

1 STATE OF TENNESSEE
2 DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
3 BOARD OF BOILER RULES
4
5
6
7

8 QUARTERLY MEETING OF THE
9 STATE OF TENNESSEE
10 BOARD OF BOILER RULES

11 Via Zoom Videoconference

12 March 10, 2021
13
14
15
16

17 ORIGINAL
18
19
20
21

22 -----
23 CASSANDRA M. BEILING, LCR# 371
24 STONE & GEORGE COURT REPORTING
25 2020 Fieldstone Parkway
Suite 900 - PMB 234
Franklin, Tennessee 37069
615.221.1089

1 APPEARANCES:

2 Brian Morelock, Chairman
3 Owner-User Representative

4 David W. Baughman
5 Owner/User Representative
6 Allied Boiler & Supply, Inc.
7 4006 River Lane
8 Milton, Tennessee 37118

9 Harold F. Bowers
10 Insurance Representative
11 Centerville, Tennessee

12 Jeffery Henry, Board Member
13 Boiler Manufacturer Representative
14 ATC-CES, Chattanooga, Tennessee

15 Dr. Keith Hargrove, Board Member

16 Chris O'Guin, Assistant Chief Boiler Inspector

17 Thomas Herrod
18 Assistant Commissioner, State of Tennessee

19 Daniel Bailey, Esq.
20 Legal Counsel, State of Tennessee

21 Carlene T. Bennett
22 Board Secretary, State of Tennessee

23 Jamie Presson
24 Executive Admin. Assistant, State of Tennessee

25 Michelle Irion
Boiler Admin. Staff Supervisor, State of Tennessee

1 Guest Appearances:

2 ECS CONSULTING and BOISCO TRAINING GROUP
Marty Toth

3 NEVILLE ENGINEERING
4 James Neville

5 CINCINNATI INSURANCE
Eugene Robinson

6 BRADLEY, ARANT, BOULT, CUMMINGS, LLP
7 Christopher Puri, Attorney for STERIS Corporation

8 STERIS CORPORATION
Marie LaFrance, Senior Product Manager
9 Mark Chiffon
Roger Andrusky
10 Sam Watkins
Vito Scotese

11 TRISTAR SOUTHERN HILLS MEDICAL CENTER
12 David Lytle

13

14

+++++

15

16 Court Reporting Services and Zoom
Videoconferencing:

17 STONE & GEORGE COURT REPORTING
Nan George, Zoom moderator
18 Cassandra M. Beiling, LCR

19

20

21

22

23

24 ** Reporter's Note: All names are spelled
phonetically unless otherwise provided to the
25 Reporter by the parties.

A G E N D A

- 1
- 2 I. Call Meeting to Order
- 3 II. Introductions and Announcements
- 4 III. Adoption of Agenda
- 5 IV. Approval of the December 16, 2020 Meeting
6 Minutes and January 10, 2021 Special-called
Meeting Minutes
- 7 V. Conflict of Interest Policy & Acknowledgment
- 8 VI. Old Business
None
- 9 VII. New Business
10 21-01 -TriStar Southern Hills Medical Center
- 11 VIII. Rule Case & Interpretations
12 BI 21-01 - STERIS Corporation request
BI 21-02 - ECS Consulting LLC request
- 13 XI. Open Discussion Items
14 * David Baughman - TCA 68-122-110(a)(2)
* Variance Guideline & Checklist Revisions
- 15 X. Announcement of Next Meeting
16 Unless the Board decides otherwise, the
17 next regularly scheduled meeting of the
18 Board of Boiler Rules will be held 9:00 a.m.
19 June 9, 2021, at the State of Tennessee
Department of Labor and Workforce
Development building located at 220 French
Landing Drive, Nashville, Tennessee.
- 20 XI. Adjournment
- 21
- 22
- 23
- 24
- 25

1 * * * * *

2 CHAIRMAN MORELOCK: I think we have
3 all of the board members online now, and so I want
4 to welcome them and I want to welcome everybody to
5 this March Tennessee board meeting. I want to
6 welcome you to the March 10th Tennessee board
7 meeting.

8 I hope you have an agenda handy.
9 That's what we're going to work from today. And
10 so with that said, I am going to call the meeting
11 to order. That's the first item on our agenda.
12 And so as far as -- we'll adopt the agenda here in
13 just a moment but I'm going to go on to Item 2
14 which is introductions and announcements. And so
15 I'll go around and let everybody introduce
16 themselves. And bear with me. I will probably
17 leave somebody out and I'm apologizing now. I'll
18 try to use the participant list to do that. If I
19 do leave you out, I am sorry, but we'll get
20 everybody introduced here in just a moment.

21 So I'm going to start with
22 Mr. O'Guin.

23 MR. O'GUIN: Chris O'Guin,
24 Assistant Chief Boiler Inspector.

25 CHAIRMAN MORELOCK: All right.

1 Mr. Herrod?

2 MR. HERROD: Tom Herrod, Assistant
3 Commissioner, Workplace Regulations and
4 Compliance.

5 CHAIRMAN MORELOCK: Thank you.

6 Ms. Bennett?

7 MS. BENNETT: Carlene Bennett,
8 Board Secretary.

9 CHAIRMAN MORELOCK: Okay.

10 Ms. Irion?

11 MS. IRION: Hi. I'm here with
12 Chris.

13 CHAIRMAN MORELOCK: Okay. All
14 right. Good.

15 MS. IRION: I am the admin
16 supervisor here in the Boiler Inspection Unit.

17 CHAIRMAN MORELOCK: Thank you.

18 MS. IRION: Thank you.

19 CHAIRMAN MORELOCK: Mr. Bailey?

20 MR. BAILEY: Dan Bailey, legal
21 counsel.

22 CHAIRMAN MORELOCK: Thank you, sir.

23 Mr. Hargrove?

24 MR. HARGROVE: Good morning,
25 everyone. Keith Hargrove, board member. Good to

1 see all of you and thanks for your kind thoughts
2 over the last few months. And, again, good to see
3 you guys.

4 CHAIRMAN MORELOCK: Good to see
5 you.

6 Mr. Henry?

7 MR. HENRY: This is Jeff Henry,
8 board member.

9 CHAIRMAN MORELOCK: Mr. Bowers?

10 MR. BOWERS: Harold Bowers, board
11 member. FM Global Insurance Company. Glad to see
12 you-all today.

13 CHAIRMAN MORELOCK: Glad to see you
14 as well.

15 Mr. Baughman?

16 MR. BAUGHMAN: Dave Baughman, board
17 member with Allied Boiler & Supply, Incorporated.
18 And it's good to see everybody as well.

19 CHAIRMAN MORELOCK: Good to see
20 you.

21 I am Brian Morelock. I represent
22 owners and users of unfired pressure vessels, and
23 I work for Eastman Chemical Company.

24 So now I'm going to throw caution to
25 the wind and try to go through this participant

1 list. And again, if I leave you out, I apologize,
2 but let's give this a shot.

3 Mr. Robinson?

4 MR. ROBINSON: Eugene Robinson,
5 Cincinnati Insurance, boiler inspector.

6 CHAIRMAN MORELOCK: Okay.

7 Mr. Puri?

8 MR. PURI: Yes, Mr. Chairman. I'm
9 Chris Puri. I'm with Bradley Law Firm. I'm the
10 outside counsel for STERIS.

11 CHAIRMAN MORELOCK: Welcome. Thank
12 you.

13 Mr. Neville?

14 MR. NEVILLE: James Neville,
15 President of Neville Engineering, representing
16 Southern Hills Medical Center.

17 CHAIRMAN MORELOCK: Thank you.

18 Mr. Chiffon?

19 MR. CHIFFON: I'm Mark Chiffon.
20 I'm the Director of Research and Development for
21 STERIS Corporation.

22 CHAIRMAN MORELOCK: Welcome. Thank
23 you.

24 Mr. Toth?

25 MR. TOTH: Marty Toth, ECS

1 Consulting and The Boisco Training Group.

2 CHAIRMAN MORELOCK: Welcome,
3 Mr. Toth.

4 Okay. So help me out with -- I've
5 got a screen name here. It's M-L-A-F-R-A-N-C.

6 MS. LaFRANCE: Hi. I'm Marie
7 LaFrance, and I'm Senior Product Manager for
8 STERIS Corporation.

9 CHAIRMAN MORELOCK: Welcome and
10 thank you. And if you would put your name in so
11 we can record that into the minutes, please, that
12 would be very helpful.

13 MS. LaFRANCE: Okay.

14 CHAIRMAN MORELOCK: Mr. Andrusky?

15 MR. ANDRUSKY: Roger Andrusky,
16 Field Service Engineer for STERIS Corporation.

17 CHAIRMAN MORELOCK: Welcome. Thank
18 you.

19 Vito Scotese?

20 MR. SCOTESE: I'm Vito Scotese,
21 Lead Engineering Technician at STERIS.

22 CHAIRMAN MORELOCK: Welcome. Thank
23 you.

24 Addie Chandler?

25 MR. LYTLE: Yes. This is David

1 Lytle with the Southern Hills team here.

2 CHAIRMAN MORELOCK: Welcome.

3 We still have a 615 phone number.

4 Who is that?

5 MS. GEORGE: I think that was
6 Mr. Lytle that just spoke.

7 CHAIRMAN MORELOCK: Okay.

8 MS. GEORGE: Is that your phone
9 number, Mr. Lytle, 781-4124?

10 (No verbal response.)

11 MS. GEORGE: David Lytle?

12 MR. LYTLE: Yes. This is -- 4124
13 is our number.

14 MS. GEORGE: Okay. Could you spell
15 your last name, please?

16 MR. LYTLE: Yes. It is L-Y-T-L-E.

17 MS. GEORGE: Thank you.

18 CHAIRMAN MORELOCK: Okay. If I've
19 left someone out, please let me know. I think
20 I've gotten everyone, but if not --

21 MR. WATKINS: This is Sam Watkins.
22 I'm the Director of Marketing with STERIS.

23 CHAIRMAN MORELOCK: Okay. Thank
24 you.

25 MR. WATKINS: My pleasure.

1 CHAIRMAN MORELOCK: I knew I
2 would --

3 MR. WATKINS: We've got a big group
4 here. No worries. Thank you.

5 CHAIRMAN MORELOCK: Well, welcome
6 to everyone.

7 So now have I left anyone else out?

8 MS. PRESSON: This is Jamie
9 Presson, Executive Admin Assistant with WRC.

10 CHAIRMAN MORELOCK: Okay. I'm
11 sorry. I had your name up here. I didn't call
12 you. Thank you very much.

13 All right. Anybody else?

14 (No verbal response.)

15 CHAIRMAN MORELOCK: All right.
16 Thank you very much. So that takes us to
17 introductions. Are there any announcements before
18 we adopt the agenda?

19 MR. HERROD: Mr. Chairman, this is
20 Tom Herrod, Assistant Commissioner. I think it's
21 as good a time as any to announce the retirement
22 of Sam Chapman, who's been the Boiler Chief for
23 the past five years. He's been with the State
24 almost 20 years, and his last day was this past
25 Friday. And so he was a veteran with 20 years in

1 the Navy and then 20 years with the State. And so
2 I'm sure his retirement will be filled with
3 fishing and gardening.

4 And we wish him well, but he's a
5 familiar face that's normally always with us on
6 these meetings, so I just wanted to announce that
7 and wish him well and acknowledge his service to
8 the State.

9 CHAIRMAN MORELOCK: Thank you,
10 Mr. Herrod.

11 And we are excited for his
12 retirement. That's something we all eventually
13 want to work toward. And certainly, he's got big
14 shoes to fill, and we've certainly enjoyed the
15 relationship we've had with him professionally and
16 personally. And we wish him the best.

17 Any other announcements?

18 MS. BENNETT: Mr. Chairman, this is
19 Carlene. I see that I have omitted something on
20 the agenda that I would like you to consider
21 adding. And that would be the Assistant Chief's
22 report.

23 CHAIRMAN MORELOCK: Okay.

24 MS. BENNETT: We typically have
25 that on there. I'm not sure how I left that off,

1 but if we could add that somewhere near the top,
2 then Chris will give that report.

3 CHAIRMAN MORELOCK: Okay. I tell
4 you what we'll do. We will add that before Old
5 Business.

6 MS. BENNETT: Okay. Perfect.
7 Thank you.

8 CHAIRMAN MORELOCK: Thank you,
9 ma'am.

10 Any other announcements?

11 (No verbal response.)

12 CHAIRMAN MORELOCK: All right.
13 Hearing none, I would ask, if you have cell phones
14 and all, if you would mute those during the
15 conversations so it won't be distracting. We're
16 certainly looking forward to the day when we get
17 to meet face-to-face and be able to have these
18 conversations face-to-face. But we are thankful
19 for technology, and it allows us to meet
20 virtually.

21 So as Nan has already alluded to, if
22 you have a question, you can use the reactions
23 button to raise your hand. And I will do my best
24 to monitor that, and Carlene and others will make
25 sure that I pay attention to that. I'll take all

1 the help I can get.

2 So moving on to Item 3, Adoption of
3 the Agenda, I hope everyone has a copy of that
4 agenda available to them. Are there any other
5 corrections or additions to the agenda, other than
6 adding the Chief's report?

7 (No verbal response.)

8 CHAIRMAN MORELOCK: Okay. Hearing
9 none, with an electronic meeting, what we're going
10 to do is have a roll-call vote by the board
11 members. So do I have a motion to adopt the
12 agenda as amended?

13 MR. HENRY: So moved.

14 CHAIRMAN MORELOCK: Okay. So I
15 have a motion from Mr. Henry.

16 MR. BOWERS: Second from me, Harold
17 Bowers.

18 CHAIRMAN MORELOCK: And a second
19 from Mr. Bowers. Thank you.

20 Any other discussion?

21 (No verbal response.)

22 CHAIRMAN MORELOCK: All right. So
23 I'm going to call the vote here. So,
24 Mr. Baughman?

25 MR. BAUGHMAN: Aye.

1 CHAIRMAN MORELOCK: Mr. Bowers?

2 MR. BOWERS: Aye.

3 CHAIRMAN MORELOCK: Mr. Hargrove?

4 MR. HARGROVE: Aye.

5 CHAIRMAN MORELOCK: Mr. Henry?

6 MR. HENRY: Aye.

7 CHAIRMAN MORELOCK: Thank you. We
8 have an agenda.

9 That will take us on to Item 4 on the
10 agenda, which is approval of the December 16, 2020
11 meeting minutes, as well as the January 10, 2021
12 special-called meeting minutes. Are there any
13 corrections to the minutes?

14 (No verbal response.)

15 CHAIRMAN MORELOCK: All right.
16 Hearing none, do I have a motion to accept the
17 December 16, 2020 minutes and the January 10th,
18 2021 special-called meeting minutes?

19 MR. BAUGHMAN: Move to accept.

20 CHAIRMAN MORELOCK: Okay. Thank
21 you for that motion. Do I have a second?

22 MR. HARGROVE: Second, Keith
23 Hargrove.

24 CHAIRMAN MORELOCK: Okay. So
25 Mr. Baughman made the motion and Mr. Hargrove

1 seconded it. Any other discussion?

2 (No verbal response.)

3 CHAIRMAN MORELOCK: All right.

4 Hearing none, I'm going to call for the vote.

5 Mr. Baughman?

6 MR. BAUGHMAN: Aye.

7 CHAIRMAN MORELOCK: Mr. Bowers?

8 MR. BOWERS: Aye.

9 CHAIRMAN MORELOCK: Mr. Hargrove?

10 MR. HARGROVE: Aye.

11 CHAIRMAN MORELOCK: Mr. Henry?

12 MR. HENRY: Aye.

13 CHAIRMAN MORELOCK: All right. The
14 meeting minutes are approved. That will take us
15 to Item 5 which is Conflict of Interest Policy and
16 Acknowledgment.

17 If the board members have not
18 provided that to Ms. Bennett, please do that. I
19 know with -- since we're not meeting live, you can
20 make a PDF of that after you get it signed and
21 everything and you can take a cell phone picture
22 of it and whatever it takes for them to have a
23 record of that. So it's just an item for
24 information.

25 So that will take us to our next item

1 on the agenda which is the Chief's report. So
2 I'll turn that over to Mr. O'Guin.

3 MR. O'GUIN: Thank you, Chairman.
4 I'm going to attempt to share my screen here.
5 Inspections July 1, 2020 through March the 1st,
6 2021, the state inspectors did 9,991 inspections;
7 insurance and company, 18,325, bringing a total of
8 28,316. Delinquency rate for the first quarter of
9 2020 was 1.8. That was an average right when we
10 started the COVID pandemic.

11 The second quarter of 2020, we jumped
12 to 4 percent. The third quarter of 2020, we had
13 started coming down to 3.7. And the fourth
14 quarter was 3.5. The fourth quarter is
15 probably -- it should have been a little lower.
16 That's when we were having some computer issues
17 with our system. Some inspections are hung up in
18 the mid-approval status. The first quarter of
19 2021, we're down to 2.3 percent, so we are
20 steadily falling. We're averaging about
21 two-tenths a week.

22 The high-pressure delinquent, as of
23 to date, states 62 and insurance has 294, bringing
24 a total of 356 vessels. The variances, we have 70
25 active. We performed 15 variance inspections this

1 quarter; 12 passed and 3 failed.

2 That's all I have, Chairman.

3 CHAIRMAN MORELOCK: Thank you. Are
4 there any questions or comments for Mr. O'Guin
5 about the Chief's report?

6 MR. BAUGHMAN: This is Dave
7 Baughman, board member.

8 Mr. O'Guin, which were those three
9 that failed?

10 MR. O'GUIN: Country Delite in
11 Nashville, Dow Chemical, and -- I hope I pronounce
12 this right -- Leclerc Foods.

13 THE REPORTER: How do you spell
14 that last one?

15 MR. O'GUIN: L-E-C-L-E-R-C.

16 THE REPORTER: Thank you.

17 MR. O'GUIN: And Country Delite has
18 already notified us that they are ready for
19 reinspection. I have given them a little time.
20 They called in, like, two or three days that they
21 were ready for reinspection. So I don't want to
22 jump back over. I want to give them time to, you
23 know, be sure they are ready.

24 MR. BAUGHMAN: Right. And one
25 other question, Mr. O'Guin. I noticed we listed

1 the high-pressure delinquents. Is there
2 information on low-pressure delinquents or unfired
3 delinquents also, or is that high pressure all
4 encompassing?

5 MR. O'GUIN: I can break it down by
6 category. We didn't on this meeting here, but I
7 can for future meetings, if the Board would like
8 it.

9 MR. BAUGHMAN: I was just
10 interested in the total, overall delinquency, just
11 for whatever information that's worth.

12 MR. O'GUIN: I would be glad to get
13 it for you.

14 MR. BAUGHMAN: Thank you,
15 Mr. O'Guin.

16 MR. O'GUIN: Yes, sir.

17 MR. BAUGHMAN: Good report.

18 MR. O'GUIN: Thank you.

19 CHAIRMAN MORELOCK: Any other
20 questions or comments?

21 (No verbal response.)

22 CHAIRMAN MORELOCK: All right.
23 Thank you, Mr. O'Guin. That was an excellent
24 report.

25 That takes us to Old Business, and we

1 do not have any old business, so we will move on
2 to New Business. And so our first item of new
3 business is 21-01. TriStar Southern Hills Medical
4 Center in Nashville is requesting a variance for
5 three high-pressure boilers under the requirements
6 of Chapter 0800-03-03.08(11). So if you will
7 introduce yourselves and present your manual and
8 your request for a variance.

9 And before we do that, are there any
10 conflicts of interest with any of the board
11 members?

12 (No verbal response.)

13 CHAIRMAN MORELOCK: Okay. I see no
14 conflicts of interest. So if you will introduce
15 yourself and present your manual, please. Thank
16 you.

17 MR. NEVILLE: Yes. This is James
18 Neville with Neville Engineering. I'm presenting
19 for Southern Hills Medical Center. Also online
20 should be David Lytle, and I'll let him introduce
21 himself as well.

22 MR. LYTLE: Yes. My name is David
23 Lytle. I am the director of plant operations here
24 at TriStar Southern Hills. With me, I have Addie
25 Chandler -- she is our administrative assistant --

1 and Tony Walpole, which is my department's
2 supervisor.

3 THE REPORTER: Can you spell Tony's
4 last name?

5 MR. LYTLE: Walpole, W-A-L-P-O-L-E.

6 THE REPORTER: Thank you.

7 MR. NEVILLE: We would like to
8 propose a variance for three high-pressure
9 boilers. In our manual, we list the site plan on
10 page 2 of our manual. It shows the location of
11 the PBX office and the boiler room. It's
12 approximately 386 feet apart. The remote station
13 will have a shutoff for each of the three boilers
14 at the remote station.

15 And we list the job descriptions for
16 those that will be monitoring the boilers at the
17 remote station as a PBX operator or a security
18 officer.

19 As far as the individuals that will
20 be monitoring the boilers in the boiler room as a
21 boiler attendant, that will be a maintenance
22 mechanic and a security officer on third shift.
23 The security officer will be a monitor-only
24 position. The hospital has an on-call maintenance
25 mechanic every time that a security officer will

1 be monitoring the boilers.

2 The -- as far as the items -- or the
3 boilers are identified in Appendix A, as far as --
4 well, there's 1, 2, and 3. That's one Kewanee and
5 two Cleaver-Brooks boilers. And those do use an
6 atmospheric DA.

7 THE REPORTER: I'm sorry. Can I
8 interrupt, Mr. Neville?

9 MR. NEVILLE: Yes.

10 THE REPORTER: What was the first
11 boiler?

12 MR. NEVILLE: Kewanee.

13 THE REPORTER: Thank you.

14 MR. NEVILLE: Yes.

15 The controllers on those are the
16 Honeywell RM7800 series. And that's listed in
17 Appendix B. And, also, in Appendix B, we show the
18 location of the emergency boiler shutoffs at the
19 exit doors to that boiler room.

20 If there are any other questions that
21 we can field, we would be glad to do so.

22 CHAIRMAN MORELOCK: Thank you,
23 Mr. Neville.

24 Do I have a motion to discuss?

25 MR. BAUGHMAN: So moved.

1 CHAIRMAN MORELOCK: Thank you,
2 Mr. Baughman. Do I have a second?

3 MR. BOWERS: This is Harold Bowers.
4 I second.

5 CHAIRMAN MORELOCK: Thank you,
6 Mr. Bowers.

7 What questions or comments do the
8 board members have for this proposal for a
9 variance?

10 MR. BAUGHMAN: I'll start. This is
11 Dave Baughman, board member.

12 Mr. Neville and David, thank you for
13 presenting this. I've got a few items that are of
14 question here. You just made mention of the
15 maintenance mechanic being the boiler attendant,
16 but also the security officer being the boiler
17 attendant but monitoring only. So kind of
18 describe that, because that's a little bit
19 contradictory of boiler attendant versus remote
20 attendant if he's monitoring only.

21 MR. NEVILLE: As far as the
22 four-hour checks on the boiler, during third
23 shift, part of the boiler attendant procedure for
24 this security officer would be to do those checks
25 on the boiler.

1 Now, as far as the monitor position,
2 they would not be operating the boiler. But if it
3 were to go into a fault condition, they would call
4 the maintenance mechanic to troubleshoot that
5 boiler from that point on.

6 MR. BAUGHMAN: So when we say call
7 a maintenance mechanic, that means that a
8 maintenance mechanic or the boiler attendant isn't
9 necessarily on site, but they would be calling one
10 in to come in and attend to it, correct?

