Sample Pipe and Well
_____ Slotted Pipe-Sliding cover, gasketed
_____ Slotted Pipe-Sliding cover, ungasketed
_____ Sample Well-Slit fabric seal, 10% open area
_____ Stub Drain, 1 inch diameter

Roof Leg or Hanger Well
_____ Adjustable
_____ Fixed

Vacuum Breaker

_____ Weighted Mechanical Actuation, gasketed
_____ Weighted Mechanical Actuation, ungasketed

16. For variable vapor space tanks:

Volume expansion capacity N/A (Gallons)

TANK CONTENTS AND OPERATION DESCRIPTION

17. Complete the flowing table for materials to be stored in this tank:

Material or component stored	Wt. %	Material Annual Throughput (Gal./Yr.)	Material stored Daily Average (Gallons)	Component Molecular weights (Lb./Lb. Mole)	Component Vapor Pressures (PSIA)	Material storage pressure(PSIA)	Material average storage temp. (Deg. F)
CS2	100	112,000	11,500	76	7.7	18.7	50

Multipurpose tank with variable composition:

_____ Yes X No

18. Describe the operation this tank will serve:

Cellulose Casing Production.

Nitrogen unloading and a nitrogen blanket are used for storage as required by Subpart UUUU.

19. Page number: 38
Revision Number: 0
Date of Revision: N/A

State of Tennessee
Department of Environment and Conservation
Division of Air Pollution Control
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor
Nashville, TN 37243
Telephone: (615) 532-0554

TITLE V PERMIT APPLICATION
STORAGE TANKS

GENERAL IDENTIFICATION AND DESCRIPTION

1. **Facility name:** Viskase Corporation

2. **Process emission source (identify):** 53-0003-07

STORAGE TANK DESCRIPTION

3. Storage tank identification: Storage Tank #21

4. Location of the storage tank or tank farm in UTM coordinates: UTM Vertical: 584 .00 North UTM Horizontal: 416.00 East

5. Storage tank capacity:	6. Year of installation:	7. Tank height	8. Tank diameter:
14,000 (Gallons)	2019 or later	23.5 ± (Feet)	10.5 ± (Feet)

9. Color of tank: ___X___ White _____ Other Specify_____

10. Is this tank equipped with a submerged fill pipe? ___X___ Yes _____ No

11. Type of storage tank:

_____Open top tank _____X_____Fixed roof _____Fixed roof w/internal floating roof _____X Tank Other (specify)
_____Pressurized tank _____External floating roof _____Variable vapor space is under water in_____

12. For fixed roof tanks:
A. Tank configuration (check one):: _____Vertical (upright cylinder) _____X_____Horizontal
B. Tank roof type: _____Cone roof – indicate tank roof height _____(ft)
(check one) _____Dome roof – indicate tank roof height _____(ft)
Indicate shell radius_____(ft)

FLOATING ROOF TANK DESCRIPTION

13. For Floating Rook tanks (both internal and external) – shell condition (check one):
_____ Light rust _____ Dense rust _____ Gunite lined

14. For External Floating Roof tanks:

A. Tank construction (check one): _____ Welded tank _____ Riveted tank

B. Rim Seal system description (check one):

_____Shoe Mounted Primary
_____Shoe Primary, Rim Secondary
_____Liquid Primary w/Weather Shield
_____Vapor Mounted Primary
_____Vapor Primary, Rim Secondary
_____Shoe Primary and Secondary
_____Liquid Mounted Primary
_____Liquid Primary, Rim Secondary
_____Vapor Primary w/Weather Shield

C. Roof type (check one): : _____ Pontoon roof _____ Double Deck roof

D. Roof fitting types (indicate the number of each type):

Access Hatch (24" Diameter well)
_____Bolted cover, gasketed
_____Unbolted cover, gasketed
_____Unbolted cover, ungasketed

Unslotted Guide-Pole Well
(8" Diameter Unslotted Pole, 21" Dia. Well)
_____Ungasketed sliding cover
_____Gasketed sliding cover

Gauge-Float Well (20" Diameter)
_____Unbolted cover, ungasketed
_____Unbolted cover, gasketed
_____Bolted cover, gasketed

Gauge-Hatch/Sample Well (8" Dia.)
_____Weighted Mechanical Actuation Gasketed
_____ Weighted Mechanical Actuation Ungasketed

Vacuum Breaker (10" Dia. Well)
_____Weighted Mechanical Actuation Gasketed
_____ Weighted Mechanical Actuation Ungasketed

Roof Drain
_____Open
_____ 90% Closed

Slotted Guide-Pole/Sample Well
(8" Slotted Pole, 21" Dia. Well)
_____Ungasketed Sliding Cover, without Float
_____Ungasketed Sliding Cover, with Float
_____Gasketed Sliding Cover, without Float
_____ Gasketed Sliding Cover, with Float

Roof Leg (3" Dia.)
_____Adjustable, Pontoon area
_____Adjustable, Center area
_____Adjustable, Double-Deck roofs
_____Fixed

Roof Leg (2 ½" Dia.)
_____Adjustable, Pontoon area
_____Adjustable, Center area
_____Adjustable, Double-Deck roofs
_____Fixed

15. For Internal Floating Roof tanks:

A. Rim Seal system description:

_____ Liquid Mounted Primary
_____ Vapor Mounted Primary
_____ Liquid Mounted Primary plus Secondary Seal
_____ Vapor Mounted Primary plus Secondary Seal

B. Number of Columns: _____

C. Effective Column diameter: _____ (Feet)

D. Deck Type (check one): _____ Welded _____ Bolted

E. Total Deck Seam length: _____ (Feet)

F. Deck Area: _____ (Square Feet)

G. Deck Fitting types (indicate the number of each type):

Access Hatch (24" Dia.)
_____ Bolted cover, gasketed
_____ Unbolted cover, gasketed
_____ Unbolted cover, ungasketed

Automatic Gauge Float Well
_____ Bolted cover, gasketed
_____ Unbolted cover, gasketed
_____ Unbolted cover, ungasketed

Column Well
____ Built-up Column-Sliding cover, gasketed
____ Built-up Column-Sliding cover, ungasketed
____ Pipe Column-Flexible fabric sleeve seal
____ Pipe Column-Sliding cover, gasketed
____ Pipe Column-Sliding cover, ungasketed

Ladder well
_____ Sliding cover, gasketed
_____ Sliding cover, ungasketed

Sample Pipe and Well
_____ Slotted Pipe-Sliding cover, gasketed
_____ Slotted Pipe-Sliding cover, ungasketed
_____ Sample Well-Slit fabric seal, 10% open area
_____ Stub Drain, 1 inch diameter

Roof Leg or Hanger Well
_____ Adjustable
_____ Fixed

Vacuum Breaker

_____ Weighted Mechanical Actuation, gasketed
_____ Weighted Mechanical Actuation, ungasketed

16. For variable vapor space tanks:

Volume expansion capacity N/A (Gallons)

TANK CONTENTS AND OPERATION DESCRIPTION

17. Complete the flowing table for materials to be stored in this tank:

Material or component stored	Wt. %	Material Annual Throughput (Gal./Yr.)	Material stored Daily Average (Gallons)	Component Molecular weights (Lb./Lb. Mole)	Component Vapor Pressures (PSIA)	Material storage pressure(PSIA)	Material average storage temp. (Deg. F)
CS2	100	112,000	11,500	76	7.7	18.7	50

Multipurpose tank with variable composition:

_____ Yes X No

18. Describe the operation this tank will serve:

Cellulose Casing Production.

Nitrogen unloading and a nitrogen blanket are used for storage as required by Subpart UUUU.

19. Page number: 39 | Revision Number: 0 | Date of Revision: N/A

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312 Rosa L. Parks Avenue, 15th Floor
Nashville, TN 37243
Telephone: (615) 532-0554

TITLE V PERMIT APPLICATION
STORAGE TANKS

GENERAL IDENTIFICATION AND DESCRIPTION

1. **Facility name:** Viskase Corporation

2. **Process emission source (identify):** 53-0003-07

STORAGE TANK DESCRIPTION

3. Storage tank identification: Storage Tank #22

4. Location of the storage tank or tank farm in UTM coordinates: UTM Vertical: 584 .00 North UTM Horizontal: 416.00 East

5. Storage tank capacity:	6. Year of installation:	7. Tank height	8. Tank diameter:
14,000 (Gallons)	2019 or later	23.5 ± (Feet)	10.5 ± (Feet)

9. Color of tank: ___X___ White _____ Other Specify_____

10. Is this tank equipped with a submerged fill pipe? ___X___ Yes _____ No

11. Type of storage tank:

_____Open top tank _____X_____Fixed roof _____Fixed roof w/internal floating roof _____X Tank Other (specify)
_____Pressurized tank _____External floating roof _____Variable vapor space is under water in_____

12. For fixed roof tanks:
A. Tank configuration (check one):: _____Vertical (upright cylinder) _____X_____Horizontal
B. Tank roof type: _____Cone roof – indicate tank roof height _____(ft)
(check one) _____Dome roof – indicate tank roof height _____(ft)
Indicate shell radius_____(ft)

FLOATING ROOF TANK DESCRIPTION

13. For Floating Rook tanks (both internal and external) – shell condition (check one):
_____ Light rust _____ Dense rust _____ Gunite lined

14. For External Floating Roof tanks:

A. Tank construction (check one): _____ Welded tank _____ Riveted tank

B. Rim Seal system description (check one):

_____Shoe Mounted Primary
_____Shoe Primary, Rim Secondary
_____Liquid Primary w/Weather Shield
_____Vapor Mounted Primary
_____Vapor Primary, Rim Secondary
_____Shoe Primary and Secondary
_____Liquid Mounted Primary
_____Liquid Primary, Rim Secondary
_____Vapor Primary w/Weather Shield

C. Roof type (check one): : _____ Pontoon roof _____ Double Deck roof

D. Roof fitting types (indicate the number of each type):

Access Hatch (24" Diameter well)
_____Bolted cover, gasketed
_____Unbolted cover, gasketed
_____Unbolted cover, ungasketed

Unslotted Guide-Pole Well
(8" Diameter Unslotted Pole, 21" Dia. Well)
_____Ungasketed sliding cover
_____Gasketed sliding cover

Gauge-Float Well (20" Diameter)
_____Unbolted cover, ungasketed
_____Unbolted cover, gasketed
_____Bolted cover, gasketed

Gauge-Hatch/Sample Well (8" Dia.)
_____Weighted Mechanical Actuation Gasketed
_____ Weighted Mechanical Actuation Ungasketed

Vacuum Breaker (10" Dia. Well)
_____Weighted Mechanical Actuation Gasketed
_____ Weighted Mechanical Actuation Ungasketed

Roof Drain
_____Open
_____ 90% Closed

Slotted Guide-Pole/Sample Well
(8" Slotted Pole, 21" Dia. Well)
_____Ungasketed Sliding Cover, without Float
_____Ungasketed Sliding Cover, with Float
_____Gasketed Sliding Cover, without Float
_____ Gasketed Sliding Cover, with Float

Roof Leg (3" Dia.)
_____Adjustable, Pontoon area
_____Adjustable, Center area
_____Adjustable, Double-Deck roofs
_____Fixed

Roof Leg (2 ½" Dia.)
_____Adjustable, Pontoon area
_____Adjustable, Center area
_____Adjustable, Double-Deck roofs
_____Fixed

15. For Internal Floating Roof tanks:

A. Rim Seal system description:

_____ Liquid Mounted Primary
_____ Vapor Mounted Primary
_____ Liquid Mounted Primary plus Secondary Seal
_____ Vapor Mounted Primary plus Secondary Seal

B. Number of Columns: _____

C. Effective Column diameter: _____ (Feet)

D. Deck Type (check one): _____ Welded _____ Bolted

E. Total Deck Seam length: _____ (Feet)

F. Deck Area: _____ (Square Feet)

G. Deck Fitting types (indicate the number of each type):

Access Hatch (24" Dia.)
_____ Bolted cover, gasketed
_____ Unbolted cover, gasketed
_____ Unbolted cover, ungasketed

Automatic Gauge Float Well
_____ Bolted cover, gasketed
_____ Unbolted cover, gasketed
_____ Unbolted cover, ungasketed

Column Well
____ Built-up Column-Sliding cover, gasketed
____ Built-up Column-Sliding cover, ungasketed
____ Pipe Column-Flexible fabric sleeve seal
____ Pipe Column-Sliding cover, gasketed
____ Pipe Column-Sliding cover, ungasketed

Ladder well
_____ Sliding cover, gasketed
_____ Sliding cover, ungasketed

Sample Pipe and Well
_____ Slotted Pipe-Sliding cover, gasketed
_____ Slotted Pipe-Sliding cover, ungasketed
_____ Sample Well-Slit fabric seal, 10% open area
_____ Stub Drain, 1 inch diameter

Roof Leg or Hanger Well
_____ Adjustable
_____ Fixed

Vacuum Breaker

_____ Weighted Mechanical Actuation, gasketed
_____ Weighted Mechanical Actuation, ungasketed

16. For variable vapor space tanks:

Volume expansion capacity N/A (Gallons)

TANK CONTENTS AND OPERATION DESCRIPTION

17. Complete the flowing table for materials to be stored in this tank:

Material or component stored	Wt. %	Material Annual Throughput (Gal./Yr.)	Material stored Daily Average (Gallons)	Component Molecular weights (Lb./Lb. Mole)	Component Vapor Pressures (PSIA)	Material storage pressure(PSIA)	Material average storage temp. (Deg. F)
CS2	100	112,000	11,500	76	7.7	18.7	50

Multipurpose tank with variable composition:

_____ Yes X No

18. Describe the operation this tank will serve:

Cellulose Casing Production.