11 MR. NEVILLE: That is correct.

12 MR. BAUGHMAN: All right. Well,
13 then, that's contradictory to page 8, which says a
14 boiler attendant shall be on site at all times.

15 MR. NEVILLE: Well, the -- right.
16 In the role that the security officer would be
17 playing, they would be the boiler attendant. Now,
18 the boiler would -- if the boiler went into a
19 shutdown mode, they would call a maintenance
20 mechanic to bring that boiler back on line.

21 MR. BAUGHMAN: But your description
22 for the security officer on page 7 says "monitor
23 only."

24 MR. NEVILLE: Yes.

25 MR. BAUGHMAN: Well, then, he

1 couldn't act as a boiler attendant.

2 MR. NEVILLE: He's attending --

3 MR. BAUGHMAN: It's in parentheses.

4 MR. NEVILLE: Yes.

5 MR. BAUGHMAN: It's in parentheses
6 on page 7, personnel type --

7 MR. NEVILLE: Yes.

8 MR. BAUGHMAN: -- security officer,
9 parentheses, monitor only. So he would not be
10 acting as a boiler attendant if he's monitoring
11 only. He would have to call a maintenance
12 mechanic in. The boiler would then have to be
13 shut down during that period of time until a
14 maintenance mechanic came in to --

15 MR. NEVILLE: That is correct.

16 MR. BAUGHMAN: Okay.

17 MR. NEVILLE: So the security
18 officer's training would be to go to the boiler
19 room, do the log for the boiler. But if the
20 boiler went into a fault condition, they would not
21 be the one troubleshooting that boiler and
22 bringing it online.

23 MR. BAUGHMAN: Okay. Well, I'm
24 still a little confused in the nomenclature,
25 because it does state that he's monitor only.

1 MR. NEVILLE: Yes.

2 MR. BAUGHMAN: And if you have him
3 to do the four-hour checks, he's more than
4 monitoring only. He's acting in a different
5 capacity. So I'm a little confused in that
6 description. What it sounds like is that we're
7 lacking personnel during a particular shift and
8 we're trying to implement a security officer into
9 this position. And the way it's listed in the
10 manual, it doesn't describe that real well.

11 I hear what you're saying, but what's
12 written is different than what you're saying.
13 I'll leave that -- I'll close with that. I've got
14 further comments, but I want to leave that open
15 for some other people to discuss.

16 MR. NEVILLE: Okay.

17 CHAIRMAN MORELOCK: Mr. Baughman,
18 your comment is correct, and I think what might
19 bring clarity is we've seen other variance manuals
20 that have a dedicated boiler monitor that would be
21 a security guard or a PBX or something. But
22 you're right, they would not show up under the
23 boiler attendant procedures. They would need to
24 come under a boiler monitor procedure. Is that
25 what you're kind of getting at?

1 MR. BAUGHMAN: Yeah. I don't
2 see -- I'm a little confused because of the
3 description of "monitor only," and then the
4 description given verbally that the security
5 officer is also acting as a boiler attendant. And
6 I'm a little confused with that, as far as how
7 it's actually being handled.

8 MR. BOWERS: So --

9 CHAIRMAN MORELOCK: Go ahead,
10 Mr. Bowers.

11 MR. BOWERS: Yeah. Definitely, we
12 don't -- the "attendant" is kind of a vague term.
13 Is he a boiler operator or a boiler monitor? I
14 think that's what Dave is trying to get at.

15 MR. NEVILLE: Right.

16 MR. BOWERS: He can't turn the
17 boiler on but yet he can turn it off.

18 MR. NEVILLE: Correct.

19 MR. BOWERS: So I think that's
20 where the description of the attendant may be a
21 little vague, I think.

22 MR. NEVILLE: Right. So the boiler
23 operator would be the maintenance mechanic. But
24 the security officer could fall under the role of
25 a boiler attendant, as far as going to the boiler

1 room and filling out the logs for that four-hour
2 shift.

3 MR. BAUGHMAN: If that's the case,
4 Mr. Neville -- excuse me, Dave Baughman, board
5 member --

6 MR. NEVILLE: Yes.

7 MR. BAUGHMAN: -- then I think
8 under personnel type, it should not be in
9 parentheses "security officer monitor only."
10 Because that adds to some confusion.

11 And in this, we don't have any
12 clarification on a boiler operator. This is
13 either a boiler attendant or a remote attendant.
14 So we don't have anything classified as the boiler
15 operator in this manual. So he's either a boiler
16 attendant and a remote attendant or he's just a
17 remote attendant. But regardless, a boiler
18 attendant shall be on site at all times. So it's
19 important how that security officer is classified,
20 because if he's just being a remote attendant, and
21 then during this shift that we need him to take
22 this monitoring or the boiler logs, to fill out
23 the logs, filling out the logs doesn't necessarily
24 come under a boiler attendant. He's just filling
25 out a log sheet, and he doesn't necessarily have

1 the qualifications of a maintenance mechanic, the
2 background of a maintenance mechanic, the
3 background of a boiler man. All he's doing is
4 coming in and filling out a log sheet. And I
5 don't necessarily think that that adds to the
6 level of safety of what we're trying to get at
7 through this remote variance.

8 There again, that's somewhat of an
9 opinion, but I think it's pretty clear a security
10 officer is good at monitoring, is probably not as
11 functionally adept at boiler operations.

12 MR. NEVILLE: And we agree. I
13 believe the clarification there was showing that
14 the security officer is not a qualified boiler
15 operator. So they are not -- they would not be
16 qualified to operate the boiler, you know, from a
17 fault, a boiler fault position. That's why a
18 maintenance mechanic would have to be the one to
19 restart a boiler, you know, from a situation like
20 that. So what we were trying to do is identify
21 that the -- what the security officer would do,
22 you know, in that shift, that monitoring
23 operations are his qualification, not boiler
24 operations.

25 MR. BAUGHMAN: Okay. Well, then,

1 on page 8 where it says "boiler attendant shall be
2 on site at all times," then that would be struck
3 because there is not a boiler attendant on site at
4 all times. There's remote monitoring attendants
5 but not necessarily a qualified boiler attendant.

6 CHAIRMAN MORELOCK: So,
7 Mr. Neville, I'm not going to tell you how to
8 write your manual, but maybe a suggestion would be
9 if you're going to have the security officer to be
10 a monitor only, maybe you should have sections in
11 this manual to have procedures for normal daily
12 activities for the security officer as well as
13 emergency procedures as the emergency monitor --
14 or monitor only. Would that satisfy your --

15 MR. NEVILLE: We can add those.

16 MR. BAUGHMAN: Yes. I believe that
17 would help in the clarification of it. I'm still
18 looking for some delineation between what is --
19 who is doing what and when, I guess, and the level
20 of competency of those people. So I guess I'm
21 still grasping at that.

22 MR. TOTH: (Indicating.)

23 CHAIRMAN MORELOCK: Mr. Toth?

24 MR. TOTH: Yes, Mr. Chairman. I
25 think the biggest concern that we have -- because

1 I have quite a few clients myself, just as
2 Mr. Neville does, that utilize security forces as
3 the boiler attendant. I'm concerned in that
4 support, what Mr. Baughman is saying, 100 percent.
5 The security force has to still be -- if they are
6 serving the role as the attendant, per Tennessee
7 law, they still have to be certified. That
8 certification comes from the certification, in
9 this case here, Southern Hills. But it also has
10 to be acceptable to the Board because we are
11 extending it out four hours.

12 If it is a security guard every
13 20 minutes that's required to go take readings,
14 that's one thing. It sounds to me like they're
15 not going to have maintenance individuals on site,
16 which does not follow the standard law that you
17 have to have a certified boiler operator on site
18 24/7 for a high-pressure boiler.

19 What we do with our clients is those,
20 that security force that serves that role, has to
21 go through and pass the same course, take the same
22 exam that the maintenance personnel or the
23 everyday boiler operator has to take. So if they
24 don't pass that exam, they're not able to stay in
25 that post. So I just wanted to add that into the

1 mix. Thank you.

2 CHAIRMAN MORELOCK: Thank you,
3 Mr. Toth.

4 What other comments does the Board
5 have?

6 MR. BOWERS: This is Harold Bowers.

7 And I agree with Dave and Marty.

8 Basically, you've got to have somewhere
9 difference -- you don't have to actually have a
10 boiler operator, per se, or -- but you've got to
11 be more than a remote attendant. You know, I've
12 had a situation with one of my clients where the
13 security guard went down there and he checked on
14 the boilers and an incident happened and he didn't
15 know how to take care of it.

16 And so if they need more training
17 than just somebody to fill out a log -- you need
18 to know how to -- you might not have to have the
19 full qualifications of actually a boiler operator,
20 starting a boiler, but he needs to know how to
21 look for emergency situations and handle those
22 situations. So his training must be more than
23 just walking through the boiler room and signing a
24 log. That's my comment.

25 CHAIRMAN MORELOCK: Thank you,

1 Mr. Bowers.

2 MR. TOTH: (Indicating.)

3 CHAIRMAN MORELOCK: Mr. Toth?

4 MR. TOTH: Yes. Just to kind of
5 add on to what Mr. Bowers said, in a lot of our
6 manuals where we do have a security force that's
7 the boiler attendant, we specifically state within
8 those manuals that those -- we call them boiler
9 guards -- they are not authorized to restart the
10 boiler.

11 At that particular time is when they
12 would call in a different technician. But because
13 they are certified as a boiler attendant, they are
14 able to stay in that post. The client just
15 chooses not to allow that particular boiler guard
16 to restart the boiler.

17 MR. NEVILLE: And that's the same
18 situation that we're proposing in this. Now, you
19 know, if the security officer in that role is, you
20 know, not acceptable, the hospital could look at
21 having maintenance mechanics around the clock.
22 But that isn't what they initially proposed.

23 MR. BAUGHMAN: This is Dave
24 Baughman, board member.

25 I guess one of the issues gets back

1 to training. As we know, the security officers,
2 that position can change. And so because of that,
3 then you have this constant training that's having
4 to come about. And then that gets down to page 5
5 under training where it says the remote attendant
6 variance training is provided by the PBX
7 supervisor or the maintenance mechanic.

8 And when you refer back to page 7,
9 under -- and that's under the personnel
10 responsible for remote monitoring. When you go to
11 the training under the boiler attendant
12 procedures, page 7, it says the maintenance
13 mechanic, referencing Terry Armstrong, shall be
14 responsible for training all incoming personnel
15 assigned to boiler duties and for keeping a
16 documentation log of initial training and training
17 thereafter.

18 So it lists the maintenance mechanic
19 responsible for training all incoming personnel,
20 but it also gives the PBX supervisor or the
21 maintenance mechanic on the previous page and --

22 MR. NEVILLE: Well, there's two
23 different -- one is the training for the boiler
24 attendant, and the other is the remote monitor at
25 the PBX. So I guess there's two different

1 positions that they're training there.

2 MR. BAUGHMAN: Okay. So the
3 security officer would fall under both. He would
4 fall under the PBX operator or the maintenance
5 mechanic for the remote monitoring, and he would
6 also be trained by the maintenance mechanic for
7 the boiler attendant procedures; is that correct?

8 MR. NEVILLE: That is correct.
9 That is correct. Because there's two separate
10 responsibilities for either side.

11 MR. BAUGHMAN: Okay. So any time
12 we have a personnel change, that would go back
13 through that training procedure.

14 MR. NEVILLE: That is what we are
15 proposing, yes.

16 MR. BAUGHMAN: Thank you,
17 Mr. Neville, for the discussion. I'll carry on
18 with some other questions I have. How many
19 maintenance mechanics do we have on staff?

20 MR. NEVILLE: Mr. Lytle can answer
21 those questions. I believe we show them in the
22 organizational chart.

23 MR. LYTLE: We have six individuals
24 on maintenance staff, and we have five actual
25 mechanics.

1 MR. BAUGHMAN: Very good. So the
2 maintenance mechanics would be the three that
3 would be qualified under boiler attendants; is
4 that correct?

5 MR. LYTLE: That would be correct.

6 MR. BAUGHMAN: Okay. So if we've
7 got one per shift or what have you, I guess my
8 question revolves, then, around -- and, of course,
9 this is more of the logistics for you guys, but if
10 one gets sick, if two get sick, that starts
11 relying back to one particular boiler attendant
12 other than the security officer who is not
13 qualified to restart the boiler and what have you.
14 Is there anybody else that's going to be qualified
15 under boiler attendant other than the maintenance
16 mechanic and security officer that's listed?

17 MR. LYTLE: That would be our
18 intent, would be those individuals, maintenance
19 and security, would be in those positions.

20 MR. BAUGHMAN: What's the
21 contingency if anybody is sick or out and you're
22 down to a limited number of personnel?

23 MR. LYTLE: We double up our
24 shifts.

25 MR. BAUGHMAN: Okay.

1 MR. LYTLE: We had a similar
2 situation, because the crew got hit with COVID and
3 me and Terry Armstrong pulled double duty to make
4 sure that we maintained coverage for not only the
5 hospital but the boilers as well. So it's not
6 something unusual that we haven't had to actually
7 have life experience and live through.

8 MR. BAUGHMAN: Got you. So you're
9 going to be listed as a boiler attendant yourself?

10 MR. LYTLE: Yes.

11 MR. BAUGHMAN: Okay. Do we need to
12 add that to the list of those personnel type that
13 are listed under the boiler attendant on page 7?

14 MR. NEVILLE: We can add those,
15 definitely. I mean, I guess, in that capacity, he
16 was, you know, taking the duties of a maintenance
17 mechanic at that time. But we can add him, you
18 know, as well. It's not a position that is
19 common.

20 MR. BAUGHMAN: You bet. And the
21 reason I ask is because it goes from
22 administrative, being a director, to being more of
23 an attendant to being equipment oriented. And not
24 to talk down on any administrators by any stretch,
25 but I know of some administrators that would not

1 necessarily be very comfortable in the operation
2 of a boiler attendant. But I take it that
3 Mr. Lytle is going to be qualified under the same
4 training as what the other personnel are. Is that
5 correct?

6 MR. LYTLE: That would be correct.

7 MR. BAUGHMAN: Very good. Thank
8 you, Mr. Lytle.

9 Getting down to the bottom of my
10 list, Mr. Neville. Thank you.

11 That gets into the hardware.

12 MR. NEVILLE: Okay.

13 MR. BAUGHMAN: You describe a
14 remote monitoring system, and we've got that
15 listed under Appendix B, description, which is the
16 Honeywell RM7800, which is a Flame Safeguard
17 programmer. It says it's remotely controlled via
18 the communications interface. I don't see the
19 description of the communication interface. The
20 words "remotely controlled" bothers me somewhat.
21 I don't mind "remotely monitored," but "remotely
22 controlled" is kind of a keyword.

23 MR. NEVILLE: And it wouldn't be
24 just remotely monitored. You know, there is an
25 e-stop at the remote station. But that's all

1 we're talking about there.

2 MR. BAUGHMAN: Okay. In the
3 description for the hardware, it says that the
4 remote or the controls that you've got that are
5 installed or shall be installed are going to
6 enunciate all the different parameters that we
7 need to have enunciated. And it refers to
8 Appendix C for the RM7800.

9 MR. NEVILLE: Yes.

10 MR. BAUGHMAN: But nowhere in the
11 7800 do I see where it enunciates the fault codes
12 for, let's say, low water, primary or secondary.
13 It's got nowhere to enunciate high and low gas
14 switches.

15 Many other systems, whether it be a
16 Hawk or the others that we look at in the
17 industry, remotely enunciate these conditions.
18 And what we've got here is a flame safeguard
19 programmer that I think we're tying in. I'm just
20 reading between the lines, but I think we're just
21 tying in through the mod bus on this programmer to
22 enunciate the fault codes that the programmer
23 gives.

24 And I would like to know more about
25 the actual remote monitoring hardware that's used

1 on this boiler.

2 MR. NEVILLE: I can get some more
3 information to you on that. But -- let's see what
4 I've got. I'll have to get some more information
5 to you, Mr. Baughman, on that. I don't have that
6 in front of me.

7 MR. BAUGHMAN: So what we've got is
8 not a complete description, then, of the remote
9 monitoring hardware that's actually with this
10 boiler, other than what the Flame Safeguard
11 programmer is.

12 MR. NEVILLE: That is correct. At
13 least, what I've listed on the controller now.

14 MR. BAUGHMAN: The only other
15 question I have, Mr. Neville --

16 MR. NEVILLE: Yes.

17 MR. BAUGHMAN: -- is just
18 quantifying the DA, that the DA is not actually a
19 true DA, but it is just an atmospheric feedwater
20 system.

21 MR. NEVILLE: That is correct.

22 MR. BAUGHMAN: And just for that,
23 we would identify that in the industry as a boiler
24 feedwater system atmospheric since it's not a true
25 deaerator.

1 MR. NEVILLE: Okay. On the
2 nameplate, they list it as a deaerator, and that's
3 why, so...

4 MR. BAUGHMAN: Interesting. Being
5 that they list it as Lockwood lists it --

6 MR. NEVILLE: Well, not Lockwood.
7 I mean, this is the tag that is on it from the
8 hospital, lists it as a deaerator, so...

9 MR. BAUGHMAN: I see.

10 MR. NEVILLE: That's what I took
11 from that, so...

12 MR. BAUGHMAN: Okay.

13 MR. NEVILLE: But it is an
14 atmospheric feedwater.

15 MR. BAUGHMAN: Very good. Thank
16 you very much for that. I appreciate it. Thanks
17 again, very much, for listening and going over
18 some of these questions.

19 MR. NEVILLE: Sure.

20 CHAIRMAN MORELOCK: Thank you,
21 Mr. Baughman.

22 Any other questions or comments from
23 the board members or anyone else on this call?
24 Does anybody have any questions about this
25 variance proposal?

1 MR. BOWERS: This is Harold Bowers,
2 board member.

3 The comment I want to make is going
4 into -- back to the security officer, going to
5 Appendix G-2. We're talking about a boiler -- we
6 talk about training for the security officer, a
7 remote station attendant training. We should -- I
8 recommend we should add boiler attendant training
9 to that. So not only does the security officer
10 have the remote station attendant training, he
11 should have boiler attendant training where he
12 knows what to do in a situation and how he can
13 handle emergency situations and maybe a checklist
14 of what he needs to do if something goes wrong.
15 Because you're talking about something going wrong
16 and calling a maintenance guy. And there's
17 sometimes a lot more than just hitting the e-stop.
18 There's certain situations you need to secure the
19 boiler to put it in a safe situation.

20 And going back to a story of one of
21 my clients -- this is embarrassing, but they had a
22 blow-out near the nozzle. The fire was coming out
23 the side of the boiler three foot, and the
24 security guard, slash, boiler attendant, instead
25 of shutting the boiler down, is looking for a fire

1 extinguisher. So it's knowing exactly what to do
2 in an emergency situation and how to handle that
3 situation. So if the person is going to be a
4 boiler attendant, he needs to know how to handle
5 emergency situations. That's my comment.

6 CHAIRMAN MORELOCK: Thank you,
7 Mr. Bowers.

8 Any additional comments, questions?

9 MR. BAUGHMAN: Yes. I'll continue,
10 if that's okay. This is Dave Baughman, board
11 member.

12 So going to Appendix 1, the checklist
13 for the variance request review, for one, I just
14 made a comment that the power piping system
15 drawing that you provided --

16 MR. NEVILLE: Yes.

17 MR. BAUGHMAN: -- my glasses
18 weren't quite strong enough without using a
19 magnifier, but in Appendix E, the E-1, I found it
20 a little difficult to track that drawing. And
21 within the other diagram that was below it, I
22 found it a little difficult -- I see existing
23 boiler and then new boiler. I didn't quite get a
24 good understanding of what boilers were which
25 under that drawing, just for what it was worth.

1 MR. NEVILLE: We listed them as
2 B-1, B-2, and B-3. I don't know if you can make
3 that out. We can make that clearer and we could
4 possibly put that on two sheets and it may improve
5 the readability of that.

6 MR. BAUGHMAN: I do see that. And
7 that would correlate to Appendix A and the boiler
8 data sheet to Boiler 1, Boiler 2, and Boiler 3.

9 MR. NEVILLE: That is correct.

10 MR. BAUGHMAN: Okay. Very good. I
11 appreciate that.

12 MR. NEVILLE: I guess the text on
13 the first one was kind of small in that regard as
14 well, so we can definitely enlarge that and make
15 that a clearer diagram.

16 MR. BAUGHMAN: All right.

17 On the second page, I-2, does the
18 manual include a description of the system that is
19 used to monitor the safety aspects? And it gives
20 Appendix B, the equipment.

21 But that goes back to my earlier
22 comments about the lack of the actual remote
23 monitoring. It gives us the Flame Safeguard
24 programmer, but it didn't give a good overall view
25 of the hardware that is being utilized and a

1 description of that hardware. And that follows
2 back over into I-3, the next page. Does the
3 manual include, on Item 19, a description of the
4 computerized monitoring system, the hardware, the
5 remote alarm system?

6 I know in some other manuals that we
7 have, we actually have pictures presented of the
8 remote alarm system.

9 MR. NEVILLE: Right.

10 MR. BAUGHMAN: It gives somewhat of
11 a description.

12 MR. NEVILLE: Yeah. That has not
13 been installed yet, the remote station shutoff.
14 We're proposing putting that in. It has not been
15 installed as of yet.

16 MR. BAUGHMAN: When is that
17 proposed installation coming about?

18 MR. NEVILLE: Mr. Lytle could
19 answer that, as far as the implementation of that
20 remote station.

21 MR. LYTLE: The remote station has
22 just been installed by Industrial Boiler, and
23 we've tested it and it's functional.

24 MR. BAUGHMAN: Okay. So to
25 clarify, it actually is installed. But there

1 again, there's a lack of description. It says,
2 "Does the remote monitoring system prevent
3 unauthorized access?"

4 The programmer itself just says that
5 it's remotely monitored via the communications
6 interface. The mod bus interface on that RM7800
7 just gives enunciation, and it has -- there's --
8 my experience is that remote -- that mod bus
9 doesn't have anything that's -- the programmer
10 itself is not password protected for the standard
11 RM7800. So unless you can produce anything that
12 quantifies this, I'm --

13 MR. NEVILLE: Right. What I can do
14 is add some pictures now, that the -- when we
15 wrote this, this was back in September of 2020.
16 So the remote station has been installed. We can
17 add some pictures of the remote station and a
18 little more clarification, as far as the hardware
19 interface to it.

20 MR. BAUGHMAN: Okay. So we're a
21 little bit ahead of the game on this. We're
22 making a proposal back in September or making the
23 submittal for equipment that hadn't been
24 necessarily --

25 MR. NEVILLE: Well, it hasn't been

1 installed.

2 MR. BAUGHMAN: -- installed or
3 procured. But it is now, but we're lacking in
4 that information to review for our own purposes
5 here, is what I'm getting at.

6 On page I-4, under Item 36, "Does the
7 manual include a test of the systems, the boiler
8 water column, the remote monitoring?"

9 It itemizes that. It says yes to all
10 of those on page 7 through 9. But in going
11 through page 7 through 9, I would like you to --
12 unless I've missed it, which isn't unusual, I
13 cannot see where the systems are necessarily
14 tested, nor a direct -- in direct regard to boiler
15 water column. Can you, kind of, point that out to
16 me?

17 MR. NEVILLE: I guess, under
18 page 7, normal daily duties, Number 1, I guess,
19 under the daily test would be there. We can add
20 some verbiage as far as boiler water column there,
21 but I guess the daily test and the boiler log
22 would be the reference there.