Nitrogen unloading and a nitrogen blanket are used for storage as required by subpart UUUU.

19. Page number: 40 | Revision Number: 0 | Date of Revision: N/A

State of Tennessee
Department of Environment and Conservation
Division of Air Pollution Control
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor
Nashville, TN 37243
Telephone: (615) 532-0554

TITLE V PERMIT APPLICATION
COMPLIANCE CERTIFICATION - MONITORING AND REPORTING
DESCRIPTION OF METHODS USED FOR DETERMINING COMPLIANCE

All sources that are subject to 1200-03-09-.02(11) of the Tennessee Air Pollution Control Regulations are required to certify compliance with all applicable requirements by including a statement within the permit application of the methods used for determining compliance. This statement must include a description of the monitoring, recordkeeping, and reporting requirements and test methods. In addition, the application must include a schedule for compliance certification submittals during the permit term. These submittals must be no less frequent than annually and may need to be more frequent if specified by the underlying applicable requirement or the Technical Secretary.

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name: Viskase Corporation
2. Process emission source, fuel burning installation, or incinerator (identify): Storage Tanks (53-0003-07)
3. Stack ID or flow diagram point identification(s): Carbon Disulfide Storage Tanks #18, #19, #21, and #22

METHODS OF DETERMINING COMPLIANCE

4. This source as described under Item #2 of this application will use the following method(s) for determining compliance with applicable requirements (and special operating conditions from an existing permit). Check all that apply and attach the appropriate form(s)

- [ ] Continuous Emission Monitoring (CEM) - APC 20
  Pollutant(s): _____
- [ ] Emission Monitoring Using Portable Monitors - APC 21
  Pollutant(s): _____
- [ ] Monitoring Control System Parameters or Operating Parameters of a Process - APC 22
  Pollutant(s): _____
- [ ] Monitoring Maintenance Procedures - APC 23
  Pollutant(s): _____
- [ ] Stack Testing - APC 24
  Pollutant(s): _____
- [ ] Fuel Sampling & Analysis (FSA) - APC 25
  Pollutant(s): _____
- [x] Recordkeeping - APC 26
  Pollutant(s): Carbon Disulfide
- [ ] Other (please describe) - APC 27
  Pollutant(s): _____

5. Compliance certification reports will be submitted to the Division according to the following schedule:
   Start date: Per the Title V Permit
   And every 30 days thereafter.
6. Compliance monitoring reports will be submitted to the Division according to the following schedule:
   Start date: Per Tthe itle V Permit
   And every 30 days thereafter.
7. Page number: 41 Revision number: 0 Date of revision: N/A

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Division of Air Pollution Control
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TITLE V PERMIT APPLICATION
COMPLIANCE DEMONSTRATION BY RECORDKEEPING

Recordkeeping shall be acceptable as a compliance demonstration method provided that a correlation between the parameter value recorded and the applicable requirement is established.

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name:
Viskase Corporation

2. Stack ID or flow diagram point identification(s):
N/A

3. Emission source (identify):
Storage Tanks (53-0003-07)

MONITORING AND RECORDKEEPING DESCRIPTION

4. Pollutant(s) or parameter being monitored:
Carbon Disulfide

5. Material or parameter being monitored and recorded:
Carbon Disulfide throughput

6. Method of monitoring and recording:
Record throughput of Carbon Disulfide

7. Compliance demonstration frequency (specify the frequency with which compliance will be demonstrated):
Monthly

8. Page number:	Revision number:	Date of revision:
42	0	N/A

State of Tennessee
Department of Environment and Conservation
Division of Air Pollution Control
William R. Snodgrass Tennessee Tower
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TITLE V PERMIT APPLICATION
EMISSIONS FROM PROCESS EMISSION SOURCE / FUEL BURNING INSTALLATION / INCINERATOR

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name:	2. Stack ID or flow diagram point identification(s):
Viskase Corporation	N/A

3. Process emission source / Fuel burning installation / Incinerator (identify):
Storage Tanks (53-0003-07)

EMISSIONS SUMMARY TABLE – CRITERIA AND FUGITIVE EMISSIONS

4. Complete the following emissions summary for regulated air pollutants. Fugitive emissions shall be included. Attach calculations and emission factor references.

Air Pollutant	Maximum Allowable Emissions		Actual Emissions	
	Tons per Year	Reserved for State use (Pounds per Hour - Item 7, APC 30)	Tons per Year	Reserved for State use (Pounds per Hour- Item 8, APC 30)
Particulate Matter (TSP)	N/A			
(Fugitive Emissions)	N/A			
Sulfur Dioxide	N/A			
(Fugitive Emissions)	N/A			
Volatile Organic Compounds	1.84 (Fee purpose)			
(Fugitive Emissions)	N/A			
Carbon Monoxide	N/A			
(Fugitive Emissions)	N/A			
Lead	N/A			
(Fugitive Emissions)	N/A			
Nitrogen Oxides	N/A			
(Fugitive Emissions)	N/A			
Total Reduced Sulfur	N/A			
(Fugitive Emissions)	N/A			
Mercury	N/A			
(Fugitive Emissions)	N/A			

(Continued on next page)

(Continued from last page)

AIR POLLUTANT	Maximum Allowable Emissions		Actual Emissions	
	Tons per Year	Reserved for State use (Pounds per Hour - Item 7, APC 30)	Tons per Year	Reserved for State use (Pounds per Hour- Item 8, APC 30)
Asbestos	N/A			
(Fugitive Emissions)	N/A			
Beryllium	N/A			
(Fugitive Emissions)	N/A			
Vinyl Chloride	N/A			
(Fugitive Emissions)	N/A			
Fluorides	N/A			
(Fugitive Emissions)	N/A			
Gaseous Fluorides	N/A			
(Fugitive Emissions)	N/A			
Greenhouse Gases in CO_2 Equivalents	N/A			

EMISSIONS SUMMARY TABLE – FUGITIVE HAZARDOUS AIR POLLUTANTS

5. Complete the following emissions summary for regulated air pollutants that are hazardous air pollutant(s). Fugitive emissions shall be included. Attach calculations and emission factor references.