23 Let's see if we've got another
24 reference to it. As far as -- that would be the
25 location where I would typically have -- but it

1 does need to be a little more descriptive than the
2 daily test, as far as that.

3 MR. BAUGHMAN: So on the checklist,
4 the checklist, I guess, what I'm getting at is
5 incorrect. Inasmuch as you reference pages 7
6 through 9, the 7 through 9 does not include a test
7 of the systems, the boiler water column, the
8 remote monitoring and any others. So I would
9 leave that open to others for any discussion. But
10 I don't see where that's actually in your
11 checklist.

12 MR. NEVILLE: Well, in our boiler
13 log it shows up, as far as the test.

14 MR. BAUGHMAN: Right. But it
15 doesn't -- so in your checklist, your boiler --
16 your checklist for a variance request review --

17 MR. NEVILLE: Yes.

18 MR. BAUGHMAN: -- that information
19 under Item 36 is erroneous, being that you
20 reference page 7 through 9. And it is referenced
21 in your boiler log, you say, so --

22 MR. NEVILLE: Well, I guess we're
23 listing the retained daily tests, and -- on
24 page 7. And so, I guess, it could be clearer, as
25 far as the list of those daily tests in Number 1.

1 But it shows up on our boiler log, as far as the
2 water column test, so...

3 MR. BAUGHMAN: Okay. Because 7
4 through 9 does not really describe any tests. It
5 talks about a radio check. It describes a test of
6 the remote enunciation system, but does not
7 necessarily go over those specific tests. And so
8 they'll be in the log sheet. I want to make sure
9 that the log sheet themselves, which is what,
10 Appendix F?

11 MR. NEVILLE: Yes.

12 MR. BAUGHMAN: So the log sheet
13 itself shows power --

14 MR. NEVILLE: Systems test.

15 MR. BAUGHMAN: -- test. Which I
16 don't quite know what "systems test" means. It
17 shows water level and steam pressure, so it does
18 qualify some under the systems. Boiler water
19 column, I guess, would be water level, but it's
20 not a true test. And we're going to discuss this
21 further coming up with our checklist information
22 that we're looking at discussing.

23 But the log sheet doesn't necessarily
24 have anything under -- I guess it would fall under
25 systems test --

1 MR. NEVILLE: System test
2 monitoring. Right. System test would be -- you
3 know, what would really, I guess, make this clear,
4 as far as on page 7 where I say, you know, perform
5 routine daily test, listed, it's a test of boiler
6 water column -- there's other tests they can
7 perform to check the system and that the alarms
8 are enunciating at the remote station.

9 But I can add clarification that
10 those tests include the boiler water column.

11 MR. BAUGHMAN: Okay. I'd just
12 suggest the pages for the references are just for
13 our own end of it. It makes it easy for us to go
14 back to those pages. But I would probably suggest
15 where there is a reference to test, that it
16 actually would say boiler log sheet or see
17 Appendix F, boiler log sheet or something to that
18 extent. Because for me, it takes up the time,
19 then, to go through 7 and 9 and --

20 MR. NEVILLE: Yes.

21 MR. BAUGHMAN: -- I'm trying to get
22 clarification.

23 MR. NEVILLE: I'll make that more
24 concise, for sure.

25 MR. BAUGHMAN: All right. Thank

1 you so much, Mr. Neville and Mr. Lytle.

2 CHAIRMAN MORELOCK: Any other
3 questions or comments?

4 (No verbal response.)

5 CHAIRMAN MORELOCK: Hearing none,
6 do I have a motion for this variance?

7 MR. BAUGHMAN: So I've got -- this
8 is Dave Baughman, board member. I've got
9 something to just bounce off of whether we vote
10 yea or nay on this or whether we resubmit. My
11 feeling on this, Mr. Neville and Mr. Lytle, is
12 that I don't have all the information needed from
13 a standpoint to make a competent decision. And I
14 know that you've said, well, I can get that
15 information to you.

16 But what we've done is we've made a
17 proposal for this variance before any equipment
18 was installed, and now it's just recently been
19 installed. But I don't have all the information
20 in this manual to make a competent review of what
21 it is that's been installed to be able to vote on
22 it. And so I want to bring that up to see whether
23 or not it's applicable to -- instead of approving
24 or denying, of whether to ask for more
25 information, and resubmittal.

1 MR. NEVILLE: Just resubmit?

2 MR. BOWERS: This is Harold Bowers,
3 board member.

4 Yeah, I kind of agree with what Dave
5 is saying. You know, I would like to see some
6 more stuff added about boiler attendant and
7 security officer. And if we could get that in
8 there, some information before the next meeting.

9 CHAIRMAN MORELOCK: So,
10 Mr. Neville --

11 MR. NEVILLE: We can resubmit with
12 that information.

13 CHAIRMAN MORELOCK: Okay.
14 Mr. Neville, as far as this item, do we want to
15 table this item until the next Boiler Board
16 meeting and resubmit?

17 MR. NEVILLE: Yes.

18 CHAIRMAN MORELOCK: Okay. Let me
19 make some quick notes. So Item 21-01 will be
20 tabled and resubmitted for the June Tennessee
21 board meeting. Is that correct?

22 MR. NEVILLE: Yes.

23 CHAIRMAN MORELOCK: Okay. Do the
24 board members have any comments or concerns about
25 that? Is that satisfactory?

1 MR. BAUGHMAN: I think it's good.

2 And, Mr. Neville and Mr. Lytle, I
3 sure appreciate you going through and addressing
4 these questions and concerns. You did very well,
5 but I appreciate that very much.

6 CHAIRMAN MORELOCK: Okay. So this
7 item will be tabled for the June 2021 Tennessee
8 Board meeting, and the manual will be resubmitted.

9 MR. NEVILLE: Yes.

10 CHAIRMAN MORELOCK: Okay. All
11 right. I'm seeing that we've been meeting for
12 about an hour and 15 minutes, and I think it would
13 probably be prudent to give everybody a ten-minute
14 break before we go to our next item. So let's
15 reconvene at, let's say, 10:25.

16 (Recess observed.)

17 CHAIRMAN MORELOCK: So that
18 concludes our new business.

19 So we're going to go on down to Rule
20 Case and Interpretations. And our first item is
21 BC 21-01. STERIS Corporation requests an
22 exemption from clearance and from boiler attendant
23 requirements for their steam sterilizer
24 installations in the state of Tennessee.

25 So if everyone will introduce

1 themselves. And before you do that, are there any
2 conflicts of interest from any of the board
3 members?

4 MR. BOWERS: It could be on me. I
5 do -- Vanderbilt Hospital is one of my accounts.
6 And we made a -- me and Chris and -- we made a
7 visit yesterday to one of those accounts. And I'm
8 not sure -- but these STERIS units are used all
9 over the country, so I'm not sure -- just because
10 they have it in a few hospitals that we insure, if
11 that would be a conflict or not.

12 CHAIRMAN MORELOCK: Mr. Bailey, do
13 you have any thoughts on that?

14 MR. BAILEY: Yeah. I don't think
15 that poses a conflict of interest.

16 CHAIRMAN MORELOCK: Okay. All
17 right. Thank you, sir.

18 MR. PURI: I'm sorry, Mr. Chairman.
19 This is Chris Puri. I'm an attorney for STERIS.

20 We had provided the Board some
21 materials in advance of the meeting with
22 background on a proposal, and we would like to
23 make some remarks. I'm going to turn it over to
24 Ms. LaFrance to walk through the variance request
25 and the waiver.

1 CHAIRMAN MORELOCK: Very good.

2 Thank you.

3 MS. LaFRANCE: Okay. Is everyone
4 set? Can you hear me okay?

5 CHAIRMAN MORELOCK: Yes.

6 MS. LaFRANCE: Great. I'll just go
7 ahead and read our board inquiry: May a steam
8 sterilizer manufacturer licensed to provide
9 ASME-certified pressure vessels obtain a blanket
10 exemption from the Tennessee side and rear
11 clearance requirements stated in
12 Rule 0800-3-3.04(13)(a) for a particular steam
13 sterilizer model if it has been properly designed
14 to provide front-only access to all components and
15 sufficient clearance for normal operation,
16 maintenance, and its inspection per NBIC
17 Section 4.32?

18 And our reply is: It is the opinion
19 of the Board, as long as the sterilizer
20 manufacturer in question provides access to all
21 components from the front of the specified model
22 steam sterilizer and sufficient clearance for a
23 normal operation, maintenance and inspection per
24 NBIC Section 4.3.2, that a blanket exemption from
25 the side and rear clearance requirements stated in

1 Tennessee Rule 0800-3-3.04(13)(a) for that model
2 will be granted.

3 Now, that's it for the inquiry. I'd
4 like to thank all the board members for taking the
5 time to review our materials and to hear our
6 clearance waiver request for the AMSCO 600 here
7 today.

8 I'm Marie LaFrance, the senior
9 product manager for a high-temperature sterilizer
10 at STERIS. And today I have with me Roger
11 Andrusky from our service engineering department;
12 Mark Chiffon, our director of R and D; Vito
13 Scotese, who is also from our engineering
14 department; and Sam Watkins, our marketing
15 director. He's joining us remotely.

16 We also have a sterilizer available
17 today if anyone would like to see it or if you
18 have any questions. We have all our technical
19 folks here ready to assist. I'll step aside a
20 second so you can see. We're in our customer
21 solutions center and we actually have a sterilizer
22 here that we can take the covers off and show you
23 anything you'd like.

24 CHAIRMAN MORELOCK: Very good. So
25 I will open it up for questions. I guess, before

1 we -- do we need a motion to discuss, first?

2 MS. LaFRANCE: I had some, sort
3 of -- some short comments, if you don't mind.

4 CHAIRMAN MORELOCK: Okay.

5 MS. LaFRANCE: Would that be okay
6 with you?

7 CHAIRMAN MORELOCK: That's
8 perfectly fine.

9 MS. LaFRANCE: Perfect. Okay.

10 The AMSCO 600 steam sterilizer was
11 specifically designed by STERIS to meet our
12 customers' needs. As you can see from the letters
13 of support that we submitted from USPI, Benson
14 Method, and AdvaMed. When STERIS develops a steam
15 sterilizer, I would like to assure you that safety
16 is our number one concern, you know. We want it
17 to be safe for operators, service people and
18 inspectors alike, and we ensure that it provides
19 effective sterilization, so it's also safe for
20 patients.

21 So the AMSCO 600 steam sterilizer was
22 actually designed per the NBIC guidance for full
23 frontal access to accommodate all operation,
24 maintenance, and inspection needs. Our chamber is
25 ASME certified, and the sterilizer has been

1 cleared for use by the FDA.

2 When we designed the sterilizer, we
3 focused on critical areas to ensure that all the
4 features were accessible through the front panel
5 only, including the power and control boxes which
6 face forward to meet any steam clearance
7 requirements. The safety valves for the
8 sterilizer and steam generator are easily
9 accessible from the front of the machine for
10 inspection and/or testing.

11 The generator sight glass is located
12 front and center for easy viewing. The generator
13 heaters are easily removable from the front of the
14 machine. And finally, the sterilizer and
15 generator data plates are all visible from the
16 front of the machine.

17 Since every component is accessible
18 from the front, additional side and rear clearance
19 really affords no advantage from an inspection and
20 service perspective, and so it does not improve
21 safety.

22 In addition, there's always going to
23 be sufficient plans in front of the sterilizer
24 because this is the space that is required for
25 operators to load and unload the machine. And we

1 clearly indicate this on all our equipment
2 drawings.

3 In summary, this sterilizer design
4 allows hospitals and other surgical procedure
5 sites to maximize space in their sterile
6 processing departments, contain costs, and it
7 significantly increases their capacity to process
8 instruments.

9 Of course, we realize there's going
10 to be questions. This is a new design and there's
11 going to be some questions by different
12 localities. And where necessary, STERIS has
13 worked with other states to ensure that our
14 customers are able to install these units as we
15 intended.

16 So I would like to thank you again
17 for your consideration of this waiver request. I
18 really believe it's going to help our customers to
19 meet the healthcare needs of Tennesseans
20 efficiently and effectively. And at this point, I
21 would love to open it up to the board members for
22 any questions you may have.

23 CHAIRMAN MORELOCK: Thank you very
24 much. What questions or comments do we have from
25 the State of Tennessee and the board members?

1 MR. BOWERS: This is Harold Bowers.

2 I make a motion to discuss.

3 CHAIRMAN MORELOCK: Thank you,
4 Harold.

5 Do I have a second?

6 MR. BAUGHMAN: Second.

7 CHAIRMAN MORELOCK: Thank you,
8 Mr. Baughman.

9 So we have a motion and a second to
10 discuss. So what questions or comments do you
11 have?

12 MR. BOWERS: This is Harold Bowers,
13 board member. I'm also a boiler inspector.

14 Yesterday, me and Mr. Baughman and
15 Mr. O'Guin went to a site. Now, we're not -- I
16 think this site had the new unit on there. But
17 the question I have is there's certain
18 information -- in those units, you actually have
19 two jurisdictional objects. You have an unfired
20 pressure vessel with Autoclave. Then you have a
21 high-pressure steam boiler, is the generator. To
22 register those objects, first you have to get your
23 nameplate off your -- off the Autoclave. Then
24 you're going to have to get the nameplate off the
25 steam generator.

1 Yesterday, the unit we looked at, you
2 could read the nameplate off the Autoclave, which
3 was not in the front. I don't think there's any
4 way possible that you could read the nameplate off
5 the steam generator from the front.

6 Secondly, you have to -- as an
7 inspector, we have to check the safety valves on
8 those. On the Autoclave, it had two safety
9 valves, and on the steam generator, it had one
10 safety valve. And you have to get that
11 nomenclature off those safety valves to make sure
12 that they match the set pressure of the MAWP of
13 the design vessels.

14 Also, you have to look at the
15 capacity of the safety valve setting to make sure
16 it meets the capacity of the steam going into that
17 unit. And I don't think there's any way
18 possible -- and maybe they can show us -- they
19 have one, an Autoclave right there -- they can
20 show us how to read the capacity and set value off
21 that safety valve, since they have a unit right
22 there, show us how they can read the nameplate off
23 the steam generator by opening up the front. If
24 they can do that, I'd be more than happy --
25 they've put together a great presentation here, a

1 lot of literature.

2 But I have to -- usually, we have to
3 see it actually happening, not on paper. Because
4 we're the ones who are going to have to crawl on
5 the floor and try to get that information. We
6 have to have that information to submit a correct
7 inspect report to the State of Tennessee. And
8 Mr. O'Guin can verify that. And he was with me
9 yesterday. Thank you.

10 MS. LaFRANCE: Okay. So we'll have
11 Mark Chiffon and Vito show you what's on the
12 sterilizer. Mark is going to share his screen on
13 his phone so that we can use his phone as a camera
14 so you can see the sterilizer.

15 Mark, do you have voice?

16 MR. CHIFFON: (No verbal response.)

17 MS. LaFRANCE: Mark, do you want me
18 to hold the phone and you can explain?

19 MR. CHIFFON: If you want.

20 MS. LaFRANCE: Can you-all see the
21 safety valves on top of the machine?

22 CHAIRMAN MORELOCK: Yes.

23 MR. BOWERS: Yes.

24 CHAIRMAN MORELOCK: Very good.

25 MS. LaFRANCE: Mark is going to

1 describe what you're seeing.

2 MR. CHIFFON: So we have a separate
3 safety valve. There's one on the sterilizer
4 chamber, and there's one on the sterilizer jacket.
5 So we have two steam supplies coming to this
6 system, so we have two safety valves that are
7 located on the vessel. So these are the two
8 safety valves that are on top of the vessel that
9 are used to protect it and are rated for the
10 appropriate flow through the system and the
11 pressure.

12 MR. BOWERS: Can you show me the
13 National Board plate on the Autoclave?

14 MR. CHIFFON: The National Board
15 plate? Yes. Yes. So this is the National Board
16 plate. These pressure vessels aren't manufactured
17 by STERIS. This is the information that we have.
18 They're all rated to the same values. So it's a
19 family of sterilizers. It's the AMSCO 600.
20 There's three different links that we sell this
21 as. And we could have one door in the front or we
22 could have sterilizers with a door in the front
23 and a door in the back.

24 But the pressure ratings are all the
25 same. The materials of construction are all the

1 same. And the manufacturing and welding of the
2 systems are all the same.

3 MR. BOWERS: This is Harold Bowers,
4 Boiler Board member.

5 So you're saying, on these
6 sterilizers, not only would the inspector have
7 front access, they would have rear access. But
8 they would not have side access; is that correct?

9 MR. CHIFFON: We have sterilizers
10 with a single door or a double door. The
11 sterilizers with a single door, we would have
12 access from the front only. The sterilizers with
13 two doors, you would have access from both ends of
14 the sterilizer.

15 MR. BOWERS: Okay. Moving on to
16 the steam generator, can you get to the National
17 Board plate on the steam generator?

18 MR. CHIFFON: Yes. Also, that
19 steam generator is an option. So there are some
20 sterilizers that will have the steam generator and
21 some sterilizers that will not have the steam
22 generator. So we have that option from that
23 standpoint.

24 So we have looked at mounting the
25 plate on the system. I think some of the very

1 early ones we had the location in other places.

2 But we've since --

3 MS. LaFRANCE: This is a prototype
4 machine that we have in our customer visitor
5 center, so it doesn't have the data plate for the
6 generator on it, but we're going to show you the
7 location -- we'll show you the plate and the
8 location that it will be.

9 MR. CHIFFON: So the plate is
10 mounted on the front of the generator next to the
11 electrical box. And it's going to be right behind
12 the panel in the front. So that's also removable
13 in order to be able to see that particular data
14 plate.

15 MR. BOWERS: This is Harold Bowers,
16 board member.

17 See, that would be imperative. It
18 has to have that plate visible from the front even
19 to register that unit.

20 Now, let's go on to the safety valve
21 on that unit.

22 MS. LaFRANCE: Okay. Let me get a
23 picture up here for you.

24 MR. CHIFFON: Safety valve of the
25 generator?

1 MS. LaFRANCE: The safety valve of
2 the generator.

3 These phones are great tools.

4 MR. CHIFFON: It's not working yet.
5 There you go.

6 MS. LaFRANCE: Okay. We're not
7 focused, but that's the valve. Okay. We were
8 frozen a bit.

9 MR. CHIFFON: So that's the relief
10 valve that's located on the steam generator.

11 MR. BAUGHMAN: This is Dave
12 Baughman, board member.

13 Can you pan back from the unit
14 itself, from that relief valve, instead of having
15 it up inside, to show us the location, please?

16 MS. LaFRANCE: It's just catching
17 up. There it is, right there.

18 You can move your arm, Vito.

19 MR. BOWERS: Harold Bowers, board
20 member. It looks like the safety valves are
21 pretty clear. The nameplate for the Autoclave
22 looks to be in a good location. I guess my main
23 concern would be the National Board plate on the
24 steam generator itself, as far as for inspection
25 purposes only.

1 MS. LaFRANCE: Right. Well, the
2 reason it's placed where it is, is because it's
3 supposed to be -- it's my understanding it's
4 supposed to be on the pressure vessel, so that's
5 the reason it is where it is.

6 MR. BAUGHMAN: Dave Baughman, board
7 member.

8 Would you pan to the sight glass,
9 please, the water level sight glass?

10 MR. CHIFFON: (Complies.)

11 MR. BAUGHMAN: Very good. So what
12 I was looking at was where this sight glass ties
13 into the boiler itself for good means of
14 equalization and the accessibility for checking
15 those ports for cleanliness, for plugging up and
16 so forth. So I see -- I guess I'm trying to
17 get -- so when we looked at this the other day at
18 the job site, one of the main issues I had was the
19 water in the sight glass was full, and the sight
20 glass valves were shut, which is not --

21 MR. CHIFFON: Correct. Correct.

22 MR. BAUGHMAN: -- per operational
23 design code itself. What I was looking at was
24 means of being able to clean the sight glass or
25 drain the sight glass. And what we've got is a

1 gauge that's mounted at the bottom of the sight
2 glass instead of any kind of apparatus to drain
3 the sight glass itself. Of note, also, it was a
4 heavy-wall sight glass, but it did not have any
5 writing on it pertaining to Duran or Shotz or any
6 of the manufacturers that manufacture a rated
7 high-pressure glass. And so, made notation of
8 that, that the glass did not have the appropriate
9 writing on it.

10 MR. CHIFFON: Yeah. We did receive
11 some information on that early this morning. And
12 it is, in fact, the correct glass. We need to
13 make sure that we supply the correct information
14 with the unit regarding the glass.

15 MR. BAUGHMAN: Okay. Is the gauge
16 down there at the bottom what we're using for
17 pressure?

18 MR. CHIFFON: Yes.

19 MR. BAUGHMAN: Interesting. Okay.
20 So there's no means of testing that gauge, which
21 is a requirement. We need to be able to check the
22 accuracy of the steam gauge. The steam gauge
23 itself has no shut-off. It just is a gauge that's
24 coming off the bottom of the sight glass assembly
25 itself, correct?

1 MR. CHIFFON: Yes.

2 MR. BAUGHMAN: Okay. Going back to
3 the relief valves -- and thank you for this.
4 Going back to the relief valves themselves, let's
5 start with the jacket and the chamber up on top.

6 MR. CHIFFON: Uh-huh.

7 MR. BAUGHMAN: So the boiler name
8 tag itself or the chamber itself, the unfired
9 section, is rated in kilopascals. Being that I
10 can't read the nomenclature on the relief valves,
11 what is the relief valve set pressure for each one
12 of those?

13 MR. CHIFFON: It's 36 psig on the
14 jacket and 45 psig on the chamber.

15 MR. BAUGHMAN: So the chamber comes
16 out, and if we're using 0.145 kilopascals per
17 psi -- and it was rated at, what was it, 300-and-
18 something for the chamber?

19 CHAIRMAN MORELOCK: Yeah. I think
20 that's in kilopascals, 300 kilopascals, roughly,
21 right?

22 MR. BAUGHMAN: Yes. I think it's
23 310 kilopascals.

24 CHAIRMAN MORELOCK: That's going to
25 put you around 45 -- that's going to put you at

1 45 psi, right?

2 MR. BAUGHMAN: 44.95, yes.

3 CHAIRMAN MORELOCK: Oh, okay.

4 MR. BAUGHMAN: So I guess my
5 question being is, for one, just making sure that
6 we are at or below -- I noticed that we've got an
7 aperture in the weep hole of the relief valves.
8 I've not seen that aperture before. Could you
9 describe what that red, for lack of a technical
10 term, doohickey is on the side of the relief
11 valve?

12 MR. CHIFFON: This is a unit that
13 we have in our CSC center. It's not functional,
14 I'll say. We have a program that will simulate
15 running cycles on it. It's not connected. These
16 are just plugs for those holes. They would be
17 removed. It's just it's part of the packaging we
18 get from the vendor.

19 MR. BAUGHMAN: Okay. Packaging
20 from the vendor. So the vendor is yourself,
21 STERIS --

22 MR. CHIFFON: The vendor of the
23 relief valves.

24 MR. BAUGHMAN: Interesting. Okay.
25 We supply relief valves from our shop, and we

1 haven't ever had anything like that in the weep
2 holes of the relief valve itself. Those that you
3 have are Apollo Conbraco series, and we don't have
4 that. But --

5 MR. CHIFFON: Yeah. I haven't seen
6 these in any other safety valves that we get that
7 are also from Apollo. I haven't seen them either.

8 MR. BAUGHMAN: And I would just
9 say, being that, you know, we're looking at this
10 to analyze it and we're seeing some things that
11 are different versus in the field -- what we saw
12 in the field did not have those, by the way. But
13 what they did have was the discharge piping off of
14 the side of the relief valves, both on the chamber
15 and jacket for the unfired section. And off of
16 the boiler itself, it had the discharge piping,
17 which looks to be factory piping; is that correct?

18 MR. CHIFFON: Yes.

19 MR. BAUGHMAN: Well, just a note
20 that we made, that piping is not supported, and
21 that piping is coming off of the relief valve and
22 is quantified to go to a safe point of discharge.
23 And the sides of that unit itself, the relief
24 valves go over and down, both for the jacket and
25 chamber and on the steam generator itself comes

1 over and down, not to what I would deem a safe
2 point of discharge, nor is that piping supported
3 as by requirement of the relief valve manufacturer
4 and by code.

5 So for your own information, the
6 discharge piping does not meet the letter of the
7 code as it is being built.

8 MR. CHIFFON: Okay. Thank you.

9 MR. BAUGHMAN: You're welcome.

10 So panning back to the unit itself --
11 thank you much for taking the time on this, all of
12 you. But panning back to where you're looking at
13 the front of the unit as you walk up and you're
14 needing to service that unit, i.e., as I was going
15 through the manual, it's giving particular checks
16 for this unit, and it's giving checks such as
17 check the steam gauge once per year; check the
18 water level once per year. And this is on a
19 high-pressure steam boiler. I find that -- I find
20 that rather -- and this is in the maintenance
21 manual for the AMSCO 600 series. I just found
22 that length of intervals rather lacking for a
23 high-pressure steam unit of any manufacturer.
24 Would you not agree?

25 MR. ANDRUSKY: I'm Roger Andrusky,

1 field service engineer for STERIS. If I
2 understood you correctly, we have an inspection
3 that our field service folks do just for units
4 that are equipped with a steam generator. We
5 actually inspect those four times a year. The
6 inspection list that you're looking at there is
7 what we call IBCL. It's for our customers. It's
8 an internal customer inspection list that we
9 recommend they do. In addition, we do the four
10 inspections per year on a quarterly basis. We
11 call those a PMCL. It's a -- rather than an IBCL.
12 It's a preventative maintenance checklist.

13 MR. BOWERS: This is Harold Bowers,
14 board member.

15 Is the steam -- is there any way the
16 steam goes to the electronic system where it
17 monitors the steam flow?

18 MR. ANDRUSKY: To monitor steam
19 flow?

20 MR. BOWERS: Steam pressure in the
21 unit itself. Is there any way in the system it
22 does that?

23 MR. CHIFFON: Yes. There's a
24 pressure transducer that's on the sterilizer. We
25 use that to control the cycle in order to provide

1 the proper parameters to sterilize the product.
2 So there's temperature monitoring on the system,
3 as well as pressure monitoring on the system.

4 MR. BOWERS: Thank you very much.

5 MR. CHIFFON: You're welcome.

6 MR. BAUGHMAN: This is Dave

7 Baughman, board member.

8 In looking at the unit itself, both
9 on site and through the video that you just
10 showed, does that unit itself that you have at
11 your customer center have access from the rear?

12 MR. CHIFFON: Yes.

13 MR. BAUGHMAN: And just from a
14 maintenance standpoint, being a boiler man myself,
15 I know if I was being called in to, let's say,
16 change the motor or do any kind of maintenance on
17 that unit itself for service, I think that any of
18 us here, whether it's -- well, for anybody -- but
19 when you're going in to work on that unit, it
20 would be so much easier to have access from the
21 rear of that unit, would it not be?

22 MS. LaFRANCE: I don't agree,
23 because the unit was designed to be serviced from
24 the front. So all of the components are up
25 towards the front. And Roger was part of the team

1 where we had service individuals come in on a
2 periodic basis to make sure that everything could
3 be accessed, everything was within arm's reach.
4 So I don't think there's any advantage afforded by
5 having the rear service access.

6 MR. ANDRUSKY: And one thing I
7 would add to that, for example, with the vacuum
8 pump, one of the larger things that we have to
9 service, that vacuum pump plate has a wheel at the
10 back of it that once we take the unions off, we
11 can actually pull the whole vacuum pump assembly
12 out the front to work on it if we need to if we
13 don't have -- if there isn't access in any other
14 area. The generator is the same way. It also can
15 be completely pulled out the front if necessary.
16 It is not on wheels, but if we have to unscrew it,
17 then it can be removed.

18 MR. BAUGHMAN: Sure. So -- and in
19 speaking with a gentleman that does some
20 maintenance work with STERIS, asking his opinion
21 on it, he declared it as a very difficult
22 proposition, that it's not an easily accessible
23 unit.

24 We've been involved even on units in
25 the field that did not have the steam generator

1 where the service technician from STERIS mandated
2 some equipment be moved in order to work on the
3 vacuum pump itself. And so what I'm getting at is
4 that -- what this all comes down to is space. We
5 want to put as much equipment into a small amount
6 of footprint as possible. That's kind of the
7 bottom line of what the discussion is about is
8 floor space. And what we're looking at is the
9 safety component of, just like with the sight
10 glass yesterday, that people that were
11 operating -- and this unit was already in
12 operation, but yet the sight glass valve was
13 closed. The people that are looking over this
14 high-pressure piece of equipment, which literally
15 has the expansive power of dynamite, are the
16 nurses. And the comfort level in these personnel
17 of operating this piece of equipment, let alone
18 knowing what to do if there's a sight glass
19 rupture, knowing what to do in any case, there was
20 the lack of operating expertise themselves, let
21 alone the lack of a warm fuzzy.

22 But in looking at it from the
23 operation inspection standpoint, what you've got
24 there at your service center, doesn't even have
25 the tag. We're saying that the tag is going to be

1 mounted up front and so forth for accessibility.
2 But it's people like Mr. Bowers, Mr. O'Guin,
3 Mr. Robinson, others in this industry, that have
4 to have good accessibility in to look at these
5 units. And I know that when we looked at the
6 relief valves yesterday, it was very difficult to
7 get the information off of those relief valves.

8 The other item I noted was there was
9 no manufacturer's data report that was available
10 for this particular vessel itself. And the
11 manufacture's data report is a requirement for the
12 permitting of the installation of the equipment,
13 but yet it was lacking. And so that's an integral
14 component of selling these units, installing these
15 units and so forth --

16 MR. ANDRUSKY: Those documents are
17 shipped with the equipment and given to the
18 customer. I don't know, in that case, whether we
19 inquired from the customer, you know, whether they
20 were available or not. STERIS doesn't keep them.
21 The technicians can't keep them. They're given,
22 like I said, as customer documents. And if
23 they're not available, we can get them readily
24 from our manufacturing source.

25 MR. BOWERS: This is Harold Bowers,

1 board member.

2 Yeah, this unit here, looking at it,
3 looks maybe a little different than the one we
4 looked at yesterday. Because this one here can be
5 more easily accessed. But the problem is, like
6 Dave said, if that bottom nameplate -- let's say
7 this was to come into the state and the initial
8 inspection was to be done, and the state inspector
9 comes in there and he could not read that
10 nameplate, he would not pass that. So then you've
11 got a situation where, hey, you have a sterilizer
12 sold to a customer that cannot be registered in
13 the state because that state inspector could not
14 get to that nameplate.

15 Now, another question I have, I'm
16 sure this whole unit slides in from the front and
17 can slide out from the front, correct?

18 MR. ANDRUSKY: The individual
19 components, you mean? Yes.

20 MR. BOWERS: The whole unit is,
21 actually --

22 MR. CHIFFON: Yeah. It's installed
23 from the front.

24 MR. ANDRUSKY: Yeah. It's
25 installed from the front.

1 MR. BOWERS: So any major repair,
2 that unit can be, actually, slid out and worked
3 on, correct?

4 MR. ANDRUSKY: Technically, yes.

5 MR. BOWERS: Yeah. Say you had it
6 repaired and say you had to replace somehow, on
7 the pressure vessel side, you had to have it
8 repaired, you had a leak, this whole unit could
9 actually be pulled out. You probably would pull
10 it out and replace it, but you could also pull it
11 out and repair it if you had to, correct?

12 MR. ANDRUSKY: Yes.

13 MR. BOWERS: Okay.

14 MR. O'GUIN: Chris O'Guin,
15 assistant chief.

16 The main concern I have with this
17 unit -- I mean, the Autoclave, you know, we can
18 inspect it. I see that. The steam generator,
19 however, you can't see the right side of the
20 vessel. All you can see is the left side.

21 In the past two weeks, we have safety
22 red-tagged two steam generators similar to this
23 setup that were blowing steam out the vessel
24 themselves. If all you can see is the left side,
25 say it's blowing steam out the right, if it's

1 noisy and you can't hear it, you're not going to
2 know it. Especially, if you can't get around to
3 the side to do a proper inspection.

4 MR. ANDRUSKY: That would be true
5 for a cabinet unit as well. A unit that is
6 sitting in the middle of a floor that has a full
7 cabinet around it, you would have the same thing.
8 The indication would be that you would see a leak
9 on the floor somewhere that would have to be
10 identified and repaired.

11 MR. O'GUIN: But you can't see the
12 floor from looking at the front of this unit. If
13 you have no rear and side clearance, how are you
14 going to see the floor beside the steam generator?
15 How are you going to see if that steam generator
16 relief valve is leaking?

17 MR. ANDRUSKY: I'm sorry, sir. I
18 didn't hear you.

19 MR. O'GUIN: How are you going to
20 see if that vessel is leaking on the right side,
21 or how are you going to see that the steam
22 generator relief valve is leaking, since all
23 you're going to be able to read is the data itself
24 on the relief valve from the front access only?
25 I'm going strictly by your board case, front

1 access only.

2 MR. ANDRUSKY: I'm not sure we ever
3 had the issue. It would be true with any other
4 installation that's -- when it's in the utility
5 room. The operator would not necessarily see a
6 leak. They would eventually. So I'm not sure
7 that this is any different.

8 MR. O'GUIN: Okay. You answered my
9 question. Thank you.

10 CHAIRMAN MORELOCK: Mr. Toth?

11 MR. TOTH: Thank you, Mr. Chairman.

12 I do have a couple questions and a
13 concern. Number one, the -- with my experience,
14 as a former inspector, we used to have the
15 mechanical rooms behind. I know, just like
16 Mr. Baughman said, we're looking at trying to save
17 space. It's all about real estate. I get that.

18 When the code comes out and talks
19 about clearance, what they're referring to is,
20 again, the ability to save space, not for
21 inspections. The inspections are not taken into
22 consideration. This is something that we've
23 battled for years. We even have board cases, such
24 as 06.3, that take into account things like
25 wall-mounted heaters, so on and so forth. But

1 with Assistant Chief O'Guin, I had wrote the note
2 down and he brought it up to mention was -- the
3 question I have is if you can pull that unit in
4 and out, as Mr. Bowers alluded to, the response
5 was yes, you can. Okay. Can that unit be pulled
6 in and out during the time of inspection?

7 MR. ANDRUSKY: No.

8 MR. TOTH: No. So once it's in
9 there, it's in there until you say, okay,
10 something is broke, now we're going to pull it
11 out.

12 As Mr. O'Guin mentioned, hey, we can
13 see the Autoclave. Yes, you can open the door,
14 you can check the door, you can check the inside
15 surfaces of it. You can check the outside
16 surfaces. You're going to have corrosion that's
17 going to be on the inside. I get that. That's
18 fine. But I also agree that you're not getting a
19 full inspection.

20 Are all of these units that come with
21 a steam generator just electric?

22 MR. CHIFFON: Yes. The steam
23 generator is electric.

24 MR. TOTH: No gas? Just electric.

25 MR. CHIFFON: No.

1 MR. TOTH: Okay. So you would
2 never have a situation where you would put one of
3 these into a unit and have a client say, hey, I
4 need a gas steam generator. I don't want
5 electric. You would say, sorry, we can't handle
6 that.

7 MR. CHIFFON: That's correct.

8 MR. TOTH: Okay. So again, you get
9 to the situation where yes, if you have a leak on
10 a relief valve, okay, that's fine. You've got a
11 relief valve leaking and it's relieving pressure;
12 however, if you don't have the ability during an
13 inspection to actually look closely and find these
14 situations, look and be able to see the side of
15 the pressure vessel, because the steam
16 generator -- am I correct? -- that it has a
17 pressure vessel, or is it a coiled unit?

18 MR. CHIFFON: It has a pressure
19 vessel.

20 MR. TOTH: Okay. So if you have a
21 pressure vessel, how is that inspector going to be
22 able to get in there and to have a close look at
23 that pressure vessel? Again, servicing the unit
24 is one thing. Inspecting the unit is completely
25 different. And so when you start looking at those

1 two, you've got to take into account -- and again,
2 I don't have a dog in the hunt. I'm not an
3 inspector anymore. I'm a consultant. But I feel
4 for these guys that have to do their job and do an
5 inspection.

6 My last point, to speak of the data
7 plate, there are provisions within the code that
8 you can have a duplicate data plate. Okay? If
9 these units are -- you put the original data plate
10 on the actual pressure vessel, and you can put a
11 duplicate data plate on its mountings. That is no
12 problem. So, in essence, you can literally put
13 that anywhere.

14 The last thing that I have to say is
15 I'm concerned with the controls and safety devices
16 being inspected on units like this, and, also,
17 being tested.

18 And with that, I will mute out.
19 Thank you.

20 CHAIRMAN MORELOCK: Thank you,
21 Mr. Toth. What other questions do you have?

22 MR. BOWERS: Yes. This is Harold
23 Bowers, board member.

24 I want to just make one comment,
25 going back to what Mr. O'Guin was saying. It was

1 about the pressure relief valves. We can look at
2 the top of the pressure relief valve, but with the
3 safety relief valve, with the piping going down
4 the side, as an inspector, we would have no way to
5 know if that safety valve was leaking through or
6 having a leak through it. And we couldn't
7 actually see, because we can't get to the back of
8 the unit and we can't see if the bottom of those
9 safety valves or bottom of the piping off the
10 safety valves if any -- with steam coming out or a
11 little water coming out of there.

12 And so I think Mr. O'Guin made a good
13 point of that, knowing if the safety valves are
14 leaking by.

15 CHAIRMAN MORELOCK: Mr. Toth?

16 MR. TOTH: Yeah. The one last
17 thing I had a note on, we were talking about
18 kilopascals and psi. When you construct a unit to
19 the code, everything within that code has to stay
20 within the standard measurements. Okay? So if
21 we're going with the metric measurement and going
22 back to a standard, imperial or something like
23 that, they all have to be the same. So you can't
24 have a safety relief valve in psi and have the
25 unit in kilopascals.

1 CHAIRMAN MORELOCK: That is a true
2 statement.

3 The steam generator, it's ASME
4 code-stamped, correct?

5 MR. CHIFFON: Correct.

6 CHAIRMAN MORELOCK: And is it --

7 MR. CHIFFON: An M-stamp.

8 CHAIRMAN MORELOCK: Is it a
9 miniature boiler?

10 MR. CHIFFON: Miniature boiler,
11 yes.

12 CHAIRMAN MORELOCK: Okay. All
13 right. Thank you.

14 MR. CHIFFON: And the chambers, the
15 sterilizers are U-stamped, unfired pressure
16 vessels.

17 CHAIRMAN MORELOCK: Okay. Thank
18 you. Very good. The reason I ask the question is
19 your inquiry and your reply reference NBIC
20 Section 4.2.3. And there are four books in the
21 NBIC, part 1, part 2, part 3, and part 4. And so
22 part 3 is repairs and alterations; part 4 is
23 relief devices; part 1 is installation; and two is
24 inspection .

25 And so your inquiry would need to

1 reference part 2. And then by referencing
2 Section 4.3.2, that is for clearances for pressure
3 vessels only. If you are going to try to
4 reference the steam generator, you will have to go
5 back to boilers, which is 2.3.3. So just a --
6 kind of a point of clarification of your inquiry
7 and your reply. Because you do have a Section 1
8 vessel and a Section 8 vessel.

9 Yes, Mr. Toth.

10 MR. TOTH: (No verbal response.)

11 CHAIRMAN MORELOCK: You're muted.

12 MR. TOTH: Yes. I didn't start
13 talking yet. I was trying to find that button.
14 Sorry to keep interrupting.

15 But so BC 98-03, actually, already
16 exists. So their board case request, in my
17 opinion, should only regard the steam generator
18 because they already did -- there's already a
19 board case out for unfired pressure vessels. It
20 would have to be massaged for -- in the case of
21 the clearances that are within 98-03. You may
22 want to look at that. So -- I don't know -- just
23 take a look at that and make sure that you're not
24 duplicating yourselves on it or contradicting
25 yourselves. Because 98-03 is going to, you know,

1 cover those low-pressure units and, also, unfired
2 pressure vessels. So take a look at that and make
3 sure that you're not contradicting yourself.

4 CHAIRMAN MORELOCK: That's a very
5 good point.

6 MR. BAUGHMAN: This is Dave
7 Baughman, board member.

8 Do we have access to look at 98-03
9 while we're here? And the other question is
10 what's the cubic feet of this particular unfired
11 vessel? What's the cubic foot of volume that we
12 have? I'll leave that up to Marie or --

13 MS. LaFRANCE: Let me get my
14 calculator out.

15 MR. BAUGHMAN: Sorry I asked you to
16 do math on a Wednesday.

17 MS. LaFRANCE: Yeah. It's my
18 forte.

19 MR. BOWERS: This is Harold Bowers,
20 board member.

21 The one we looked at yesterday was
22 definitely over 5 cubic foot, so I'm pretty sure
23 it's going to be over 5 cubic foot. And going
24 back to what Marty was saying, you're almost
25 treated -- some of these that -- I know I've

1 looked at many units that you have that run off
2 plant seam, don't have a steam generator. So
3 those are almost treated differently than the
4 combination units for clearance, I think, if we
5 already have a board case that deals with the
6 units that don't have a steam generator.

7 MR. BAUGHMAN: Again, this is Dave
8 Baughman, board member.

9 This inquiry is specific to this
10 AMSCO 600. So we're not taking a blanket for
11 other units, from what I'm understanding in this
12 inquiry. It is specifically for this particular
13 unit itself. Is that correct?

14 MR. CHIFFON: That's correct, yes.
15 Yes. We make a lot of other sterilizer models,
16 but we're only asking for the AMSCO 600. It's
17 about 25 cubic feet, on the largest size.

18 MR. BAUGHMAN: Thank you for that.

19 CHAIRMAN MORELOCK: What other
20 questions or comments do you have?

21 MR. TOTH: Mr. Chairman?

22 CHAIRMAN MORELOCK: Yes, Mr. Toth.

23 MR. TOTH: To Mr. Baughman's point,
24 if this is specific to one unit, I would suggest
25 that it's not a board case. I would suggest it's

1 a line item that is looking for a special approval
2 or waiver because the board case interpretations
3 are broad sweeping.

4 CHAIRMAN MORELOCK: That's correct.

5 MS. LaFRANCE: I'm sorry. Can you
6 repeat that? It's not a board case but what? A
7 line item.

8 CHAIRMAN MORELOCK: It would be
9 seeking a variance just for that specific unit.

10 MR. WATKINS: This is Sam Watkins
11 from STERIS. Would that have to be done at each
12 and every installation or would this be something
13 that we would have this exception or variance so
14 that we can plan in advance? And I'm asking this
15 because normally we're -- before a hospital even
16 breaks ground, we're working with architects and
17 planning out the design of these units. And, you
18 know, we wouldn't want to get two years later when
19 it's time to install to have someone come back and
20 say, you know what, we changed our mind, something
21 changed here, you can't do it anymore. Because it
22 wouldn't be STERIS footing the bill; it would be
23 HCA or Vanderbilt having to spend significant
24 money to redesign everything.

25 So just can you walk us through what

1 that process would be like and how that is
2 impactful?

3 CHAIRMAN MORELOCK: Well, I mean,
4 if you're only looking at the 600, that's pretty
5 specific.

6 MR. WATKINS: Right.

7 CHAIRMAN MORELOCK: And so you
8 would get a variance for that specifically, and if
9 there's another unit similar to it, it would not
10 be covered by that variance. It would only be
11 specifically a variance for your specific product.

12 MR. WATKINS: Which is fine, and
13 that's -- they're, you know, specifically
14 designed. One will say the AMSCO 600 and one will
15 say the 400. There's no way that that would be --
16 that would be missed. So that works.

17 CHAIRMAN MORELOCK: So, I mean, you
18 know, there's other products out there that we
19 have similar comments and questions about, like,
20 instantaneous water heaters, being one example.
21 So it's either a broad brush that we would have a
22 board case that any unit that would fit the
23 parameters in that board case could use the board
24 case, or you get a specific variance just for your
25 STERIS 600 product.

1 MR. WATKINS: Is that just done
2 with, like, a -- is it a document or is it filed
3 on the website that we can reference?

4 CHAIRMAN MORELOCK: The board cases
5 and interpretations are published on the website,
6 that's correct.

7 MR. WATKINS: Okay.

8 CHAIRMAN MORELOCK: A variance that
9 specific would probably be only published to you.

10 MR. WATKINS: Okay. That's
11 perfect. You know, we're going to have to go back
12 and talk to our -- the architects and project
13 design team so we have a response to give them.
14 That works. Thank you.

15 CHAIRMAN MORELOCK: You're very
16 welcome.

17 MR. BOWERS: This is Harold Bowers,
18 board member.

19 Now, Brian, would that be a lifetime
20 variance, or would that be subject to the
21 expiration on that?

22 CHAIRMAN MORELOCK: It would be
23 subject to any design change and that unit would
24 have to come back to the board, or something
25 similar to that. Correct? Wouldn't you agree?

1 MR. BOWERS: So if they ever come
2 up with the 600 Alpha or 601, then they would have
3 to come back to the board to --

4 CHAIRMAN MORELOCK: If it was to --
5 if it was going to change the parameters that
6 you're giving the variance for, location of relief
7 devices, the size of the steam generator, the
8 different size sterilizer. I mean, you know,
9 without getting into the technical weeds on
10 this -- but it would have to be -- it would have
11 to be a minor change wouldn't impact the intent.
12 That's why you would have the variance, which is
13 are you going to allow certain clearances for this
14 installation and still be able to inspect the unit
15 and maintain the certificate of inspection on this
16 vessel or vessels.

17 Mr. Toth?

18 MR. TOTH: Yeah, Mr. Chairman.
19 Thank you.

20 When I brought it up about having a
21 line item versus a board case, it's not
22 unprecedented to, within a request, to put a brand
23 name. There's board cases that are out there that
24 will mention things like a Clayton steam generator
25 within their request. So that's not

1 unprecedented.

2 So what I'm saying is that me,
3 personally, I would recommend that you handle this
4 as a board case subject, again -- going back to
5 our code lingo, Mr. Chairman -- subject to the
6 Boiler Unit's approval during permitting. Again,
7 you can highlight, if you choose to accept this
8 particular design -- which I'm not really in favor
9 of, but that's my personal opinion -- you could
10 put this particular unit inside of the request,
11 respond back with yes, if you agree, subject to
12 review at time of permitting.

13 What that does is if somebody comes
14 in with a unit that has not been reviewed, they're
15 not familiar with it, the Boiler Unit could have
16 the opportunity to deny that particular unit.