Air Pollutant & CAS	Maximum Allowable Emissions		Actual Emissions	
	Tons per Year	Reserved for State use (Pounds per Hour - Item 7, APC 30)	Tons per Year	Reserved for State use (Pounds per Hour- Item 8, APC 30)
N/A				

6. Page number: 43 Revision number: 0 Date of revision N/A

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Department of Environment and Conservation
Division of Air Pollution Control
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TITLE V PERMIT APPLICATION
CURRENT EMISSIONS REQUIREMENTS AND STATUS

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name:	2. Emission source number
Viskase Corporation	53-0003-07

3. Describe the process emission source / fuel burning installation / incinerator.

Carbon Disulfide Storage Tanks #18, #19, #21, and #22

EMISSIONS AND REQUIREMENTS

4. Identify if only a part of the source is subject to this requirement	5. Pollutant	6. Applicable requirement(s): TN Air Pollution Control Regulations, 40 CFR, permit restrictions, air quality based standards	7. Limitation	8. Maximum actual emissions	9. Compliance status (In/Out)
	CS2	Permit Condition E6-4	1.8 TPY	<1.8 TPY	IN

10. Other applicable requirements (new requirements that apply to this source during the term of this permit)

11. Page number:	Revision number:	Date of revision:
44	N/A	N/A

Viskase Corporation
106 Blair Blend Drive
Loudon, Tennessee
53-0003

Four (4) Carbon Disulfide Storage Tanks

The Storage tanks are part of an unloading and storage operation as defined in Subpart UUUU and are kept under water padding. A nitrogen blanket is used in the storage tanks as required by Subpart UUUU.

	CS_2 Lbs/Yr	CS_2 Tons/Yr
Tank #18	920	0.46
Tank #19	920	0.46
Tank #21	920	0.46
Tank #22	920	0.46
		1.84

For Fee purposes

Conservative emission estimate since the tanks are maintained under water and a nitrogen blanket is used.

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TITLE V PERMIT APPLICATION
STORAGE TANKS

GENERAL IDENTIFICATION AND DESCRIPTION

1. **Facility name:** Viskase Corporation

2. **Process emission source (identify):** 53-0003-15

STORAGE TANK DESCRIPTION

3. Storage tank identification: Lime Tank 1

4. Location of the storage tank or tank farm in UTM coordinates: UTM Vertical: 584 .00 North UTM Horizontal: 416.00 East

5. Storage tank capacity:	6. Year of installation:	7. Tank height	8. Tank diameter:
150 Tons (Gallons)	1976	45 ± (Feet)	16 ± (Feet)

9. Color of tank: _____ White ___X___ Other Specify_____

10. Is this tank equipped with a submerged fill pipe? _____ Yes ___X___ No

11. Type of storage tank:

_____Open top tank ___X___Fixed roof _____Fixed roof w/internal floating roof ___X Tank___Other (specify)
_____Pressurized tank _____External floating roof _____Variable vapor space is under wtr in conc basn

12. For fixed roof tanks:
A. Tank configuration (check one):: ___X___Vertical (upright cylinder) _____Horizontal
B. Tank roof type: ___Flat___Cone roof – indicate tank roof height ___45___(ft)
(check one) _____Dome roof – indicate tank roof height _____(ft)
Indicate shell radius___8___(ft)

FLOATING ROOF TANK DESCRIPTION

13. For Floating Rook tanks (both internal and external) – shell condition (check one):
_____ Light rust _____ Dense rust _____ Gunite lined

14. For External Floating Roof tanks:

A. Tank construction (check one): _____ Welded tank _____ Riveted tank

B. Rim Seal system description (check one):

_____Shoe Mounted Primary	_____Vapor Mounted Primary	_____Liquid Mounted Primary
_____Shoe Primary, Rim Secondary	_____Vapor Primary, Rim Secondary	_____Liquid Primary, Rim Secondary
_____Liquid Primary w/Weather Shield	_____Shoe Primary and Secondary	_____Vapor Primary w/Weather Shield

C. Roof type (check one): : _____ Pontoon roof _____ Double Deck roof

D. Roof fitting types (indicate the number of each type):

Access Hatch (24" Diameter well)
_____Bolted cover, gasketed
_____Unbolted cover, gasketed
_____Unbolted cover, ungasketed

Unslotted Guide-Pole Well
(8" Diameter Unslotted Pole, 21" Dia. Well)
_____Ungasketed sliding cover
_____Gasketed sliding cover

Gauge-Float Well (20" Diameter)
_____Unbolted cover, ungasketed
_____Unbolted cover, gasketed
_____Bolted cover, gasketed

Gauge-Hatch/Sample Well (8" Dia.)
_____Weighted Mechanical Actuation Gasketed
_____ Weighted Mechanical Actuation Ungasketed

Vacuum Breaker (10" Dia. Well)
_____Weighted Mechanical Actuation Gasketed
_____ Weighted Mechanical Actuation Ungasketed

Roof Drain
_____Open
_____ 90% Closed

Slotted Guide-Pole/Sample Well
(8" Slotted Pole, 21" Dia. Well)
_____Ungasketed Sliding Cover, without Float
_____Ungasketed Sliding Cover, with Float
_____Gasketed Sliding Cover, without Float
_____ Gasketed Sliding Cover, with Float

Roof Leg (3" Dia.)
_____Adjustable, Pontoon area
_____Adjustable, Center area
_____Adjustable, Double-Deck roofs
_____Fixed

Roof Leg (2 ½" Dia.)
_____Adjustable, Pontoon area
_____Adjustable, Center area
_____Adjustable, Double-Deck roofs
_____Fixed

15. For Internal Floating Roof tanks:

A. Rim Seal system description:

_____ Liquid Mounted Primary
_____ Vapor Mounted Primary
_____ Liquid Mounted Primary plus Secondary Seal
_____ Vapor Mounted Primary plus Secondary Seal

B. Number of Columns: _____

C. Effective Column diameter: _____ (Feet)

D. Deck Type (check one): _____ Welded _____ Bolted

E. Total Deck Seam length: _____ (Feet)

F. Deck Area: _____ (Square Feet)

G. Deck Fitting types (indicate the number of each type):

Access Hatch (24" Dia.)
_____ Bolted cover, gasketed
_____ Unbolted cover, gasketed
_____ Unbolted cover, ungasketed

Automatic Gauge Float Well
_____ Bolted cover, gasketed
_____ Unbolted cover, gasketed
_____ Unbolted cover, ungasketed

Column Well
____ Built-up Column-Sliding cover, gasketed
____ Built-up Column-Sliding cover, ungasketed
____ Pipe Column-Flexible fabric sleeve seal
____ Pipe Column-Sliding cover, gasketed
____ Pipe Column-Sliding cover, ungasketed

Ladder well
_____ Sliding cover, gasketed
_____ Sliding cover, ungasketed

Sample Pipe and Well
_____ Slotted Pipe-Sliding cover, gasketed
_____ Slotted Pipe-Sliding cover, ungasketed
_____ Sample Well-Slit fabric seal, 10% open area
_____ Stub Drain, 1 inch diameter

Roof Leg or Hanger Well
_____ Adjustable
_____ Fixed

Vacuum Breaker

_____ Weighted Mechanical Actuation, gasketed
_____ Weighted Mechanical Actuation, ungasketed

16. For variable vapor space tanks:

Volume expansion capacity N/A (Gallons)

TANK CONTENTS AND OPERATION DESCRIPTION

17. Complete the flowing table for materials to be stored in this tank:

Material or component stored	Wt. %	Material Annual Throughput (Gal./Yr.)	Material stored Daily Average (Gallons)	Component Molecular weights (Lb./Lb. Mole)	Component Vapor Pressures (PSIA)	Material storage pressure(PSIA)	Material average storage temp. (Deg. F)
Powdered Lime	100	2190 TPY	68 Tons	N/A	N/A	N/A	N/A

Multipurpose tank with variable composition:

_____ Yes X No

18. Describe the operation this tank will serve:

Storage of lime for pH neutralization of wastewater.

19. Page number: 46 | Revision Number: 0 | Date of Revision: N/A

State of Tennessee
Department of Environment and Conservation
Division of Air Pollution Control
William R. Snodgrass Tennessee Tower
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Nashville, TN 37243
Telephone: (615) 532-0554

TITLE V PERMIT APPLICATION
CONTROL EQUIPMENT - BAGHOUSES/FABRIC FILTERS

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name: Viskase Coporation

2. Emission source (identify): 53-0003-15

3. Stack ID or flow diagram point identification (s): Lime Tank 1

BAGHOUSE/FABRIC FILTER DESCRIPTION

4. Describe the device in use. List the key operating parameters of this device and their normal operating range.

General Resource Corporation Superjet dust collector containing 12 polyester/Dacron felt bags. Each bag is 8.25 feet long, has a diameter of 7.75 inches and a porosity of 25-35 cfm. Preventative maintenance on this unit includes the inspection and replacement, as necessary, of new bags once a year.

5. Manufacturer and model number (if available): General Resource Corporation

6. Year of installation: 1976

7. List of pollutant(s) to be controlled and the expected control efficiency for each pollutant (see instructions).

Pollutant	Efficiency (%)	Source of data
Particulate Matter	98	Literature

8. Discuss how collected material is handled for reuse or disposal.

Collected material is returned to the silo.

9. If the bags are coated, specify the material used for coating and frequency of coating

N/A

10. Does the baghouse collect asbestos containing material?

Yes ☐ No ☑

If "Yes", provide data as outlined in Item 10, Instructions for this form.

11. If this control equipment is in series with some other control equipment, state and specify the overall efficiency.

N/A

12. Page number: 47 Revision Number: 0 Date of Revision: N/A

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TITLE V PERMIT APPLICATION
COMPLIANCE CERTIFICATION - MONITORING AND REPORTING
DESCRIPTION OF METHODS USED FOR DETERMINING COMPLIANCE

All sources that are subject to 1200-03-09-.02(11) of the Tennessee Air Pollution Control Regulations are required to certify compliance with all applicable requirements by including a statement within the permit application of the methods used for determining compliance. This statement must include a description of the monitoring, recordkeeping, and reporting requirements and test methods. In addition, the application must include a schedule for compliance certification submittals during the permit term. These submittals must be no less frequent than annually and may need to be more frequent if specified by the underlying applicable requirement or the Technical Secretary.

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name: Viskase Corporation
2. Process emission source, fuel burning installation, or incinerator (identify): Lime Storage Tank and Pneumatic Unloading of Bulk Trucks
3. Stack ID or flow diagram point identification(s): Lime Tank 1 (53-0003-15)

METHODS OF DETERMINING COMPLIANCE

4. This source as described under Item #2 of this application will use the following method(s) for determining compliance with applicable requirements (and special operating conditions from an existing permit). Check all that apply and attach the appropriate form(s)

- [ ] Continuous Emission Monitoring (CEM) - APC 20
  Pollutant(s): _____
- [ ] Emission Monitoring Using Portable Monitors - APC 21
  Pollutant(s): _____
- [ ] Monitoring Control System Parameters or Operating Parameters of a Process - APC 22
  Pollutant(s): _____
- [x] Monitoring Maintenance Procedures - APC 23
  Pollutant(s): Particulate Matter
- [ ] Stack Testing - APC 24
  Pollutant(s): _____
- [ ] Fuel Sampling & Analysis (FSA) - APC 25
  Pollutant(s): _____
- [ ] Recordkeeping - APC 26
  Pollutant(s): _____
- [ ] Other (please describe) - APC 27
  Pollutant(s): _____

5. Compliance certification reports will be submitted to the Division according to the following schedule:
   Start date: Per Title V Permit
   And every 30 days thereafter.
6. Compliance monitoring reports will be submitted to the Division according to the following schedule:
   Start date: Per Title V Permit
   And every 30 days thereafter.
7. Page number: 48 Revision number: 0 Date of revision: N/A

State of Tennessee
Department of Environment and Conservation
Division of Air Pollution Control
William R. Snodgrass Tennessee Tower
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Nashville, TN 37243
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TITLE V PERMIT APPLICATION
COMPLIANCE DEMONSTRATION BY MONITORING MAINTENANCE PROCEDURES

The monitoring of a maintenance procedure shall be acceptable as a compliance demonstration method provided that a correlation between the procedure and the emission rate of a particular pollutant is established.

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name:

Viskase Corporation

2. Stack ID or flow diagram point identification(s):

Lime Tank 1 (53-0003-15)

3. Emission source (identify):

Lime Storage Tank and Pneumatic Unloading of Bulk Trucks

MONITORING DESCRIPTION

4. Pollutant(s) being monitored:

Particulate Matter

5. Procedure being monitored:

Baghouse inspection and preventive maintenance performed on the baghouse

6. Description of the method of monitoring and establishment of correlation between the procedure and the emission rate of a particular pollutant:

The baghouse will be inspected and the bags in the baghouse will be inspected and replaced, if necessary, annually to ensure that the baghouse is operating according to its design. The replacement bags will be constructed of polyester/Dacron felt material or comparable material as recommended by the baghouse manufacturer. A log of the baghouse inspections and maintenance performed will be maintained.