17 This -- STERIS has come in with a
18 wonderful presentation, from everything I'm
19 hearing. That's great. ABC company comes in
20 trying to piggy-back on top of this board case and
21 does not supply that initial documentation. Maybe
22 the Boiler Unit decides to request some additional
23 information.

24 That's my opinion from my experience
25 with these type of things. It's really up to the

1 Boiler Unit to say yes, you can use this board
2 case because you're following everything that was
3 involved with creating the board case. Again,
4 that's my opinion. Thank you.

5 MR. PURI: (Indicating.)

6 CHAIRMAN MORELOCK: Yes, Mr. Puri?

7 MR. PURI: Yes, Mr. Chairman. Just
8 one question from a process standpoint. If there
9 was a variance, line item variance required for
10 STERIS for either the installation or the unit,
11 that particular unit overall, is that an item that
12 the Board can hear remotely? Because I think one
13 of the challenges has been this request has sort
14 of been pending for a year and hasn't been able to
15 be put on the agenda. So that was the other
16 question, is procedurally, does that need to be
17 heard in an in-person meeting, or is that
18 something that the Board entertains -- should you
19 require that -- entertain in a remote meeting?
20 Which hopefully we don't have for very much
21 longer, but for the foreseeable future, we
22 probably do.

23 CHAIRMAN MORELOCK: Well, I guess,
24 to speak to your concern, maybe a little
25 frustration, due to the backlog of variances that

1 the Board needed to see in the midst of COVID-19,
2 the State of Tennessee -- and we supported it --
3 is we were only taking up business items that was
4 to prevent people from shutting down pressure
5 equipment and not being able to operate. So
6 whether it be a boiler variance or a system manual
7 review, things like that, we were handling only
8 those items.

9 And so we do want to thank you for
10 your patience. And so to answer your question,
11 you know, I really hope we -- our next quarterly
12 meeting, I hope that we are able to do that face
13 to face. But if not, it will be a Zoom meeting.

14 Also, one of the things that we come
15 away from with COVID-19 is that this architecture
16 to have an online meeting, like we're having right
17 now, it's not ideal but it does work.

18 And so, you know, we've had
19 emergency-called meetings for board cases and
20 things that was going to shut somebody down. And
21 we've had face-to-face emergency meetings like
22 that. We could do a Zoom meeting like that as
23 well. So we do have options. It's not -- we
24 don't make it commonplace, obviously. We want to
25 stay on that quarterly meeting cycle. But as

1 people who are trying to make a living and improve
2 the economy of Tennessee, we're going to step up
3 and try to help them do that. So did that clarify
4 your question?

5 MR. PURI: Yes. Thank you. I
6 didn't mean to express frustration. It was just a
7 matter of seeing how we should work the process,
8 depending on what the Board does.

9 CHAIRMAN MORELOCK: Okay.

10 All right. What other questions or
11 comments do the board members or visitors have?

12 MR. BAUGHMAN: This is Dave
13 Baughman, board member.

14 I have a couple more comments.

15 CHAIRMAN MORELOCK: Okay.

16 MR. BAUGHMAN: Thank you so much
17 for this discussion. The way that I've looked at
18 the unit itself, as it stands, there's items that
19 need to be corrected, i.e., the piping of the
20 relief valve; looking at the steam gauge, having a
21 valve to shut the steam gauge off, having a means
22 to be able to test the steam gauge. Some of the
23 installation of this steam generator itself
24 doesn't quite meet what it should. I'm interested
25 in the blow-down of this unit itself, where the

1 blow-down goes, how the blow-down is accomplished.
2 Because from the backside, we saw accessibility to
3 a drain. But I'm interested, from the perspective
4 of those attending the meeting here, how is that
5 unit blown down and how are the components, i.e.,
6 the operating pressure, the high-pressure limit,
7 the backup for it, and any low-water cutoff
8 apertures, and the blow-downs, how are they
9 accomplished?

10 MR. ANDRUSKY: When you speak of
11 blow-down, do you mean just a flush and drain?

12 MR. BAUGHMAN: Yes, sir. So just
13 blowing down the unit itself from a sediment
14 standpoint and the ability to check the -- I take
15 it this unit has a low-water sensor on it; is that
16 correct?

17 MR. ANDRUSKY: Yes.

18 MR. BAUGHMAN: How is that able to
19 be checked and how do we actually blow the unit
20 down at pressure?

21 MR. ANDRUSKY: Well, we don't blow
22 the unit down at pressure because we put the
23 high-temperature output down the drain, which is
24 not what we'd typically do. If we blow it down,
25 we do a flush and drain, it's with a cold-water

1 flush.

2 MR. BAUGHMAN: Okay. How do we --
3 so you said not typically. But that word
4 "typically" leads me to believe that there's an
5 untypical operation.

6 MR. ANDRUSKY: No. And I apologize
7 for that. We have a -- on larger generators, like
8 our standalone generators, there's a blow-down
9 system that we actually blow down into a tank.
10 And that's what I was referring to in my mind.
11 That's a completely different system, obviously.
12 It's just a separate -- a completely separate
13 boiler.

14 MR. BAUGHMAN: Very good. So we're
15 flushing this not at pressure but just flushing
16 the system out. And I take it that's set up on an
17 automatic control type of mechanism.

18 MR. ANDRUSKY: It can be with the
19 auto flush system that's available. It's an
20 option on the machine, but because it's an RO
21 system, it doesn't typically need to be flushed
22 down on, I'll say, a regular basis when you
23 consider, I'll say, a non-portable water system,
24 which would always have a flush-and-drain on it.
25 And yes, the auto flush-and-drain is a kit that

1 can be installed as an option.

2 MR. BAUGHMAN: Okay. How would the
3 inspector test the low water, and how would he
4 test the high-pressure limit?

5 MR. ANDRUSKY: I don't know how
6 they do that, to be honest with you. The
7 generator can be charged. The upper limit on the
8 upper pressure switch is set to 90 psi, and the
9 operating is 75 and 80. So they're at 75 on and
10 80 off. We don't do a high-pressure test. STERIS
11 didn't do a high-pressure test.

12 What would the inspector expect to be
13 able to do?

14 MR. BAUGHMAN: I'll defer that to
15 my inspector brothers.

16 MR. CHIFFON: Yeah. One thing to
17 mention is this is a stainless steam generator and
18 it uses our deionizer distill. There's some type
19 of treated water per use, so we wanted to keep a
20 clean system and eliminate the scale and buildup
21 of the steam generator. So we require a certain
22 water quality to run.

23 CHAIRMAN MORELOCK: Very good.

24 Mr. Toth?

25 MR. TOTH: Just I get the whole

1 reverse osmosis, deionized, things like that, but
2 there is potential corrosion. From my
3 understanding, when Mr. Baughman and the assistant
4 chief and Mr. Bowers went and did their site view,
5 did you see sediment in the sight glass,
6 Mr. Baughman, would be the question? Go ahead.

7 MR. BAUGHMAN: Actually, at first
8 look, we could not view sediment as the sight
9 glass valves were actually in the closed position.

10 MR. TOTH: All right. And so I
11 guess the concern that you have is you still need
12 to blow these units down. As the inspector, you
13 still need to blow these units down. These units
14 need to be blown down in a pressure environment by
15 the inspector. The inspector is not going to sit
16 there and wait for this unit to cool down so that
17 they can actually witness this.

18 Also, it's a little concerning,
19 number one, that you, as a manufacturer, don't
20 know the process. I think you probably would if
21 you asked somebody else within your industry or
22 within your company. But you need to test things
23 on a regular basis. And to answer that question
24 that you had, how would the inspector do these,
25 well, doing these tests -- again, they're trained

1 in this -- is by adjustment of the controls so
2 that the unit would, in fact, trip the unit off at
3 a certain pressure. For example, if you're
4 running at -- and I'm just saying because I heard
5 the number 45 psi -- if you're running at 45 psi,
6 you're going to then manipulate those controls so
7 that it would trip that boiler once you go down to
8 that 45 psi.

9 So those are the type of things that
10 you are going to do that do need to be done on a
11 regular basis.

12 MR. ANDRUSKY: The systems are
13 tested on a -- well, the generators, especially,
14 are tested four times a year. Between the
15 preventative maintenance checklist, we operate the
16 machine through the service mode. The valves, the
17 flush-and-drain valve, when it's installed, it can
18 be controlled from service mode. So the valve can
19 be opened and the unit is flushed down manually.

20 We don't do what, again, is a
21 high-pressure -- with high pressure because of the
22 limitations of the drain. If the drain has PVC,
23 we can't exceed 140 F.

24 MR. TOTH: Right. But then, by
25 code and what code calls out on the high-pressure

1 boilers is that you would send that drain for a
2 blow-down separator -- that blow-down separator,
3 that's the main purpose for that -- or into an
4 open tank that would pull that blow-down before it
5 goes to drain, as you mentioned with your larger
6 units.

7 MR. BAUGHMAN: Again, Dave
8 Baughman, board member.

9 What I was getting at was when
10 Mr. Bowers, Mr. Robinson, Mr. O'Guin, any of these
11 inspectors go out, they're not familiar with the
12 unit. And so there's going to be, on this
13 high-pressure unit typically two inspections a
14 year, one internal and one external. But the
15 problem with it is, is that we need to have good
16 knowledge of the working apertures on this unit
17 itself to test them, and they need to be tested
18 out.

19 So my concern with it is, is how
20 we're doing the low-water checks, how we're being
21 able to know about the pressure settings,
22 corroborating that with the pressure gauge, which
23 has no means of being able to test the accuracy
24 right now of the unit, the gauge itself. So I've
25 got some issues with how this unit is actually

1 installed, the relief valve, discharge piping,
2 where it's piped to, how it's not supported.

3 So I think there's some things that I
4 would want to see addressed, whether anybody wants
5 my input or not. I'm just saying that from the
6 design standpoint of this unit, it doesn't
7 actually meet the code of the day. The pressure
8 switches are set in psi again to where the boiler
9 is rated in kilopascals.

10 Mr. Toth alluded to that earlier, is
11 that they all need to be one system or the other.
12 But as it stands presently, it's not. So --

13 MR. CHIFFON: I think the -- excuse
14 me. I think the chamber is rated at kilopascals,
15 but the boiler, the generator, is psi.

16 MS. GEORGE: Excuse me. We see two
17 men on the screen. The name says Marie LaFrance,
18 but there are two men in masks. So if you guys
19 could please just identify yourself before you
20 speak, we'd appreciate it.

21 MR. CHIFFON: Okay.

22 MS. GEORGE: Thank you.

23 MR. ANDRUSKY: That was Mark
24 Chiffon. I'm Roger Andrusky.

25 MR. O'GUIN: Chris O'Guin,

1 assistant chief inspector.

2 Mr. Baughman, we did get the permits
3 in on those two vessels that you and I and
4 Mr. Bowers went and looked at on Monday. So that
5 inspection will be performed probably tomorrow. I
6 know Mr. Strickland had planned for it to happen
7 this week. He will not pass that vessel if he
8 can't blow it down and check the safeties. I can
9 go ahead and assure you of that.

10 We're talking about the quarterly
11 checks I've heard mentioned. I don't feel too
12 great about the quarterly checks only being the
13 only time that vessel was checked. Two vessels
14 that we red-tagged, steam generators, two weeks
15 ago were corroded horrible. It was -- they had
16 leaks blowing out. In the quarterly check, they
17 wrapped cloth around this vessel to hide these
18 leaks instead of shutting the vessel down and
19 taking it out of service. So the quarterly checks
20 don't make me feel too comfortable as far as
21 public safety goes.

22 MR. ANDRUSKY: Those were STERIS
23 vessels?

24 MR. O'GUIN: Yes, sir. And it was
25 STERIS quarterly checks.

1 MR. ANDRUSKY: That's not standard
2 procedure by no means. That's not encouraged,
3 and, in fact, it's discouraged, and it's
4 actually -- well, we'll just say that it's not our
5 policy.

6 MR. O'GUIN: That's all I've got,
7 Chairman.

8 CHAIRMAN MORELOCK: Thank you,
9 Mr. O'Guin.

10 Any other questions or comments?

11 MR. BAUGHMAN: I'm sorry. Again,
12 this is Dave Baughman, board member.

13 CHAIRMAN MORELOCK: Go ahead.

14 MR. BAUGHMAN: Just again, there's
15 some things that need to be addressed from an
16 installation standpoint of the unit itself, the
17 way that some of the apertures are on it. I
18 thought that when we looked at the data tag of the
19 boiler itself at the job site that it was actually
20 in kilopascals and not psi, also. I may be
21 mistaken, because I was looking at a lot of
22 different things on the unit itself.

23 But again, there's just some things
24 that need to be addressed from an installation
25 standpoint. There's one item that came up within

1 the installation safety precautions that STERIS
2 has produced. And the statement is, "Components
3 are not to be removed from the sterilizer at the
4 job site to accommodate inadequate clearance
5 considerations."

6 And that statement itself is somewhat
7 interesting. And I just wanted to kind of bring
8 that up because I don't see what's written and how
9 we can perform that at the job site. It's just a
10 concerning statement. So --

11 MR. ANDRUSKY: This is Roger
12 Andrusky.

13 The reason for that statement is that
14 we don't want them taking things off of the
15 sterilizer to get it through doors. They can't
16 just take the plumbing off if they think they have
17 to clear a door, because it is an FDA-validated
18 vessel. So we just put that in there so that
19 everyone knows that if you can't get it through
20 the door, you have to find another way.

21 Now, they can take the side panels
22 off and things like that, but those are still in
23 line with the frame. So that's really the intent
24 of that remark.

25 MR. BAUGHMAN: Good. Thank you for

1 that clarification.

2 MR. ANDRUSKY: You're welcome.

3 CHAIRMAN MORELOCK: Any other
4 questions or comments?

5 (No verbal response.)

6 CHAIRMAN MORELOCK: So I think
7 we've had an excellent conversation, and so I'm
8 going to ask the inquirers, what do you want to
9 do? Do you still want to try to pass this board
10 case, or do you want to pull it back and do some
11 more work on it, or do you want to change it?
12 What do you want to do?

13 MS. LaFRANCE: I think we would
14 like to pass the board case unless Chris Puri has
15 a different opinion. You know, every day we're
16 installing units, and we need resolution to this
17 question.

18 CHAIRMAN MORELOCK: Okay. So --

19 MS. LaFRANCE: I'm not sure, you
20 know -- I mean, we can certainly take your
21 suggestions and work on them, as far as the
22 installation. The tag, we can have a duplicate
23 tag for you to see for the generator. We can
24 certainly, in the field, put additional piping
25 on -- we could take the piping that's on there, on

1 the safety valves, off and put longer piping on.

2 MR. ANDRUSKY: But he's concerned
3 that was actually supporting that pipe.

4 MS. LaFRANCE: We can look at -- we
5 can fix all of those things very easily.

6 CHAIRMAN MORELOCK: Well, I mean,
7 again, this is your item, so I'm not going to tell
8 you what to do. There's been a lot of
9 conversation. All of this is going to be in the
10 minutes, which are publicly available. You can
11 get a copy of the minutes. You can go through all
12 of the suggestions and information that's been
13 given to you. You can update the item and bring
14 it back in June. You could put it to a vote today
15 if that's what you want to do. I mean, it's
16 entirely up to you. It is your item. So, you
17 know, what do you want to do?

18 MR. PURI: Mr. Chairman, so there
19 have been a couple of issues raised. I mean, our
20 initial inquiry was relative to the space
21 clearance relative to inspection. There have been
22 some issues raised by the Board both relative to
23 that issue. But then, I think, other issues that
24 are kind of beyond the scope of what the question
25 in the case was to the issues about the

1 installation and the design and some of those
2 other questions.

3 Would it be acceptable if you-all --
4 I know you have one more item on the rule case and
5 interpretation. Would it be acceptable for us to
6 confer and then you will hear that case, and then
7 we could answer your question as to what we want
8 to do after having a short conversation?

9 CHAIRMAN MORELOCK: I'm agreeable
10 to that if the board members are agreeable to it.

11 MR. BOWERS: It's fine with me,
12 Harold Bowers.

13 CHAIRMAN MORELOCK: Okay.

14 Mr. Henry, are you okay with that?

15 MR. HENRY: Yes. Fine with me.

16 CHAIRMAN MORELOCK: Dr. Hargrove?

17 MR. HARGROVE: Agree.

18 CHAIRMAN MORELOCK: Well, so here's
19 what we'll do. We'll table it. We'll move your
20 item to the bottom of the agenda, and you've got
21 some time to confer and then we'll come back to
22 you.

23 MR. PURI: That would be
24 appreciated.

25 CHAIRMAN MORELOCK: All right.

1 Very good. So we'll table this for a few minutes.

2 So that takes us to Item BI 21-02.

3 ECS Consulting, LLC requests interpretation on

4 requirements for manually operated remote

5 shut-down switches assigned to low-pressure

6 boilers installed and operated in the state of

7 Tennessee. So that would be Mr. Toth.

8 And are there any conflicts of

9 interest on this interpretation?

10 MR. BOWERS: This is Harold Bowers.

11 No, Brian. But do you mind if we

12 take a little break first?

13 CHAIRMAN MORELOCK: Certainly.

14 MR. TOTH: Mr. Chairman, let me be

15 real quick, and Mr. Bowers. I would like to table

16 this. Assistant Chief O'Guin and I have been

17 conversating. I think the Boiler Unit wants to

18 take some -- even though this has been around

19 since 2019 -- but the pandemic has messed up

20 everything -- he's wanting to work with other

21 jurisdictions to kind of see what they're doing

22 and then get back with me. So being low-pressure

23 boilers, being e-stops, just on the low-pressure

24 boilers, I'm very comfortable with tabling this

25 item, especially since today seems like a pretty

1 long day and I'm going to have to get off soon
2 anyway. But if that's okay with the Board.

3 CHAIRMAN MORELOCK: So do we want
4 to table it until June?

5 MR. TOTH: Yes, sir.

6 CHAIRMAN MORELOCK: Very good.

7 MR. PURI: With that, Mr. Chairman,
8 if you could give us maybe five minutes or so.
9 During the break, we'll talk and be able to come
10 back and --

11 CHAIRMAN MORELOCK: I'll tell you
12 what we'll do. We'll take a ten-minute break, or
13 whatever it takes to get us to noon, 12 minutes.
14 We'll take a 12-minute break. And will you be
15 ready to come back at that time?

16 MR. PURI: We'll be ready. We'll
17 have a conversation.

18 CHAIRMAN MORELOCK: Okay. Very
19 good. So we'll take a break until the top of the
20 hour, and you-all can come back and we'll discuss
21 your item and see what you want to do.

22 MR. PURI: Thank you.

23 CHAIRMAN MORELOCK: All right.
24 Thank you-all.

25 (Recess observed.)

1 CHAIRMAN MORELOCK: We are back in
2 session. So Eugene, go ahead.

3 MR. ROBINSON: My name is Eugene
4 Robinson, and I'm a boiler inspector. I work for
5 Cincinnati Insurance.

6 I'm going to share my screen with
7 you, I think. Are you guys seeing the code case?

8 CHAIRMAN MORELOCK: You need to
9 scoot it over a little bit.

10 MR. ROBINSON: Let me try this.
11 Just a minute.

12 MS. LaFRANCE: Guys, I cannot hear.

13 MR. ROBINSON: Okay. Just a
14 minute, ma'am.

15 How about now? Can you see your
16 screen?

17 CHAIRMAN MORELOCK: We can see your
18 screen, but it's a blank screen right now.

19 MR. ROBINSON: Okay. It says
20 you're sharing -- stop sharing -- it should be
21 there. Let's see. New share. Let's try that.
22 How about now?

23 CHAIRMAN MORELOCK: There you go.

24 MR. ROBINSON: Very well. Okay.

25 My name is Eugene Robinson. I am an

1 inspector. I work for Cincinnati Insurance. And
2 I would just like to draw the Board's attention to
3 the board case that was mentioned during the
4 beginning of the meeting by Mr. Marty Toth who
5 indicated the clearance requirements for both hot
6 water heaters and also unfired pressure vessels.
7 And if you'd like, I'll just give you a moment to
8 digest that.

9 Potable hot water heaters, unfired
10 pressure vessels adhere to three-foot clearance
11 set forth by 0800-3-3-.04(13) of the Tennessee
12 Boiler Rules and Regulations.

13 In the opinion of the Board, hot
14 water heaters that do not exceed a heat input of
15 400,000 BTU -- I don't know how many kw that 600
16 is -- and unfired pressure vessels that do not
17 exceed the 50 square feet, measured by diameter
18 and length, are exempt from that requirement.
19 Providing the nameplate and the code stamping that
20 is in view or as stated in the rule, and there is
21 a minimum clearance of at least one and one-half
22 feet, 18 inches, between all sides of the vessel,
23 unless further permitted in Rule
24 0800-3-3-.04(13(b)).

25 My question is I realize that STERIS

1 is asking for, I believe, zero clearance on both
2 the right and the left side, as well as the back
3 of the unit. And I am inclined to request that
4 since the information -- and you cannot really
5 determine if anything catastrophic is behaving on
6 the right and the left side at zero clearance in
7 the back -- is ignored, that it's going to be a
8 problem for the inspector to make a determination
9 that the vessel is safe.

10 And somehow, I think that it's
11 important -- and, unfortunately, we need to really
12 see this when the units are operating, as opposed
13 to being moved in and out of the compartment that
14 it's in. And I realize that the 600 is a unique
15 model. I'm not sure if it has -- and I did not --
16 I was unable to see the actual package that you
17 guys submitted, so I'm unsure if the heating
18 elements are front and rear or singular, just at
19 the front. But in any event, I do know that scale
20 buildup is an important issue inside the boiler
21 for standard operating conditions. And that's the
22 most probable failure mode that we'll see. I have
23 seen some with steam leaking out of the sides and
24 the hoses that had severed on the pumps. And I
25 would like for you, hopefully, to consider if you

1 could provide some clearance so that a
2 determination could be made as to the safetiness
3 where the safety of the boiler has not been
4 sacrificed.

5 That's all I have.

6 CHAIRMAN MORELOCK: Thank you,
7 Mr. Robinson.

8 So Mr. Puri, what have you-all
9 decided?

10 MR. PURI: Well, Mr. Chairman, at
11 this point -- I mean, we've certainly heard a lot
12 of concerns from board members and others. I
13 think, at this point, we would ask that you table
14 the board case until the June agenda. That will
15 afford, I think, a couple of opportunities.
16 Number one, as we've said, there's been some
17 issues raised relative to the specific
18 installations that aren't necessarily specific to
19 the question about the zero clearance. And I
20 think we need some more clarity relative to those,
21 and that would afford some time for us to have a
22 conversation with Mr. O'Guin and his staff about
23 those as well as others, and then, also, to
24 address this issue that Mr. Toth brought up
25 relative to presenting this in the format of a

1 variance, a specific line-item variance versus a
2 board case, which we can also have discussion and
3 get some guidance as to the Board's desire to hear
4 it that way. Because that's -- you know, we've
5 been trying to sort of posture this the best way,
6 so if we can do that and then also kind of be
7 assured of some dialogue and input, I think that
8 would help us get it in a posture that I'm hearing
9 the Board wants it to be in.

10 CHAIRMAN MORELOCK: Well, and
11 that's -- we certainly appreciate that. And as
12 Mr. Toth did say, you can either work on this
13 board case and, you know, you need to add a few
14 more NBIC paragraphs to cover both the steam
15 generator and the sterilizer. But you could also
16 write it specifically for this product, this
17 STERIS 600, and make it specific. And we'll leave
18 that up to you.

19 And, you know, I want to personally
20 thank you-all. It's a fantastic presentation to
21 let us see what you're doing and see the equipment
22 the way you presented it. Hats off to you. It
23 was a very nice presentation. So thank you for
24 coming and spending the time with us.

25 MS. LaFRANCE: We thank you for

1 your input.

2 MR. BOWERS: This is Harold Bowers,
3 board member.

4 I think you have a real great
5 presentation put together. And there's a few
6 questions there and there might be some stuff that
7 your technicians do that we're missing and you're
8 missing on these blow-downs.

9 I would check with some of these
10 technicians and say, well, the Board had questions
11 about how we do the blow-downs. And that way the
12 inspectors know how to do those blow-downs like
13 your technicians do when we do our inspections.
14 So there might be just a little more research you
15 can get into and look at. And I know you don't
16 have the actual technicians, but you have some
17 people there. But you might have some actual
18 technicians that can explain to you. And in some
19 of these situations you might already have, that
20 you're not aware of, like, maybe you have
21 blow-down tanks and stuff like that in some of
22 these hospitals.

23 But I think you have to go -- well,
24 not actually go back to the drawing board, but go
25 and look at -- just do a little more research, and

1 it would help us next time.

2 But thank you very much for your
3 presentation.

4 MS. LaFRANCE: You're welcome.

5 MR. ANDRUSKY: This is Roger
6 Andrusky again. I've got a question about the
7 blow-down. We have a manual valve on these
8 units -- obviously you can reach it from the
9 front -- that would blow down to -- you call it a
10 blow-down; we call it a flush -- to the drain. Is
11 that acceptable? Because I'm a little bit unclear
12 as what the requirement is for the flush on those
13 units.

14 MR. O'GUIN: So you've got one
15 valve, is what you're saying, to blow the vessel
16 down.

17 MR. ANDRUSKY: Yes.

18 MR. O'GUIN: Okay. Is that
19 specifically to this AMSCO 600, or is that in all
20 the steam generators that you have?

21 MR. ANDRUSKY: Well, they all have
22 it, but it's certainly on this one as well.

23 MR. O'GUIN: So you just have one
24 fast-acting valve?

25 MR. ANDRUSKY: No. It's a gate

1 valve.

2 MR. O'GUIN: It's a gate valve?

3 MR. ANDRUSKY: Yes.

4 MR. O'GUIN: A slow-acting valve?

5 MR. ANDRUSKY: Yes. It's a manual
6 valve on the unit. It does not have a flush and
7 drain. It does not have an actual automatic flush
8 and drain.

9 MR. O'GUIN: Is does not have an
10 automatic flush and drain. Is that what you're
11 saying?

12 MR. ANDRUSKY: Some do. Some
13 don't.

14 MR. O'GUIN: You could add that,
15 right?

16 MR. ANDRUSKY: Yes.

17 MR. O'GUIN: Would it still have
18 the manual if you added the automatic?

19 MR. ANDRUSKY: A manual drain?

20 MR. O'GUIN: If you add the
21 automatic like you were speaking of earlier, will
22 it still have the manual gate valve so the
23 inspector can blow it down while he's there on an
24 inspection?

25 MR. ANDRUSKY: Yes.

1 MR. O'GUIN: Okay. That will be
2 what we utilize, Dave, to check the low water.

3 MR. ANDRUSKY: So if a unit just
4 has a manual valve and not the auto valve, is that
5 acceptable for an inspector to do those checks, to
6 flush the vessel and to check the flow switches?
7 Or does it have to be an automatic, something he
8 does from the control?

9 MR. O'GUIN: No. It needs to be
10 manual. We can manually blow it down to check the
11 safeties.

12 MR. ANDRUSKY: So that manual valve
13 is acceptable. Okay. Thank you.

14 MR. BAUGHMAN: This is Dave
15 Baughman, board member.

16 Somebody might want to check the
17 requirements for the high-pressure boiler to see
18 if it's required to have two valves, one slow and
19 one quick.

20 MR. TOTH: Mr. Chairman, this is
21 Marty. I'm sorry. I'm remote now.

22 I can help with that. But it's a
23 miniature unit, so one for its size is allowed.

24 The concern that I have and the
25 Boiler Unit would or should have is these units

1 with automatic bottom blow systems. You can have
2 a surface blow system. The automatic, you cannot
3 have a bottom blow system be automatic per code.
4 It can only be intermittent and manually operated,
5 or -- yeah. It cannot just do it on its own.

6 MR. ANDRUSKY: I'm not quite sure I
7 understand. Are you saying we can't have a
8 scheduled flush?

9 MR. TOTH: You cannot have a
10 scheduled flush, per code. The bottom blow, which
11 would be, in your case, a smaller unit, so it's
12 probably the only blow-down you have. You don't
13 have a surface blow system. You have a bottom
14 blow system. That bottom blow system has to be an
15 intermittent system. It cannot blow down on its
16 own. It has to have human interface for a
17 blow-down.

18 MR. ANDRUSKY: Is it acceptable to
19 have -- because the program offers the option of
20 being able to set a schedule for a flush. If we
21 don't set that schedule and we -- we, actually, do
22 the setup when we do the startup. We don't set a
23 schedule, then, as part of the auto flush, like,
24 you know, at 6:00 in the morning or 1:00 in the
25 morning or whatever it might be, but that is not

1 acceptable? And that the customer would sign off
2 to that effect?

3 MR. TOTH: Again, that would have
4 to be the Boiler Unit and the Board's acceptance,
5 not mine. In that case, my professional opinion
6 would be as long as it's not set up, there
7 wouldn't be an issue. But I've ran into the
8 situation where clients and manufacturers are
9 putting automatic bottom blow-downs in their
10 system, and they just blow down on their own, and
11 that's not within code.

12 MR. ANDRUSKY: Okay. Because if we
13 would have to make a change like that where we
14 would not -- it would not be acceptable, then that
15 means a complete software change and all that.
16 But we can work with the customer on that at the
17 site.

18 That's all. Thank you.

19 CHAIRMAN MORELOCK: Okay. So are
20 there any other comments before we move on? And
21 we're going to table BC 21-01 to the June 2021
22 meeting.

23 MS. LaFRANCE: Okay.

24 CHAIRMAN MORELOCK: All right.
25 Thank you again. You're welcome to stay and hang

1 out with us for the rest of the meeting or
2 whatever you need to do. But again, we do
3 appreciate your time.

4 So that finishes new business. That
5 will take us into -- well, no, actually, we
6 finished new business. Our next rule case and
7 interpretation is BI 21-02, which Mr. Toth has
8 tabled to June as well.

9 So that takes us to open discussion
10 items, and the first one is Mr. Dave Baughman,
11 Tennessee Code Annotated 68-122-110, Inspection of
12 boilers, (a)(2) that states that low-pressure
13 heating boilers shall be inspected by internally
14 and externally biennially where construction will
15 permit.

16 So, Mr. Baughman, I'll let you
17 present that item.

18 MR. BAUGHMAN: Thank you,
19 Mr. Chairman. I appreciate it. And this was an
20 item that got tabled because previous discussions
21 were running lengthy, as this meeting is running
22 lengthy, but it's good to get this up and at least
23 addressed and off the table, especially at this
24 time of year.

25 So the reason this was brought up in

1 previous meetings was as we're out in the field
2 within the industry, what we were finding
3 during -- and this has been going on for a number
4 of years -- but what we were finding was, during
5 inspections, inspectors had been making the notes
6 of, well, you don't need to open that up. And
7 well, you do. And so the discussion then came
8 with where did you get this information. And they
9 said, well, it's just been kind of passed down
10 that these boilers are to be inspected at our
11 discretion, not construction permitting, as the
12 actual code states.

13 And this wasn't an isolated type of
14 discussion. This has been going on for quite some
15 time, and so it just kind of came to a head. And
16 since I was bringing it up and I got charged with
17 putting together further discussion so that we
18 could bring clarity to not only the Board, but
19 really to our industry itself, our inspection
20 industry, our maintenance industry, service
21 industry and so forth, which all works hand in
22 hand.

23 But 68-122-110 is specific in how it
24 states the code presently. And so we wanted to
25 bring clarity to that. And as we talk to those in

1 the service industry, we in the service industry,
2 when we break the boilers open, we see what the
3 results are internally of those boilers. In
4 particular, low pressure, whether the low-pressure
5 steam or hot water boilers, both supply and
6 heating, and there's more and more incidences of
7 failure modes of these boilers that could have
8 been averted through the proper inspection.

9 And so, as the discussion goes, the
10 service personnel/maintenance personnel advocate
11 the code, as it states, there were more inspectors
12 that said, well, I really don't think it needs to
13 be inspected internally on a biennial basis, or
14 once every two years. If the boiler looks good,
15 it's probably going to be good. And so this
16 discussion is just to bring clarity to this
17 particular code.

18 And so what the basis of it was, was
19 that we needed to be able to start from the top
20 down, that is, through the leadership down,
21 because that's where this information comes from,
22 to state, okay, we need to be inspecting these
23 boilers internally once every two years where the
24 construction permits.

25 Now, that, in itself, is its own

1 discussion because the customer will say, well, we
2 can't open this boiler up. There's certain
3 boilers like, let's say, for instance, a Rite or
4 an AJAX that have a big bolted door on each end.
5 It's very difficult to take off, but it can be
6 taken off. It's meant to be taken off. And the
7 manufacturer asks that it be taken off. It's
8 within their recommendations themselves that these
9 units be looked at.

10 But there's certain boilers that are
11 on the market now, some of these high-efficiency
12 boilers of different manufacturers, that are
13 virtually impossible to look at internally. We
14 can look at low-water devices, whether they're
15 probe or float type, we can check float switches,
16 the flow switches. We can check the operational
17 conditions. But some of these boilers,
18 construction is not permitting the internal
19 inspection. And so there's some education that
20 needs to be had within the industry on how these
21 boilers are taken apart, what needs to be taken
22 apart and so forth, instead of taking this wide
23 brush and going, well, they're heating boilers;
24 they only operate four to five months out of the
25 year; they're hot water; there's no influx of

1 makeup coming into them; there's all different
2 aspects to it.

3 But what it boils down to is that
4 these boilers do need to be looked at internally
5 as the code states. And so this discussion is
6 brought to the table so that we can bring some
7 clarity to the industry on that.

8 MR. BOWERS: Well, from the boiler
9 inspector's side, I think it pretty well spells it
10 out when construction permits. Now, the
11 inspectors have a high level of different
12 training, but the authority comes back to the
13 Boiler Unit and the Chief Inspector or Assistant
14 Chief, as we've got now.

15 So I realize, as an inspector, going
16 to a lot of places, that all of us inspectors
17 don't do, maybe, always, the proper job. We
18 usually have a -- our company says, well, if it
19 has the -- if it does have a manhole or hand
20 holds, they really need to be opened up.

21 But sometimes you look at smaller
22 boilers -- but it has to be a case-by-case basis.
23 You know, at some point in time -- I know this
24 year is a really busy time for the Boiler Unit,
25 and I had talked to Mr. O'Guin about it -- maybe

1 all the inspectors getting together and having a
2 training session. And the Boiler Unit kind of --
3 he sets the -- the Boiler Unit and the Chief
4 Inspector sets the tone of what is done and isn't
5 done, and -- as far as construction permits. And
6 he can come back and say, hey, you guys, you-all
7 need to do -- I mean, the Chief Inspector, just to
8 tell you, he's over only -- his state inspector,
9 he's over all the insurance inspectors, too. And
10 he can come back and say, hey, you guys need to do
11 a better job. There's boilers that need to be
12 taken apart, need to be taken apart.

13 But he is the authority, and he can
14 come back and any permit that we submit to the
15 State, he can cancel that inspection. He can say,
16 No, I don't think you-all did.

17 And that's why we try to, as
18 inspectors, put some comments in those comment
19 sections. And I know in the past where people
20 have made comments in the comment section, that
21 they did an external instead of an internal. And
22 this, of course, is a high-pressure boiler, and
23 the State kicked it out and they said, no, no. We
24 want -- just because you couldn't do a confined
25 space does not alleviate your responsibility of

1 doing internal inspections.

2 So it still goes back to the Boiler
3 Unit and the Chief Inspector to make those
4 determinations. I mean, we can make all these
5 rules and stuff, but they are the authority. They
6 are the top cops. They are the guys on top to
7 make the determinations. And the only way they
8 can make them is to -- you know, it's a
9 case-by-case basis. I mean, you can't leave it up
10 to the contractors because they would say, well,
11 every boiler needs to be opened up. But it's got
12 to be a case-by-case basis. And somebody's on
13 top, and that's why we have a Chief Inspector to
14 make those determinations.

15 MR. BAUGHMAN: I appreciate that
16 input, Mr. Bowers, very much.

17 One of the things that we've had
18 discussions on is the accountability of the
19 inspections. Writing things down is part of the
20 accountability, but in this day and age, being
21 able to take a quick picture of things works out
22 extremely well.

23 And so what we've had is a number of
24 times when something is said, that it's been
25 inspected internally, and, because of the varying

1 levels of what we have in our industry, that
2 doesn't always happen. And so, in particular, we
3 had a hot water boiler, yes, we looked at it
4 internally; well, we broke the boiler down and the
5 float was collapsed on the low water.

6 This had passed both an internal
7 inspection, as such, and an external inspection.
8 Those items are supposed to be checked during the
9 operation of the boiler. Well, it, obviously,
10 didn't happen.

11 But what we're looking at is trying
12 to bring an extra level of -- I don't know if it's
13 an extra level, but bringing a level of safety to
14 the state of what our code dictates presently and
15 what the customers are paying for. In other
16 words, we're charged with these inspections, and
17 if the inspections aren't being done properly,
18 then we're not doing the service that we're
19 charged to do.

20 And so that's where we just need to
21 bring this clarity to get everybody on the same
22 page. And there's a lot of in-expertise, as far
23 as designs out there, what's able to be looked at,
24 what's not, what can be opened up, what can't.
25 And so there needs to be a higher level of

1 training in our industry. And that's something
2 that was mentioned in the previous discussion, was
3 bringing additional training to the table for the
4 inspectors.

5 But all in all, I don't necessarily
6 look at it from a case-by-case standpoint;
7 although, the inspector still has it at his
8 discretion, it seems like, to determine this
9 construction permitting aspect of it. And so,
10 again, it's just part of this discussion.

11 MR. BOWERS: But it's his
12 discretion, but yet -- it's not my discretion; it
13 actually goes to the Chief Inspector. I can make
14 a discretion -- I can say, yes, I can't do this
15 inspection the way it is. And Chris can look at
16 it and say, Harold, I looked at your inspection
17 report. I think you could have done a better job.
18 I think you need to go back over there and open
19 that boiler up and do it, or I'm not going to
20 approve this permit. I'm not going to pass this.

21 I'm only the guy submitting it to the
22 State. It comes down to the authority of the
23 Chief Inspector. He is the one who makes that
24 determination of if that permit goes through or
25 doesn't go through. All I can do is submit it to

1 the State, and the Boiler Unit is the one to make
2 the determination, if we're doing it right or not
3 doing it right. He can say you guys need to go
4 out and do a better job, or we talked about better
5 training.

6 But it's our commissions on the line,
7 and the Boiler Unit holds our commission. And he
8 decides if we're going to be allowed to do
9 inspections in the state of Tennessee. It's up to
10 him. If we don't do a good job, he can say, well,
11 you do a good job or else you won't be doing
12 inspections in the state of Tennessee. That's
13 what it boils down to.

14 MR. BAUGHMAN: And one thing I
15 would add is that we sure don't want to go out and
16 have an inspection not approved and have to
17 reinspect it, especially on a hot water boiler.
18 We want to take these boilers down as infrequently
19 as possible. But we sure don't want to drain them
20 any more than what's mandated by our inspection
21 code.

22 So I just think that communication is
23 kind of key on the front end between the customer,
24 the mechanics, and the inspector to be able to
25 identify these pieces of equipment, to know --

1 because the inspector doesn't have -- he's not
2 opening the boiler. He's relying upon somebody
3 else, usually the customer or a contractor, to
4 open the boiler. And so if there's communication
5 ahead of time to say can this boiler be opened and
6 opened competently, without any problems, that in
7 itself may go a long way.

8 But again, it's just getting
9 clarification from the top down to be able to say
10 it's not at the discretion of the inspector. It
11 is part of the code and it is construction
12 permitting, but it goes back, again, to the
13 leadership to be able to communicate whether that
14 boiler is able to be opened up competently or not.

15 CHAIRMAN MORELOCK: Mr. Toth?

16 MR. TOTH: This is obviously not a
17 situation that is new, as Mr. Baughman alluded to.
18 This is something that has been going on for
19 decades, including under my tenure as Chief.

20 The way that the inspectors were
21 trained, especially in regards to the different
22 types of low-pressure boilers, they were
23 restricted because the code reads and the code
24 only allows -- now, I say "only allows" -- you can
25 inspect it as many times as you want. But the

1 owner/user is only going to be invoiced for the
2 inspection that is performed for the certificate
3 on a low-pressure boiler, being once every two
4 years, so that's a biennial. And so with
5 high-pressure boilers, you had a biannual
6 inspection, so that was, you know, roughly every
7 six months. The only way that I see that this can
8 be something that is truly enforceable is two
9 ideas. Number one: Obviously, we've talked about
10 the training of the individuals, but that goes
11 over into the rules being altered specific to
12 different size and models of units that are out
13 there. Okay?

14 I've seen in other jurisdictions
15 where they separate hot water supply units, hot
16 water heaters, from hot water heating boilers,
17 from high-temp water boilers. And so construction
18 plays a big part of that.

19 The inspector has to be entrusted.
20 That's what they're doing. They're being
21 entrusted when they receive a commission from not
22 only from the National Board but, more
23 specifically, the State of Tennessee to do their
24 job. Okay?

25 If we look at the internal inspection

1 versus the external inspection, what we will find
2 is if we are limited to one inspection for a
3 low-pressure boiler, I'm probably going to lean a
4 little bit more towards an external where we're
5 actually testing the controls and safety devices.

6 On a high-pressure boiler, they're
7 equally important to me. On a steam boiler, no
8 matter high pressure or low pressure, both are
9 extremely important. Okay? We've got to look at
10 is it a water boiler or is it a steam boiler. If
11 it's a water boiler and it's a hot water heating
12 boiler, it's better to keep those boilers closed
13 so we don't allow for oxygen to get into the
14 system that is highly corrosive.

15 So there's a lot more to this than
16 just saying, okay, we're going to train some
17 people. There's a lot more homework that's going
18 to have to be done in this to get -- either it's
19 handled as guidelines to inspectors, training
20 those inspectors, and getting the rules and
21 regulations in line with what you're wanting the
22 inspectors to do. Thank you.

23 MR. BAUGHMAN: I appreciate that
24 input, Mr. Toth. Part of the argument in this
25 discussion was -- or the debate, I should say --

1 was within the hot water end of it, being that
2 it's a closed-loop system, you don't want to bring
3 in fresh oxygen and what have you. The problems
4 that we've encountered have been boilers that have
5 been full of mud, the hot water system piping
6 leaks between the boiler room and the gymnasium,
7 the boiler room and whatever the system where
8 they've got piping that leaks. And when it leaks,
9 it has an influx of make-up water. It brings in
10 sediment and so forth.

11 These boilers are maintained to a
12 very low degree and are attended to by a low
13 degree. In a lot of instances, these boilers are
14 at schools, churches, apartment buildings. The
15 person that's maintaining the boiler, checking the
16 boiler is the same one that's waxing the floors,
17 taking care of the lockers, so forth. They're
18 very little trained, if any, and don't have a high
19 degree of operational background.

20 So we're talking about boilers
21 that -- we're looking at checking the controls
22 once every two years, but we're not looking at the
23 internals. And so the pictures that we've
24 documented have shown these hot water boilers that
25 are in horrible shape. And the claims that were

1 put in -- and there's two in particular, but one
2 at a church and one at a school -- the insurance
3 company was denying the claim because they were
4 claiming erosion and corrosion because of improper
5 maintenance of the boiler. And the boilers had
6 never been opened up. And if they had been opened
7 up, these conditions would have been found and
8 tended to and so forth. So the insurance company
9 came back and paid the claims, because the
10 inspector confirmed they had never looked inside
11 the boilers.

12 So ASME has in their Article 11
13 inspections of installed boilers, and under 11.1,
14 periodic inspection of boilers. In (a) all
15 boilers should be prepared for inspection. And it
16 gives it back to jurisdictional requirements and
17 so forth. Instead of specifically stating you
18 have to do this, it goes and states to follow the
19 jurisdiction.

20 In our particular state, years ago --
21 and I've been here 44 years this year -- this used
22 to be part of what we did. It was -- in past
23 administrations, these boilers were opened up.
24 And somewhere along the line things changed. And
25 I don't know why they changed, but the rhetoric

1 changed, and that's why this needs to be brought
2 back full circle where it was supposed to be.
3 But, there again, that's what I've seen in the
4 industry. That's what we're experiencing when
5 we're opening these boilers up. Kind of, the
6 proof is in the pudding.

7 But we've got a code that is pretty
8 specific in its wording. So I bring this up for
9 discussion for not only Mr. Toth and Mr. Bowers
10 and Mr. Robinson, but, also, getting Mr. O'Guin's
11 input in on it also.

12 MR. O'GUIN: Yes, Dave. I was
13 sitting here reading the law. You know, the law
14 says "Low-pressure heating boilers shall be
15 inspected, both internally and externally
16 biennially where construction will permit."

17 And I will agree there's some
18 low-pressure boilers that should be opened up. I
19 guess it's something we need to look at and, you
20 know, whether we need to write an interpretation
21 or how we need to handle it for the insurance
22 agents, because I can't train every insurance
23 inspector that comes from all over the United
24 States to inspect in Tennessee. You know, they
25 may call and get a Tennessee commissioner for an

1 inspector in Tennessee from California, and he'll
2 be here next week. There is some things coming
3 later on down the line to maybe help with this
4 issue.

5 But at the current time, you know, we
6 may have may to look at an interpretation to
7 supply some of this code that needs to be
8 enforced.

9 CHAIRMAN MORELOCK: So,
10 Mr. Baughman, where do we do go from here?

11 MR. BAUGHMAN: Well, that's a good
12 question. That was part of the discussion. What
13 I would like to have is from the administrative
14 leadership in the Boiler Unit to be able to
15 communicate through their unit back to the state
16 inspectors and the insurance inspectors in
17 whatever form that may take is that these boilers
18 need to be inspected as the code states,
19 construction permitting, but not at inspector
20 discretion.

21 In other words, if there's a question
22 on whether this boiler can be inspected internally
23 and competently, then that needs to be directed
24 back to the Boiler Unit. The Boiler Unit can then
25 research that back out through its own means in

1 the industry, whether that's through the
2 manufacturer or service company or whoever, and be
3 able to advise the inspector back on whether that
4 boiler can be inspected internally with the
5 construction permitted.

6 CHAIRMAN MORELOCK: So would this
7 be handled at the state level or would it be
8 handled through QAI and ASME or a committee on the
9 National Board, or what are your thoughts on that?

10 MR. BAUGHMAN: Well, personally, I
11 think that we've got a code in place as it is, and
12 it's our jurisdictional code requirement. And
13 passing that information back down, whether that's
14 in the form of a letter, an email, or what have
15 you, so that there's at least some clarity to say
16 we're enforcing this code to the extent that it
17 needs to be, and where there's further questions
18 on the construction of the boiler, to be able to
19 bring those up.