7. Compliance demonstration frequency (specify the frequency with which compliance will be demonstrated):

Semiannually

8. Page number:	Revision number:	Date of revision:
49	0	N/A

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Department of Environment and Conservation
Division of Air Pollution Control
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TITLE V PERMIT APPLICATION
EMISSIONS FROM PROCESS EMISSION SOURCE / FUEL BURNING INSTALLATION / INCINERATOR

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name:	2. Stack ID or flow diagram point identification(s):
Viskase Corporation	Lime Tank 1

3. Process emission source / Fuel burning installation / Incinerator (identify):

Lime Storage Tank and Pneumatic Unloading of Bulk Trucks (53-0003-15)

EMISSIONS SUMMARY TABLE – CRITERIA AND FUGITIVE EMISSIONS

4. Complete the following emissions summary for regulated air pollutants. Fugitive emissions shall be included. Attach calculations and emission factor references.

Air Pollutant	Maximum Allowable Emissions		Actual Emissions	
	Tons per Year	Reserved for State use (Pounds per Hour - Item 7, APC 30)	Tons per Year	Reserved for State use (Pounds per Hour- Item 8, APC 30)
Particulate Matter (TSP)	5.96			
(Fugitive Emissions)	N/A			
Sulfur Dioxide	N/A			
(Fugitive Emissions)	N/A			
Volatile Organic Compounds	N/A			
(Fugitive Emissions)	N/A			
Carbon Monoxide	N/A			
(Fugitive Emissions)	N/A			
Lead	N/A			
(Fugitive Emissions)	N/A			
Nitrogen Oxides	N/A			
(Fugitive Emissions)	N/A			
Total Reduced Sulfur	N/A			
(Fugitive Emissions)	N/A			
Mercury	N/A			
(Fugitive Emissions)	N/A			

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(Continued from last page)

AIR POLLUTANT	Maximum Allowable Emissions		Actual Emissions	
	Tons per Year	Reserved for State use (Pounds per Hour - Item 7, APC 30)	Tons per Year	Reserved for State use (Pounds per Hour- Item 8, APC 30)
Asbestos	N/A			
(Fugitive Emissions)	N/A			
Beryllium	N/A			
(Fugitive Emissions)	N/A			
Vinyl Chloride	N/A			
(Fugitive Emissions)	N/A			
Fluorides	N/A			
(Fugitive Emissions)	N/A			
Gaseous Fluorides	N/A			
(Fugitive Emissions)	N/A			
Greenhouse Gases in CO_2 Equivalents	N/A			

EMISSIONS SUMMARY TABLE – FUGITIVE HAZARDOUS AIR POLLUTANTS

5. Complete the following emissions summary for regulated air pollutants that are hazardous air pollutant(s). Fugitive emissions shall be included. Attach calculations and emission factor references.

Air Pollutant & CAS	Maximum Allowable Emissions		Actual Emissions	
	Tons per Year	Reserved for State use (Pounds per Hour - Item 7, APC 30)	Tons per Year	Reserved for State use (Pounds per Hour- Item 8, APC 30)
N/A				

6. Page number: 50 | Revision number: 0 | Date of revision: N/A

State of Tennessee
Department of Environment and Conservation
Division of Air Pollution Control
William R. Snodgrass Tennessee Tower
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Nashville, TN 37243
Telephone: (615) 532-0554

TITLE V PERMIT APPLICATION
CURRENT EMISSIONS REQUIREMENTS AND STATUS

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name:	2. Emission source number
Viskase Corporation	53-0003-15

3. Describe the process emission source / fuel burning installation / incinerator.

Lime Storage Tank and Pneumatic Unloading of Bulk Trucks

EMISSIONS AND REQUIREMENTS

4. Identify if only a part of the source is subject to this requirement	5. Pollutant	6. Applicable requirement(s): TN Air Pollution Control Regulations, 40 CFR, permit restrictions, air quality based standards	7. Limitation	8. Maximum actual emissions	9. Compliance status (In/Out)
	Particulate	Permit Condition E7-1	1.36 lbs/hr	<1.36 lbs/hr	IN
	Visible Emiss-	Permit Condition E3-2	20%	<20%	IN

10. Other applicable requirements (new requirements that apply to this source during the term of this permit)

11. Page number:	Revision number:	Date of revision:
51	0	N/A

Viskase Corporation
106 Blair Blend Drive
Loudon, Tennessee
53-0003

Lime Storage and Pneumatic Unloading of Bulk Trucks with Baghouse Control

53-0003-15

Viskase receives lime in bulk via truck. The trucks are unloaded pneumatically and the lime is transferred into a storage silo equipped with a baghouse for control of particulate. The baghouse only operates during the truck unloading operation. Viskase receives up to one hundred four (104) 22-ton loads per year.

Allowable PM Emission Rate (lb/hr)	1.36	(Title V #558700, Condition E7-1)
Allowable PM Emission Rate (ton/yr)	5.96	(TAPCR 1200-3-7-.02(4) - Process Weight Rate equation)

Page Number	Revision Number	Date of Revision
52	0	N/A

State of Tennessee
Department of Environment and Conservation
Division of Air Pollution Control
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor
Nashville, TN 37243
Telephone: (615) 532-0554

TITLE V PERMIT APPLICATION
STATIONARY GAS TURBINE OR INTERNAL COMBUSTION ENGINE

GENERAL IDENTIFICATION AND DESCRIPTION

1. **Facility name:**

Viskase Corporation

2. **Stack ID or flow diagram point identification (s):**

PG-1 (53-0003-23)

GAS TURBINE OR INTERNAL COMBUSTION ENGINE DESCRIPTION

3. List all gas turbines and internal combustion engines at this facility on a separate sheet, and please complete an APC 5 form for each piece of equipment.

One (1) Internal Combustion Engine

4. Manufacturer and model number:

Caterpillar Power Generator Model D-399 Unit

5. Equipment description:

One (1) Caterpillar Power Generator Model D-399 Unit (9.8 MMBTU/Hr) using kerosene and/or diesel as fuel to generate 800-kw at 2,412 BTU/kwh and 1,200 RPM from a Coupled Electric Machinery Company Model BEMAC II Generator S/N 176905931 (480 volts at 60 hertz).