20 I don't know if it goes back so much
21 past our jurisdiction or not as it is taking the
22 code that we have in our statute and passing that
23 information back to our inspectors. I'll let
24 Mr. O'Guin kind of give his input on that.

25 MR. O'GUIN: Chairman, I think we

1 can handle this within the WRC unit itself
2 probably via letter. What I was trying to look at
3 real quick in the law, does it give the Chief
4 Inspector the -- I'm thinking it does but I can't
5 recall the code -- the authority to grant a
6 variance for any specific low-pressure boiler?
7 Like, say, if there is one that we can't do an
8 internal on, you know, the Chief Inspector, if
9 reached out by the insurance company, could say
10 yes, it's okay to perform an external in lieu of
11 an internal?

12 CHAIRMAN MORELOCK: There's words
13 in there. I don't have it right off the top of my
14 head. I see Dan reaching for a book. I don't
15 know if he's looking it up. He's grinning so he
16 may be looking.

17 MR. BAILEY: I've tried to take a
18 quick look, but I don't recall that being in the
19 statute, Chris. Now, I could be wrong. I'm
20 thinking all variances have to go through the
21 Board.

22 CHAIRMAN MORELOCK: Oh, they do.
23 But -- I mean, you're correct on that, but --

24 MR. BAILEY: Okay.

25 CHAIRMAN MORELOCK: I think

1 Mr. O'Guin is thinking about the rule, right?

2 MR. O'GUIN: Yes, sir.

3 CHAIRMAN MORELOCK: So we would
4 just have to go back and research that. I guess
5 my thoughts on it is, is this something that -- I
6 know, due to COVID and things, we didn't get to do
7 a fall conference, but is that something that we
8 could do annually at a September fall conference
9 or something to get the inspectors and the board
10 members and get everybody together and have good
11 conversations and training about this?

12 MR. O'GUIN: It is. I don't think
13 this year we will have the time to plan a
14 conference for the insurance companies as well. I
15 think this year we need to stick strictly to state
16 inspectors at our fall conference due to the new
17 computer system coming into play --

18 CHAIRMAN MORELOCK: Okay.

19 MR. O'GUIN: -- you know, possibly
20 in May, and all the other changes within the unit.

21 CHAIRMAN MORELOCK: Okay.

22 MR. O'GUIN: I think it would be
23 too time stressing to get everything prepared for
24 a statewide training.

25 CHAIRMAN MORELOCK: And excuse me

1 in my ignorance, because I'm a pressure vessel guy
2 more than a boiler person, but is there a specific
3 brand or construction type that you could say this
4 is what we're talking about, is this type of
5 boiler or brand of boiler? Is there something out
6 there to where you know that it's going to be
7 difficult to inspect?

8 MR. O'GUIN: There's a lot of
9 different brands that yes, there's really no way
10 to do an internal on them. And you could open a
11 plug on the side, you know, but --

12 CHAIRMAN MORELOCK: Yeah.

13 MR. O'GUIN: -- other than that --
14 I mean, but there's going to be a lot we can't do
15 an internal on.

16 CHAIRMAN MORELOCK: Well, and what
17 I'm getting at -- and don't laugh at me but --
18 this is kind of an out-there idea, but if you go
19 to PBMA, you know, they mandate rules for air
20 receivers that you have to put a three-quarter
21 inch nipple or whatever near the circ seams,
22 specifically, so that a guy can get a mirror and
23 go in there and look at those head-to-shell circ
24 seams, as for an inspection. And so I don't know
25 if you've got leeway of doing that to a boiler or

1 not. Like I say, that's very simplistic, but --

2 MR. O'GUIN: And there are ways. I
3 mean, you take these stand-up water heaters, I
4 mean, they have the plates on the side you can pop
5 off and you can see the hand holds. So, I mean,
6 you could -- even those, you could do an internal,
7 but you can tell by the hand holds and et cetera
8 on those vessels, particularly the ones I just
9 spoke of, whether they need an internal or not.

10 CHAIRMAN MORELOCK: Yeah.

11 MR. O'GUIN: I think the ones that
12 are in question are the big boilers that it can be
13 opened that are not being opened.

14 MR. BOWERS: Yeah. It's a
15 case-by-case basis. And I think the training down
16 the road would be good, and that way they can show
17 pictures of boilers that need to be opened and
18 boilers that probably can't be opened. I think
19 it's a training thing. And that's almost like a
20 case-by-case basis. And as it comes to -- as the
21 inspection reports come to the Boiler Unit, you
22 know, the guys in the Boiler Unit know which --
23 some of the boilers that probably should have been
24 inspected internally or not.

25 What they need to do is probably, on

1 their inspection report, when you submit for an
2 inspection report, make a note of that, that it
3 was done internally or externally, and that way
4 the Chief knows what kind of inspection was done
5 and he can look at it and say maybe this is not
6 the correct inspection for what you're doing.

7 MR. O'GUIN: I would like to speak
8 on that a little. There's no way I can look at
9 every inspection report that comes through this
10 unit. But you can put in an internal even on a
11 low-pressure boiler. I'm not sure how JO works,
12 but we can in our system.

13 But if Mr. Baughman and Chairman, if
14 you-all want to table this and I can reach out to
15 the National Board and see what other
16 jurisdictions do as well, see if they have, you
17 know, specifics that they -- internal, and, you
18 know, specifics they don't. I'll be glad to do
19 that, and Jenny and I can present what I found and
20 we can -- you know, we can make a decision and I
21 can send a letter out to all the insurance
22 companies, and, of course, have a training for the
23 state inspectors from that point forward.

24 CHAIRMAN MORELOCK: Well, we can
25 certainly work with the National Board and, you

1 know, all the chiefs have access to the form, but
2 we can also go to the National Board and present
3 them with a question and let them do a survey
4 through all the chiefs and get you some data back.
5 So I think that would be a good thing to do.

6 MR. O'GUIN: Yeah. That would be a
7 good tool to utilize.

8 MR. BAUGHMAN: I agree with that.
9 One of the things I would like to do is make sure
10 that we stay on top of it for the simple fact that
11 most of these hot water boilers and low-pressure
12 steam that are used for nonprocess that are
13 strictly heating boilers get inspected during the
14 days that have no heating degree days, in other
15 words, during the summer months, is the time of
16 their inspection, or at least at the time that
17 they should be inspected.

18 So I would like to, if we're going to
19 discuss this further in June, make sure that we
20 get our information available just so that we can
21 stay on top of this, because we're going through
22 this now, scheduling up some of the inspections
23 for these heating boilers. If they're a process
24 boiler and we've got hot water process boilers
25 around the area, high-temperature hot water

1 process, it still falls under the same type of
2 thing.

3 Sometimes it gets discussed; well, we
4 look at a boiler if it's a production boiler or if
5 it's, you know, in a brewery or if people look at
6 it internally. But if it's another facility, not
7 so much. And that's where I need to make sure
8 that we don't have this wide variable in what it
9 is that we're actually looking at internally.

10 So I think the suggestion of getting
11 information from the other chiefs is super, and
12 we'll continue to do that on other items that come
13 up within our codes. I think that's an excellent
14 resource that you guys have to bring to our table.

15 CHAIRMAN MORELOCK: Yeah. I'll
16 work with Mr. O'Guin, and we'll work with the
17 National Board and see what we can come back with.

18 MR. BAUGHMAN: Okay. Great. Well,
19 we'll put this on the agenda then, if that's
20 acceptable, to have more open discussion in June.
21 Is that correct?

22 CHAIRMAN MORELOCK: Yes. That's
23 why we have discussion items. That's exactly
24 right.

25 MR. BAUGHMAN: Great. Well,

1 thanks. Thanks for all of you bringing your input
2 to the table on this.

3 CHAIRMAN MORELOCK: Very good.

4 Okay. Our last discussion item is
5 the Variance Guideline & Checklist Revisions. And
6 so my question is does everybody have a copy of
7 that hen scratching that I sent you? I do
8 apologize. I just ran out of time to make it
9 pretty. But this will give us an opportunity
10 to -- so you won't feel bad about marking this one
11 up, see, so...

12 All right. So does everybody have a
13 copy?

14 MR. BAUGHMAN: Yes, sir.

15 CHAIRMAN MORELOCK: Okay. All
16 right. So what I've done is, if you look on
17 page 1 of 5 for the boiler attendant variance
18 rule, I've changed the revision number from 10 to
19 11, and then I've changed the date from May 2017
20 to June 2021. I'm going to be optimistic that I'm
21 going to get this done and get it on the agenda to
22 vote in June.

23 What I did was I incorporated the
24 board members' comments. And so the first comment
25 was -- is we don't need the word "computerized"

1 anymore because if you buy a new boiler, it's
2 going to have computerized systems on it anyway.
3 So in the first paragraph, on the first page, I
4 struck the word "computerized" in the first
5 sentence.

6 And then if you go on to the flow
7 chart on page 2 of 5, I modified the flow chart to
8 add a box on the right side that if you are coming
9 up on your renewal for your variance, instead of
10 automatically scheduling it going to the Board for
11 a review, you come up to this new box that's a
12 yes/no in the work flow to say technical changes
13 to the variance. And if it's no, then it's
14 renewable by the Boiler Unit. And if it's yes,
15 then you go through the normal process of renewal
16 through the Tennessee Board of Boiler Rules to get
17 that variance reapproved with the technical
18 changes.

19 Any questions or concerns about that?

20 MR. BAUGHMAN: The left-hand side
21 of the flow chart, Mr. Chairman, where it starts
22 with prepare variance and comes down to Chief
23 Inspector --

24 CHAIRMAN MORELOCK: Yes.

25 MR. BAUGHMAN: -- and then Board of

1 Boiler Rules reviews it, then Board of Boiler
2 Rules approves it or not.

3 CHAIRMAN MORELOCK: Yes.

4 MR. BAUGHMAN: And now I
5 understand, going through the process. But after
6 the approval, then it comes down with Boiler Board
7 notification of approval. Do we actually get
8 that? Is that done through our board meeting
9 where they say that there's been inspections and
10 they've passed and so forth? Is that what I'm
11 understanding?

12 CHAIRMAN MORELOCK: Yes. That's
13 typically done in the Chief's report or the
14 Assistant Chief's report.

15 MR. BAUGHMAN: Okay.

16 CHAIRMAN MORELOCK: That's where
17 you get the statistics and all that, so...

18 MR. BAUGHMAN: Well, in that -- so
19 we get that, but then it goes from that to the
20 request for state inspection. And actually, it
21 goes state inspection first, and then we get
22 notified of the approval, is it not?

23 (No verbal response.)

24 MR. BAUGHMAN: We can't get
25 approval without having the inspection first.

1 CHAIRMAN MORELOCK: Well, yeah.
2 Because what you're looking at is if that was a
3 new variance, you know, you're right. Because we
4 would approve it, then there would be a site
5 visit, and then that would take you over to the
6 Boiler Unit. So we may have -- you're saying
7 we've got some redundancy in there? Is that what
8 you're thinking?

9 MR. BAUGHMAN: Well, no. I think
10 that the request for state inspection would go in
11 place of the Boiler Board notification of
12 approval. I think that those two would just swap.

13 CHAIRMAN MORELOCK: Okay. I got
14 you. I can do that.

15 MR. BAUGHMAN: Does that make
16 sense?

17 CHAIRMAN MORELOCK: Yes. Do the
18 other board members agree with that?

19 (No verbal response.)

20 CHAIRMAN MORELOCK: I'll show that
21 swapped.

22 MR. O'GUIN: I was taking that as
23 us, like, notifying the variance applicant.

24 CHAIRMAN MORELOCK: For the Boiler
25 Board notification of approval or the request

1 for --

2 MR. O'GUIN: Right. That's the way
3 I was reading that. Which I don't know why we
4 would need it, because if you're yes, you're
5 automatically going down to request for a state
6 inspection.

7 CHAIRMAN MORELOCK: Yes.

8 MR. O'GUIN: And then you're going
9 into the, you know, State of Tennessee inspection
10 and mods and et cetera.

11 MR. BAUGHMAN: I'd particularly
12 like to know whether they're approved or failed,
13 so I would still look to have that in the flow
14 chart.

15 MR. O'GUIN: Okay.

16 MR. BAUGHMAN: As when you
17 presented it earlier, it's good information to
18 know.

19 MR. O'GUIN: Okay.

20 CHAIRMAN MORELOCK: So I'll
21 tentatively mark it up, swapping the positions of
22 those two items, and you can think about it.

23 MR. BAUGHMAN: Thank you,
24 Mr. Chairman.

25 CHAIRMAN MORELOCK: You're welcome.

1 MR. O'GUIN: Could we word that,
2 Brian, to Boiler Board Notification of Boiler Unit
3 Approval instead of just the Boiler Board of
4 Notification of Approval?

5 CHAIRMAN MORELOCK: Sure, I can do
6 that. So tell me one more time so I get your
7 exact words here.

8 MR. O'GUIN: Boiler Board
9 Notification of Boiler Unit Approval.

10 CHAIRMAN MORELOCK: Okay. Got it.
11 Is there any other changes on that flow sheet for
12 page 2 of 5?

13 (No verbal response.)

14 CHAIRMAN MORELOCK: I'll make those
15 changes and, like I said, I'll make it look a lot
16 nicer and get it out to you.

17 All right. Hearing none, I'm going
18 to move on to page 3 of 5, which is the guideline
19 document. And the first change, again, is in the
20 header. I'm going to take out the word
21 "computerized." It will be Guidelines for Remote
22 Monitoring of Boiler Systems. And again, I will
23 change the revision from 10 to 11, and the date
24 from May 2017 to June 2021.

25 And then we go on down to Item 2, and

1 the second sentence in that where it says a
2 computerized remote monitoring system is the
3 minimum requirement, I just struck the word
4 "computerized," and then I also added a sentence
5 to the last part of that Item 2 to state the
6 approval date of the variance is the date of the
7 Boiler Unit inspection and site visit.

8 MR. O'GUIN: Mr. Chairman, I had a
9 question on that.

10 CHAIRMAN MORELOCK: Okay.

11 MR. O'GUIN: Our system is capable
12 of telling us when it expires from the inspection
13 date. We're getting so many that are applying way
14 before they get the equipment in, so they're
15 having to -- you know, it may be two years before
16 they're ready for an inspection. And to be fair
17 to them, we're letting them change the manual date
18 so we're not back in another year to have them do
19 another renewal.

20 CHAIRMAN MORELOCK: Well, and
21 that's fair, because we used to put the approval
22 date as when the Board approved it.

23 MR. O'GUIN: Right. That's what I
24 was wondering. Should we keep it that date or
25 should we change it to the inspection date of the

1 Boiler Unit? It would expire three years from
2 that date.

3 CHAIRMAN MORELOCK: That's what I
4 would recommend. That's why I've added this
5 sentence that the approval date of the variance is
6 the date that the Boiler Unit has an inspection
7 and site visit. That will be the date that you
8 will set your three-year renewal on.

9 MR. O'GUIN: Okay.

10 CHAIRMAN MORELOCK: Because, like
11 you said, if somebody was building a whole new
12 facility, which we've seen several of those, they
13 come to the Board and get a variance, and three
14 years later, they still may be under construction,
15 you know, so...

16 MR. O'GUIN: Instead of expiring
17 three years after the approval was granted by the
18 Board, it's going to be after the approval date of
19 the Boiler Unit inspection?

20 MR. BAUGHMAN: Yes.

21 MR. O'GUIN: Okay.

22 CHAIRMAN MORELOCK: This
23 variance -- the approval date of the variance is
24 the date of the Boiler Unit inspection and site
25 visit. And that's what you'll put on the manual.

1 Is everybody okay with that?

2 MR. BOWERS: I have one question on
3 that. Once they get that initial inspection done,
4 then, from then on, that will be their birthdate.
5 And every three years they'll keep that same date
6 no matter when they do their inspection, correct?

7 CHAIRMAN MORELOCK: Well, the only
8 thing that would throw a wrench in that is if -- I
9 would agree with you 110 percent if they made no
10 technical change to their manual. But if they
11 make a technical change to the manual, then it's
12 got to come back to the board, and then you've got
13 to do another site visit. So that's going to
14 throw that off every three years, right?

15 MR. BOWERS: So they'll have a new
16 anniversary date, basically.

17 CHAIRMAN MORELOCK: If they have a
18 technical change.

19 MR. BOWERS: Yeah.

20 CHAIRMAN MORELOCK: I mean, do
21 you-all agree with that?

22 MR. BOWERS: Perfect, I think.
23 It's a good idea.

24 CHAIRMAN MORELOCK: All right. I'm
25 not hearing any opposition. Going once, going

1 twice. All right.

2 And so, then, going down to
3 paragraph 3, a variance grant will expire three
4 years after approval is granted by the Board,
5 which Mr. Bowers just talked about. And so I was
6 going to put an "and" in that first sentence to
7 say the variance grant will expire three years
8 after approval is granted by the Board and a
9 successful inspection by the Boiler Unit.

10 What do you think about that?

11 MR. BOWERS: Sounds good to me.

12 CHAIRMAN MORELOCK: Because --

13 MR. BAUGHMAN: I couldn't read the
14 writing where it said the Boiler Unit. But I'm
15 good with that now. Sorry. I just had to put
16 that in there.

17 CHAIRMAN MORELOCK: That's quite
18 all right. No, no, no. I have to apologize to
19 Cassandra every time she transcribes. She's
20 getting pretty good with this Tennessee English.

21 MR. BAUGHMAN: I agree with this.

22 CHAIRMAN MORELOCK: And so I think
23 that makes sense. So let me ask you this: For a
24 variance that comes to the Boiler Unit, no
25 technical changes, they're just re-upping it, do

1 you do a site visit?

2 MR. O'GUIN: Yes.

3 CHAIRMAN MORELOCK: Okay. So then
4 that will make perfect sense to add that into that
5 sentence. Because, obviously, if there's
6 technical changes, you would expect that. But if
7 it's a regular renewal where we don't even -- the
8 Board doesn't get involved with it, it's strictly
9 through the Boiler Unit, then adding that to three
10 will make sense that a variance grant will expire
11 three years after the approval is granted by the
12 Board and a successful inspection by the Boiler
13 Unit. And if you just do a straight-up renewal,
14 you'll have a site visit as well. So that's good.

15 All right. Any more questions about
16 page 3 of 5?

17 (No verbal response.)

18 CHAIRMAN MORELOCK: All right. I'm
19 going to move on to page 4 of 5. And honestly,
20 the only change I have there is, if you go to
21 paragraph 2, item B, the last sentence, right at
22 the end of that, there's two "the's" in there, so
23 I'm just striking one of the "the's" out. So
24 that's just an editorial.

25 I have no changes on page 5 of 5.

1 And then that takes us to the checklist.

2 MR. BAUGHMAN: I had one item that
3 we had listed, and it may be in here, quickly.

4 CHAIRMAN MORELOCK: That's fine.

5 MR. BAUGHMAN: But it was under
6 Section 2, the system operating manual was that --
7 and it may have been changed. Let's see. It says
8 any changes must have prior review and acceptance
9 of the Tennessee Board of Boiler Rules.

10 And so in those comments that were
11 sent back in in October, I put down that it was
12 worth a discussion on what changes constitute
13 technical or editorial.

14 CHAIRMAN MORELOCK: What page are
15 you on?

16 MR. BAUGHMAN: Page 4.

17 CHAIRMAN MORELOCK: Of 5? Okay.

18 MR. BAUGHMAN: Of 5.

19 CHAIRMAN MORELOCK: And it's
20 paragraph 2?

21 MR. BAUGHMAN: No. This was in
22 paragraph 1.

23 CHAIRMAN MORELOCK: Oh, okay. I
24 see it.

25 MR. BAUGHMAN: And it's, I think,

1 the next to the last sentence. Any changes must
2 have prior review and acceptance. And so --

3 CHAIRMAN MORELOCK: We need to put
4 "technical" in there, don't we?

5 MR. BAUGHMAN: Yes.

6 CHAIRMAN MORELOCK: Okay.

7 MR. BAUGHMAN: I thought so.

8 CHAIRMAN MORELOCK: Yeah, that's
9 right. That's a good catch. So I will add the
10 word "technical" in that next-to-the-last sentence
11 where it says any technical changes must have
12 prior review and acceptance by the Tennessee Board
13 of Boiler Rules, right?

14 MR. BAUGHMAN: Yes, sir.

15 CHAIRMAN MORELOCK: Okay. Good.

16 MR. BAUGHMAN: Then, under
17 Section -- in that same section on page 4, coming
18 down to Section 2(b) --

19 CHAIRMAN MORELOCK: Okay.

20 MR. BAUGHMAN: -- was -- the
21 recommendation was, again, to remove the wording
22 of "computerized," making --

23 CHAIRMAN MORELOCK: Oh, yeah. I
24 missed that one. Sorry.

25 MR. BAUGHMAN: That's all right.

1 And then, also, we worded the "dynamic
2 self-checking," that whole statement of the
3 primary controller shall be dynamic self-checking,
4 that was discussed because not all of the
5 computerized systems were necessarily dynamic
6 self-checking and whether that was really a
7 necessary requirement of remote monitoring, which
8 we'd talked about "not necessarily," so...

9 CHAIRMAN MORELOCK: Okay. So just
10 take that whole sentence out?

11 MR. BAUGHMAN: Deleting --

12 MR. TOTH: Mr. Chairman, this is
13 Marty. You want to keep "self-checking" in there.
14 It's just the phrase "dynamic" is unnecessary and
15 usually a manufacturer's term.

16 CHAIRMAN MORELOCK: Okay. Just
17 take out the word "dynamic"?

18 (No verbal response.)

19 CHAIRMAN MORELOCK: Yes?

20 MR. BAUGHMAN: And when you -- so,
21 Mr. Toth, to further discuss that, there's certain
22 controls that aren't dynamic or self-checking,
23 i.e., the low-water cutoffs.

24 MR. TOTH: Okay. Well, that's -- I
25 agree with that, but that's not the same -- that's

1 not the same thing.

2 MR. BAUGHMAN: I guess I don't
3 understand.

4 MR. TOTH: Well, because when
5 you're talking about the boiler operation, you're
6 talking about the burner management system, i.e.,
7 Flame Safeguard, you don't have dynamic
8 self-checking in regards to water level
9 indication. Your water level indication is going
10 to be sending a signal. That signal, wired
11 through your alarm circuit is what's going to trip
12 that boiler. That boiler is what's going to be
13 dynamic -- or it's self-checking that boiler
14 control.

15 So when you -- if you take out
16 "self-checking" -- and the reason why
17 "self-checking" was put in had to do with
18 self-checking your flame scanner. And flame
19 scanners do a self-check between three and four
20 seconds by code. And so does your controller. So
21 that's where that terminology came into play.

22 And under the previous line item for
23 a request from the hospital, you asked that
24 question concerning the low-water cutoff and gas
25 pressure switches and things of that nature

1 because that's not really part of what the
2 variance -- the variance has to be self-checked
3 through the burner management system, not the
4 low-water cutoff. Then the low-water cutoff is
5 just wired directly into the alarm circuit.

6 MR. BAUGHMAN: Uh-huh. So -- and I
7 hear what you're saying. So systems that would
8 not have self-checking -- in other words, what
9 you're saying is the flame scanner, i.e., in
10 infrared or an ultraviolet scanner would be
11 self-checking.