6. Date of installation or last modification of equipment:

1992

7. Rated heat input capacity (in million BTU/Hour) and rated horsepower:

9.8 MMBTU/Hr 1,072 horsepower

State which heating value was utilized:

_____ Higher heating value

__X__ Lower heating value

8. If equipment is a gas turbine, list type:

_____ Simple cycle

_____ Regenerative cycle

_____ Combined cycle

9. Location of this fuel burning installation in UTM coordinates: UTM Vertical: 584.00 North UTM Horizontal: 416.00 East

10. Normal operating schedule:_____ Hrs./Day _____ Days/Wk._____ Days/Yr.

FUEL DESCRIPTION

11. Fuels:	Primary fuel	Backup fuel #1	Backup fuel #2	Backup fuel #3
Fuel name	Kerosene (#1 Fuel Oil)	Diesel Oil (#2 Fuel Oil)		
Actual yearly consumption	977	0		

12. (For NSPS turbines only) Manufacturer's rated heat rate at manufacturer's rated peak load (kilojoules per watt hour), or actual measured heat rate based on lower heating value of fuel as measured at actual peak load for the unit:

Permit Limit: 100 hrs/yr

13. Page number: 53 Revision Number: 0 Date of Revision: N/A

State of Tennessee
Department of Environment and Conservation
Division of Air Pollution Control
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor
Nashville, TN 37243
Telephone: (615) 532-0554

TITLE V PERMIT APPLICATION
STACK IDENTIFICATION

GENERAL IDENTIFICATION AND DESCRIPTION

1. **Facility name:**

Viskase Corporation

2. **Emission source (identify):**

Diesel Emergency Generator

STACK DESCRIPTION

3. Stack ID (or flow diagram point identification):

PG-1 (53-0003-23)

4. Stack height above grade in feet:

30

5. Velocity (data at exit conditions):

136 _____ (Actual feet per second)

6. Inside dimensions at outlet in feet:

1.0

7. Exhaust flow rate at exit conditions (ACFM):

6,000

8. Flow rate at standard conditions (DSCFM):

2,475

9. Exhaust temperature:

890 _____ Degrees Fahrenheit (°F)

10. Moisture content (data at exit conditions):

1 _____ Percent 75 _____ Grains per dry standard cubic foot (gr./dscf.)

11. Exhaust temperature that is equaled or exceeded during ninety (90) percent or more of the operating time (<u>for stacks subject to diffusion equation only</u>):

N/A _____ (°F)

12. If this stack is equipped with continuous pollutant monitoring equipment required for compliance, what pollutant(s) does this equipment monitor (e.g., Opacity, SO_2, NO_x, etc.)?

N/A

Complete the appropriate APC form(s) 4, 5, 7, 8, 9, or 10 for each source exhausting through this stack.

BYPASS STACK DESCRIPTION

13. Do you have a bypass stack?

_____ Yes X _____ No

If yes, describe the conditions which require its use & complete APC form 4 for the bypass stack. Please identify the stack number(s) of flow diagram point number(s) exhausting through this bypass stack.

14. Page number: 54 Revision Number: 0 Date of Revision: N/A

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TITLE V PERMIT APPLICATION
COMPLIANCE CERTIFICATION - MONITORING AND REPORTING
DESCRIPTION OF METHODS USED FOR DETERMINING COMPLIANCE

All sources that are subject to 1200-03-09-.02(11) of the Tennessee Air Pollution Control Regulations are required to certify compliance with all applicable requirements by including a statement within the permit application of the methods used for determining compliance. This statement must include a description of the monitoring, recordkeeping, and reporting requirements and test methods. In addition, the application must include a schedule for compliance certification submittals during the permit term. These submittals must be no less frequent than annually and may need to be more frequent if specified by the underlying applicable requirement or the Technical Secretary.

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name: Viskase Corporation
2. Process emission source, fuel burning installation, or incinerator (identify): Diesel Emergency Generator
3. Stack ID or flow diagram point identification(s): PG-1 (53-0003-23)

METHODS OF DETERMINING COMPLIANCE

4. This source as described under Item #2 of this application will use the following method(s) for determining compliance with applicable requirements (and special operating conditions from an existing permit). Check all that apply and attach the appropriate form(s)

- [ ] Continuous Emission Monitoring (CEM) - APC 20
  Pollutant(s): _____
- [ ] Emission Monitoring Using Portable Monitors - APC 21
  Pollutant(s): _____
- [ ] Monitoring Control System Parameters or Operating Parameters of a Process - APC 22
  Pollutant(s): _____
- [ ] Monitoring Maintenance Procedures - APC 23
  Pollutant(s): _____
- [ ] Stack Testing - APC 24
  Pollutant(s): _____
- [ ] Fuel Sampling & Analysis (FSA) - APC 25
  Pollutant(s): _____
- [x] Recordkeeping - APC 26
  Pollutant(s): SO2, NOx, PM, CO, THC
- [ ] Other (please describe) - APC 27
  Pollutant(s): _____

5. Compliance certification reports will be submitted to the Division according to the following schedule:
   Start date: Per Title V Permit
   And every 30 days thereafter.
6. Compliance monitoring reports will be submitted to the Division according to the following schedule:
   Start date: Per Title V Permit
   And every 30 days thereafter.
7. Page number: 55 Revision number: 0 Date of revision: N/A

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TITLE V PERMIT APPLICATION
COMPLIANCE DEMONSTRATION BY RECORDKEEPING

Recordkeeping shall be acceptable as a compliance demonstration method provided that a correlation between the parameter value recorded and the applicable requirement is established.

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name:
Viskase Corporation

2. Stack ID or flow diagram point identification(s):
PG-1 (53-0003-23)

3. Emission source (identify):
Diesel Emergency Generator

MONITORING AND RECORDKEEPING DESCRIPTION

4. Pollutant(s) or parameter being monitored:
SO2, NOx, PM, CO, THC, Operating Hours, Fuel Usage, Sulfur Content of fuel

5. Material or parameter being monitored and recorded:
Sulfur Content of fuel; Fuel Usage; Operating Time

6. Method of monitoring and recording:
A daily log is maintained for fuel usage (gallons/month) and operating time (hours/month).
The sulfur content of the fuels as supplied by the vendor will be recorded. The records will be maintained on-site for 5 years.

7. Compliance demonstration frequency (specify the frequency with which compliance will be demonstrated):
Monthly

8. Page number:	Revision number:	Date of revision:
56	0	N/A

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TITLE V PERMIT APPLICATION
EMISSIONS FROM PROCESS EMISSION SOURCE / FUEL BURNING INSTALLATION / INCINERATOR

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name:	2. Stack ID or flow diagram point identification(s):
Viskase Corporation	PG-1

3. Process emission source / Fuel burning installation / Incinerator (identify):
Diesel Emergency Generator (53-0003-23)

EMISSIONS SUMMARY TABLE – CRITERIA AND FUGITIVE EMISSIONS

4. Complete the following emissions summary for regulated air pollutants. Fugitive emissions shall be included. Attach calculations and emission factor references.

Air Pollutant	Maximum Allowable Emissions		Actual Emissions	
	Tons per Year	Reserved for State use (Pounds per Hour - Item 7, APC 30)	Tons per Year	Reserved for State use (Pounds per Hour- Item 8, APC 30)
Particulate Matter (TSP)	0.29			
(Fugitive Emissions)	N/A			
Sulfur Dioxide	0.25			
(Fugitive Emissions)	N/A			
Volatile Organic Compounds	0.01			
(Fugitive Emissions)	N/A			
Carbon Monoxide	0.10			
(Fugitive Emissions)	N/A			
Lead	N/A			
(Fugitive Emissions)	N/A			
Nitrogen Oxides	1.0			
(Fugitive Emissions)	N/A			
Total Reduced Sulfur	N/A			
(Fugitive Emissions)	N/A			
Mercury	N/A			
(Fugitive Emissions)	N/A			

(Continued on next page)

(Continued from last page)

AIR POLLUTANT	Maximum Allowable Emissions		Actual Emissions	
	Tons per Year	Reserved for State use (Pounds per Hour - Item 7, APC 30)	Tons per Year	Reserved for State use (Pounds per Hour- Item 8, APC 30)
Asbestos	N/A			
(Fugitive Emissions)	N/A			
Beryllium	N/A			
(Fugitive Emissions)	N/A			
Vinyl Chloride	N/A			
(Fugitive Emissions)	N/A			
Fluorides	N/A			
(Fugitive Emissions)	N/A			
Gaseous Fluorides	N/A			
(Fugitive Emissions)	N/A			
Greenhouse Gases in CO_2 Equivalents	N/A			

EMISSIONS SUMMARY TABLE – FUGITIVE HAZARDOUS AIR POLLUTANTS

5. Complete the following emissions summary for regulated air pollutants that are hazardous air pollutant(s). Fugitive emissions shall be included. Attach calculations and emission factor references.

Air Pollutant & CAS	Maximum Allowable Emissions		Actual Emissions	
	Tons per Year	Reserved for State use (Pounds per Hour - Item 7, APC 30)	Tons per Year	Reserved for State use (Pounds per Hour- Item 8, APC 30)
N/A				

6. Page number: 57 Revision number: 0 Date of revision N/A

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TITLE V PERMIT APPLICATION
CURRENT EMISSIONS REQUIREMENTS AND STATUS

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name:	2. Emission source number
Viskase Corporation	53-0003-23

3. Describe the process emission source / fuel burning installation / incinerator.

Diesel Emergency Generator (PG-1)

EMISSIONS AND REQUIREMENTS

4. Identify if only a part of the source is subject to this requirement	5. Pollutant	6. Applicable requirement(s): TN Air Pollution Control Regulations, 40 CFR, permit restrictions, air quality based standards	7. Limitation	8. Maximum actual emissions	9. Compliance status (In/Out)
	Particulate	Permit Condition E9-1	0.6 lb/MMBTU	<0.6 lb/MMBTU	IN
	SO2	Permit Condition E9-1	5.0 lb/hr	<5.0 lb/hr	IN
	NOx	Permit Condition E9-1	20.125 lb/hr	<20.125 lb/hr	IN
	CO	Permit Condition E9-1	2.07 lb/hr	<2.07 lb/hr	IN
	VOC	Permit Condition E9-1	0.12 lb/hr	<0.12 lb/hr	IN
Kerosene usage		Permit Condition E9-1	70 gal/hr	<70 gal/hr	IN
Operating hour		Permit Condition E9-5	100 hr/yr	<100 hr/yr	IN
Sulfur Content		Permit Condition E9-3	0.5 %	<0.5 %	IN

10. Other applicable requirements (new requirements that apply to this source during the term of this permit)

		40 CFR 63 Subpart ZZZZ			

11. Page number:	Revision number:	Date of revision:
58	0	N/A

Viskase Corporation
106 Blair Blend Drive
Loudon, Tennessee
53-0003

Diesel Emergency Generator (PG -1) **53-0003-23**

Fuel Usage Rate	70	gal/hr	Based on 40 CFR 63 Subpart ZZZZ Viskase requests the
Heat Input	9.8	MM BTU/hr	Generator be designated as a Limited Use Stationary
Operating Hour	99	hr/yr	RICE per §63.6675.

Emission rate data is based on stack test information from Caterpillar for a Model D-399 Generator

Allowable Pollutant Emission Rates			Emission Estimates		
Pollutant	Emission Rate	Units	Pollutant	lb/hr	TPY
PM	0.6	lb/MM BTU	PM	5.88	0.29
SO_2	5	lb/hr	SO_2	5	0.25
NO_x	20.125	lb/hr	NO_x	20.125	1.00
CO	2.07	lb/hr	CO	2.07	0.10
VOC	0.12	lb/hr	VOC	0.12	0.01

The Generator is subject to 40 CFR 63 Subpart ZZZZ as an Existing Source. Viskase requests the Generator be designated as a Limited Use Stationary RICE which does not have to meet the requirements of Subpart ZZZZ. As a limited Use Stationary RICE the Generator mist operate less than 100 hours per year.

GHG Emission Calculation

Global Warming Potential (GWP) Factors[1]

CO_2	CH_4	N_2O
GWP	GWP	GWP
1	21	310

[1] From Table A-1 of Subpart A of Part 98

HHV[2]	CO_2 EF[2]	CH_4 EF[2]	N_2O EF[2]	Distillate Fuel Oil No. 2
MM BTU/gal	Kg CO_2/MM BTU	Kg CO_2/MM BTU	Kg CO_2/MM BTU	
0.138	73.96	0.003	0.0006	

[2] From Tables C-1 and C-2 of Subpart C of Part 98

Emission estimates using Equation (C-1) of Subpart C - General Stationary Fuel Combustion Sources
Greenhouse Gas Emissions at 99 hr/yr (Maximum Non-Emergency Operation per Subpart ZZZZ)

	CO_2	CH_4	N_2O	Total CO2e
Ton/hr	0.71	0.00002898	0.000005796	
Metric Ton/year	70.73	0.0029	0.0006	70.73
Ton/year	77.97	0.0032	0.0006	77.97

1 metrics ton 1.10231131 ton

Viskase Corporation
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Loudon, Tennessee
53-0003

Insignificant Activities
1) ESRN 53-0003-03 Glycerine Addition Process - Expansion Emissions
2) ESRN 53-0003-20 Burn-Off Oven
3) Laboratory Hoods

Material	Aerosol OT 75% Surfactant	
Density	9.09	lb/gal
Wt% VOC	1.43	%
Maximum Usage	3.39	lb/hr
Positions:	164	

Glycerine volatalization from dryers: 0.055 lb/hr/16 postitions[1]

[1]Viskase Bedford Park Stack Data - October 1994

Potential Emissions (VOC)		
Glycerine addition	424.65852	lb/year
Glycering Volatalizatior	4938.45	lb/year
Total VOC*	5363.1	lb/year
	2.7	ton/yr

*Insignificant per 1200-03-09-.04(5)(a)(4)(i)
1200-03-09-.04(5)(c)3

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60	0	N/A