12 MR. TOTH: You're saying IR and UV.
13 The situation that you run into, most scanners are
14 not designed specifically for dynamic
15 self-checking. What is, is the controller looking
16 for that signal every three to four seconds.
17 That's where the self-checking comes into play.
18 Because if not, then you're going in and pretty
19 much every variance that we have out there -- not
20 every but a good portion of them don't have
21 dynamic self-checking flame scanners. It's all
22 controlled through their flame safeguard, i.e.,
23 the burner management system.

24 The only thing that you're going to
25 have that would be, quote/unquote, self-checking

1 in a low-water cutoff is going to be a model like
2 a Clever-Brooks Level Master, that if the float
3 doesn't move within a certain amount of time
4 because it assumes that no water level is going to
5 stay at the same level, it will cause an alarm.
6 Other than that, you're not going to find that.

7 MR. BAUGHMAN: I guess what I'm
8 getting at is systems that have rectification
9 instead of ultraviolet in the scanner and
10 infrared. The scanners themselves have a
11 detection to time of whether it's 0.8 seconds or
12 3 seconds. But the controls themselves aren't
13 necessarily all self-checking.

14 So what we're looking at is if this
15 controller -- and we've looked at this in the past
16 on some of these systems, and that's why it's
17 important that we look at the flame programmers,
18 was whether or not they met a requirement of
19 self-checking, whether they be old 4140s or fire
20 programmers or what have you.

21 So if, in fact -- and what we're
22 wanting to do is monitor the systems themselves;
23 in other words, the flame management system,
24 whether the boiler is locked out, and whether or
25 not this whole self-checking aspect of it actually

1 brings to the level of safety that we're wanting
2 to, or if it's discriminatory in its application.

3 MR. TOTH: Right. And my take on
4 that is when you -- you know, you're taking out
5 the verbiage "computerized" because it's assumed
6 all boilers are computerized now, which if you get
7 a new boiler, it is. There's very, very few
8 manually operated boilers out there.

9 The issue that you do is if you take
10 out things like self-checking, okay, even the term
11 "dynamic" -- and I mentioned this quite a few
12 years ago in a board meeting of where the word
13 "dynamic" came from, constant change or a change,
14 and you say, oh, well, we're not going to use a
15 system that is self-checking. Okay? Because --
16 and we start doing that and you start removing
17 stuff, where is the backbone of what you have for
18 the variance and the monitoring equipment that
19 you're going to accept?

20 Are you with me?

21 MR. BAUGHMAN: I am to an extent.

22 MR. TOTH: A little bit?

23 MR. BAUGHMAN: But there again,
24 what we're monitoring is the flame management
25 system, the parameters that we're setting in. We

1 don't really even dictate those parameters. We're
2 asking for a remote monitoring system to where
3 we're not spelling out specifically what we're
4 monitoring. And so whereas we're not specifically
5 spelling that out, in other words, there's a lot
6 of parameters to monitor, but we're leaving it up
7 to the programmer to give that information back,
8 but we're taking it a step further and saying that
9 it's got to be self-checking. And so at some
10 point in this great discussion, I just don't agree
11 with that wording as we stand within the
12 components that are broadly installed in our
13 industry. Yes, the new equipment has the newest
14 controls that are on the market. But we're
15 applying variances to everything that's on the
16 market, whatever age and whatever type of
17 equipment that's out there. So that's where my
18 thinking was from the standpoint of it's somewhat
19 discriminatory to apply this, especially to the
20 extent that we're not taking it to the degree of
21 specifying what has to be monitored.

22 MR. TOTH: Okay. With that, let me
23 ask the question to you and the Board. Is it
24 allowed for a manually operated boiler to receive
25 a variance in the state of Tennessee?

1 MR. BAUGHMAN: I would ask what is
2 "manual"?

3 MR. TOTH: Okay. Manual operation.
4 Well, more specifically, what is automatic? If we
5 talk about what is automatic, an automatic boiler
6 is a boiler that is started and shut off
7 automatically based on the control settings.
8 Okay?

9 So if we take out things such as
10 "computerized," we take out "self-checking," what
11 do we have that states that someone that has a
12 manually operated boiler, i.e., a boiler that is
13 going to have feedwater entered when needed, fires
14 enter the burner controls based on load demand.
15 Okay? And other situations like that are all
16 automatically -- usually automatically done
17 through the control systems, but we're removing
18 all of that. Okay?

19 I know you've got vast amounts of
20 experience, Mr. Baughman. But there's other
21 boilers out there, okay, that are still manually
22 being operated. Okay?

23 MR. BAUGHMAN: Fuel fired being gas
24 and oil?

25 MR. TOTH: You can have gas. You

1 can have oil. You can have solid fuel. So are we
2 specific to say that these are only boilers that
3 are gas and oil? Because oil, we're used to
4 seeing in this industry one burner, one boiler one
5 burner. Not one boiler, multiple burners that
6 we're going to remove a burner. Okay? The gun
7 from the burner can run at a lower pressure or a
8 lower rate of steam.

9 So all I'm saying is be careful of
10 what you remove, because you may get a few
11 requests that come in for some really outdated
12 stuff.

13 MR. BAUGHMAN: Well, and then that
14 would be our prerogative to discuss it at that
15 particular time. I can see where you're going
16 from a solid fuel standpoint. I sure don't know
17 anything where somebody is lighting something up
18 manually from the gas side or the oil side or
19 manually doing feedwater unless it's a traction
20 engine or something from the historic standpoint.
21 So -- yeah.

22 MR. TOTH: You know, I
23 appreciate -- I gave my two cents on it. You
24 guys -- you know, you do whatever you see fit with
25 it, and we're good. I've got to go into another

1 meeting, so I look forward to reviewing this. Is
2 this going to be issued for public review once
3 it's put out there before it's voted on? What's
4 the schedule for that?

5 CHAIRMAN MORELOCK: Well, I think
6 the plan is, you know, the Board will approve it,
7 you know, in June or September. I don't -- I know
8 we have public review on obviously the law and
9 through the legislative process. And I know we
10 had a review when we reviewed Rule 800. But I
11 don't know that we had a public review for a
12 guide.

13 MR. TOTH: And that's fine. My
14 biggest concern is I've had an interpretation into
15 the state office for over a year asking questions
16 about this. And either -- I want to make sure
17 those concerns are answered and those questions
18 are answered. And that's all I ask.

19 CHAIRMAN MORELOCK: Okay.

20 MR. TOTH: Because I have clients
21 that this is what they do, and I want to make sure
22 they're represented appropriately. And I have not
23 seen you-all's draft. And like you said, it's a
24 guideline. But I just want to make sure we -- if
25 there's something that we can nip in the bud

1 before it goes out there so you don't have to go
2 through the process of more interpretations or
3 more changes.

4 CHAIRMAN MORELOCK: I agree with
5 that.

6 MR. TOTH: Okay.

7 CHAIRMAN MORELOCK: I agree with
8 that.

9 MR. TOTH: All right. Well, thank
10 you very much.

11 CHAIRMAN MORELOCK: Thank you.

12 MR. BAUGHMAN: Thanks, Mr. Toth.

13 MR. TOTH: You're welcome, sir.

14 CHAIRMAN MORELOCK: All right. So
15 with that said --

16 MR. BAUGHMAN: Yeah. So that was
17 great discussion.

18 CHAIRMAN MORELOCK: So do I take
19 out "dynamic" and leave "self-checking"? Or
20 what's the Board's purview?

21 MR. BOWERS: I think that would be
22 good, to take out "dynamic."

23 CHAIRMAN MORELOCK: Okay. Are you
24 okay with that, Mr. Baughman?

25 MR. BAUGHMAN: I'm good with

1 "dynamic." And I still hold true with the
2 self-checking. I think the self-checking -- I
3 don't think we're going to get into an issue, nor
4 do I think we've ever reviewed a variance that is
5 hand fired or manually fired, in that case. I
6 still feel like self-checking with the controls
7 that are out there is limiting in that aspect to
8 the extent of what we're looking to do with remote
9 monitoring.

10 CHAIRMAN MORELOCK: Yeah, that's
11 fair. So, I'll tell you what. I mean, this is
12 just discussion. So what I'm going to do is I'm
13 going to take "dynamic" out, leave "self-checking"
14 in, and then if you all have a change of heart,
15 you can make it a revision. We'll make it a
16 proposed revision. Because in June -- I mean,
17 what I can do is I can take it and clean it up.
18 Since it's just a discussion item, I could send it
19 to the board members and -- obviously, before the
20 June meeting -- and just be ready to make any
21 final revisions before we publish it. But we
22 could vote it with revisions before we publish it,
23 you know, as long as we all agree that we want
24 those revisions.

25 We can vote it in June, clean it up

1 and publish it, you know? Are you-all good with
2 that?

3 MR. BOWERS: Perfect.

4 CHAIRMAN MORELOCK: So I didn't
5 have anything on page 5 of 5. Did anybody have
6 any revisions on page 5 of 5?

7 (No verbal response.)

8 CHAIRMAN MORELOCK: All right.
9 Hearing none, I'm going to go on to the checklist.
10 And so on page 1 of 4, Item Number 2, I struck the
11 word "computerized." And then when you look at
12 page 2 of 4, when you come down to the black
13 header, I struck the word "computerized" and
14 "computerized remote monitoring system."

15 On page 3 of 4 --

16 MR. BAUGHMAN: I'll bring you back,
17 real quick, to the same page.

18 CHAIRMAN MORELOCK: Okay. Go
19 ahead.

20 MR. BAUGHMAN: On 2 of 4, coming
21 down to Item 19 --

22 CHAIRMAN MORELOCK: Okay.

23 MR. BAUGHMAN: -- the computerized
24 monitoring system.

25 CHAIRMAN MORELOCK: Yeah, thank

1 you. I missed that one, too.

2 MR. BAUGHMAN: It's okay.

3 CHAIRMAN MORELOCK: So that's a
4 good catch. All right. Now, here's a question.
5 Look at 21. Do we want to take out "dynamic"?

6 MR. BAUGHMAN: Yes, sir.

7 CHAIRMAN MORELOCK: Okay. We'll
8 take out "dynamic" there.

9 MR. BAUGHMAN: And then question
10 for further discussion, the "self-checking."

11 CHAIRMAN MORELOCK: Okay. All
12 right. That's what we'll do. We can have that
13 conversation.

14 Okay. Now when we go to page 3 of
15 4 -- and this is where I need you-all to tell me
16 what you think. I started to create a whole
17 nother section for the boiler attendant, and I
18 thought there's really no need for that. So what
19 do you think about changing "remote monitoring
20 personnel" to put "remote monitoring and boiler
21 attendant personnel," and let those check boxes
22 apply to both based on -- because that's one of
23 the things that we're seeing, even in the manuals.
24 We just had that conversation with the manual we
25 just reviewed, as far as the responsibilities of

1 the boiler attendant. Because we've only had
2 remote monitoring personnel, and I think if we put
3 requirements in there for the boiler attendant in
4 the manual, that might resolve some of the
5 questions that we always have. So I would revise
6 the header to say "Remote Monitoring and Boiler
7 Attendant Personnel." Are y'all okay with that?

8 MR. BOWERS: Perfect with me.

9 CHAIRMAN MORELOCK: Okay.

10 MR. BAUGHMAN: Yes.

11 CHAIRMAN MORELOCK: And then when
12 you go down to 26, the same thing. "What training
13 do the remote monitoring and boiler attendant
14 personnel receive?" And then when you get down to
15 30(a) "Do the remote monitoring" and then add "and
16 boiler attendant personnel have other duties?"

17 MR. BAUGHMAN: So I would just
18 interject real quick. On 27 and 28, that would be
19 assumed to be inclusive of both the remote
20 monitoring and the boiler attendant. And the
21 reason I say that, in the previous manual that we
22 reviewed, they were doing both.

23 CHAIRMAN MORELOCK: Yes.

24 MR. BAUGHMAN: They had the remote
25 attendant and the boiler attendant. And so I

1 would make that assumption, unless there needs to
2 be further clarification.

3 CHAIRMAN MORELOCK: Okay. So do
4 you think we need more than just the black header
5 saying that this applies to both groups, the
6 remote monitor and the boiler attendant, or do you
7 want to spell it out for remote monitor and boiler
8 attendant training and all that?

9 MR. BAUGHMAN: No. I think the
10 simpler the better and the least amount of
11 verbiage.

12 CHAIRMAN MORELOCK: Okay.

13 MR. BAUGHMAN: But just as long as
14 there's clarification, who's responsible for their
15 training, well, the PBX and security, maybe, by
16 the PBX people and the boiler attendant through a
17 different means.

18 CHAIRMAN MORELOCK: Absolutely,
19 yes.

20 MR. BAUGHMAN: So however we word
21 that to get clarification for us...

22 CHAIRMAN MORELOCK: You want to
23 separate those two? Or do you want me to add
24 words to just say who administers the remote
25 monitoring and the boiler attendant training?

1 MR. BAUGHMAN: Yeah. I think that
2 would work.

3 CHAIRMAN MORELOCK: Okay.

4 MR. BAUGHMAN: Do you?

5 CHAIRMAN MORELOCK: Yes. What
6 about you, Mr. Bowers? What do you think?

7 MR. BOWERS: Yes, I agree. Yes,
8 that's fine.

9 CHAIRMAN MORELOCK: So I'm going to
10 add who administers the remote monitor, remote
11 monitoring and boiler attendant training. So
12 we'll have who administers the remote monitoring
13 and the boiler attendant training.

14 MR. BAUGHMAN: Uh-huh. And
15 additionally, that goes to -- would that go to 27
16 also?

17 CHAIRMAN MORELOCK: Yes, I can do
18 that. I'll take out the word "their" and put the
19 "remote monitor" and "boiler attendant."

20 MR. BAUGHMAN: Okay.

21 CHAIRMAN MORELOCK: Okay. Got
22 that. And then, again, down at 30(a), do the
23 remote monitoring and boiler attendant personnel
24 have other duties. And then, if you come down to
25 34, does the manual include remote monitoring

1 personnel and boiler attendant other assigned
2 responsibilities? And I can put that in the
3 possessive tense. The boiler attendants' and the
4 remote monitors' assigned responsibilities. Yea
5 or nay?

6 MR. BAUGHMAN: Well, what I would
7 do is probably take out the plural of personnels.

8 CHAIRMAN MORELOCK: Okay.

9 MR. BAUGHMAN: Make it does the
10 manual include the remote monitoring personnel and
11 boiler attendant other assigned responsibilities.

12 CHAIRMAN MORELOCK: Okay. I got
13 it.

14 MR. BAUGHMAN: Yeah.

15 CHAIRMAN MORELOCK: I've got it.

16 MR. BAUGHMAN: I don't know if
17 that's grammatically -- if any English majors are
18 here, but...

19 CHAIRMAN MORELOCK: Okay. All
20 right. Okay. So going to 4 of 4, Item 35, again,
21 this says, "Does the manual include the remote
22 boiler monitor or monitors and boiler attendants'
23 duties for each shift on a day-to-day basis?"
24 Yes? No?

25 MR. BAUGHMAN: Yes.

1 CHAIRMAN MORELOCK: Yes? Okay.
2 And then we're going to have to add -- I was going
3 to add this, obviously, before the comments. So
4 when you get the 42, I was going to add -- oh,
5 wait a minute, wait a minute, wait a minute.
6 There's something else I've got to do here first.
7 Wait. Let's go back up to 36.

8 MR. BAUGHMAN: Thank you.

9 CHAIRMAN MORELOCK: 36, we have --
10 we just wrestled with this in this last manual.
11 Does the manual include a test of -- we've got the
12 systems, the boiler water column, remote
13 monitoring, and what I have added to that is I've
14 added for (d) "positive check of low-water
15 cutoff," and then add (e) "check of water in the
16 boiler site glass," and (f) "check of the boiler
17 flame and stack temperature if the unit is fuel
18 fired." Is that good?

19 MR. BAUGHMAN: I like it.

20 CHAIRMAN MORELOCK: What say you,
21 Harold? Is that too specific?

22 MR. BOWERS: No. That's fine.
23 That's fine. That's good.

24 CHAIRMAN MORELOCK: Okay. All
25 right. So I'm going to add that to 36.

1 MR. BAUGHMAN: I think that's
2 great.

3 CHAIRMAN MORELOCK: Okay. All
4 right. So now, then I'm going to add 43, also,
5 under the emergency procedure remote monitoring
6 station, I was going to put on line 43 to say, "Do
7 the emergency stops," parenthetical, "e-stops,
8 shut down all the boilers, local, or remote?" And
9 then just yes or no.

10 MR. BAUGHMAN: That's great.

11 CHAIRMAN MORELOCK: But, like, for
12 us, we would say no, in some instances, at
13 Eastman, but that's not necessarily a bad thing.
14 It's not going to get you in trouble.

15 MR. BAUGHMAN: No. And that's part
16 of the -- I think that's part of the discussion
17 that got tabled for the low-pressure boilers.

18 CHAIRMAN MORELOCK: Yes.

19 MR. BAUGHMAN: But it's a great
20 question to ask, just to find out.

21 CHAIRMAN MORELOCK: Yes.

22 MR. BAUGHMAN: There is a spelling
23 change on Item 42 flame under "displayed."

24 CHAIRMAN MORELOCK: Yes. Oh, yeah.
25 Thank you. I see that.

1 MR. BAUGHMAN: We got your back,
2 man.

3 CHAIRMAN MORELOCK: All right.
4 Hey, I didn't put that in red, so I didn't type
5 that in. All right.

6 So, then, the last thing is Item 44,
7 "Carbon monoxide monitors alarm at the remote
8 station." Yes or no.

9 MR. BAUGHMAN: Yes.

10 CHAIRMAN MORELOCK: Yes. Okay.

11 MR. BOWERS: Yes, they are required
12 now.

13 CHAIRMAN MORELOCK: Yes, it is
14 required now.

15 MR. BAUGHMAN: Well, it's required
16 for the boiler room, but I think that being that
17 it's an integral alarm and that there's more
18 deaths than injuries attributed to CO poisoning,
19 that that needs to be enunciated back. It
20 wouldn't make any sense to have such a valuable
21 alarm not enunciated back to the station.

22 CHAIRMAN MORELOCK: Okay.

23 MR. BAUGHMAN: Especially, for any
24 personnel that are being called to go in to that
25 boiler room.

1 CHAIRMAN MORELOCK: Absolutely. I
2 agree.

3 MR. BOWERS: So what you're saying,
4 Dave, is if you get a variance, you have to go
5 beyond what -- the carbon monoxide tester actually
6 has to send a signal back to the control panel,
7 right? Is that what you're saying?

8 MR. BAUGHMAN: Yes. It's got an
9 alarm contact. And so that alarm contact itself,
10 it's not an expensive device, but it -- so the
11 ones you buy from Home Depot and Lowe's, you can
12 get it with alarm contacts. Some states are even
13 implementing it to the extent that not only does
14 it enunciate, but it's actually interlocked with
15 the boiler and it's shutting the boiler off.

16 Well, I've got problems with that
17 because in a boiler room, it's not always the
18 boiler that's producing the CO. It can be an air
19 handling unit. It can be the water heaters and so
20 forth. But Texas, in particular, is requiring it
21 to be interlocked with the boiler.

22 I think, at a minimum, we should be
23 enunciating back to the remote panel. And in the
24 case that we don't have remote panels, we've got
25 CO monitors that are virtually being implemented

1 across the board. I would like to have some type
2 of additional alarms. Just food for thought and
3 other discussions along the way. But being able
4 to have an alarm is one thing; being able to --
5 Texas, in particular, dictates how often that
6 alarm gets tested and how often it gets replaced
7 along with mandating the proper installation of
8 that alarm.

9 And what we're asking is that alarms
10 be put in, but there's no education on how those
11 alarms are supposed to be in. Do they go up in
12 the ceiling? Do they go on the floor? People get
13 confused on CO2 alarms versus CO alarms, and they
14 get installed totally different. So there's a --
15 I think there's education we need to put out in
16 the industry when it comes to implementing these
17 also.

18 MR. BOWERS: Well, I think we made
19 a good first step. You know, we made a good --
20 you know, at least we got them out there. But I
21 like your idea. If you're going to go through the
22 trouble of getting the variance and you're going
23 to go through the trouble of putting in the
24 control panel, you might as well tie that alarm
25 back to the PBX station or something like that.

1 Because you've already got the expense anyhow of
2 putting in the controls, and it's not that big a
3 deal to add one more sensor, going and telling,
4 hey, you've got a carbon monoxide problem down in
5 your boiler room. I think it's a good idea.

6 CHAIRMAN MORELOCK: Well, we just
7 need to see if it's going to be a lot of pushback
8 from users. But you're right, they've got to put
9 the monitors in. I don't know if we'll get any
10 pushback or not, but that was a comment that was
11 sent to me, so I put it in the checklist.

12 MR. BOWERS: Well, the problem is
13 going to be, you know, we're going to require it
14 for new variances.

15 CHAIRMAN MORELOCK: Yes.

16 MR. BOWERS: Now, we have a lot of
17 variances out there that don't have that tied into
18 that, which would be a large additional expense of
19 people to do it afterwards. So I think, you know,
20 it ought to be grandfathered in until they make a
21 technical change. Then just say, well, to get a
22 new variance or get it renewed after a technical
23 change, then you've got to bring it up to the new
24 standards that we have going forward, right?

25 CHAIRMAN MORELOCK: Well, and even

1 if they've got an old variance, they still had to
2 put the CO monitors in, because that's been
3 mandated, right?

4 MR. BOWERS: But does it have to be
5 tied into the remote system?

6 CHAIRMAN MORELOCK: And I agree.
7 So it might be -- just think on that and see how
8 we need to word that. I mean, we could put
9 something in there that just says that you need to
10 have carbon monoxide monitors, and you could leave
11 the "at the remote station" off, if you think
12 that's prudent. Or we can put "at the remote
13 station," so --

14 MR. BOWERS: Well, I --

15 MR. BAUGHMAN: I get looking at
16 what we're charged with, and that, of course, is
17 safety of the public.

18 CHAIRMAN MORELOCK: Yes.

19 MR. BAUGHMAN: And for me, if that
20 alarm goes off and let's say like what we were
21 talking about in our previous manual, they've got
22 the security officer that's going to go back into
23 the boiler room, colorless, odorless, tasteless,
24 and he's walking into a situation that can be
25 potentially deadly --

1 CHAIRMAN MORELOCK: Yes.

2 MR. BAUGHMAN: -- so we've got to
3 look at what the cost implication is versus the
4 safety implication, and I know that we talk about,
5 you know, grandfathering things in and CSD-1 and
6 other things, you know, getting grandfathered
7 until there's a repair done. But, you know, that
8 old 1950 boiler that's still operating and hasn't
9 had any control updates and what have you, and we
10 say, well, you know, it hasn't had any repairs or
11 updates, so it still meets the code. To me,
12 that's an interesting discussion, but I would
13 advocate for it to be tied into the remote
14 monitor.

15 MR. BOWERS: But we're only talking
16 about variances. If we're talking about all the
17 new variances, we'll have it tied in. And in the
18 old variances, you could say, well, any time you
19 get a renewal, you have to tie that in, or you can
20 say any time you make a technical change, you have
21 to go back before the Board.

22 CHAIRMAN MORELOCK: Right.

23 MR. BOWERS: Then you've got to tie
24 that in.

25 CHAIRMAN MORELOCK: Yeah.

1 MR. BOWERS: You could do it
2 several different ways.

3 MR. BAUGHMAN: I agree. You can.

4 CHAIRMAN MORELOCK: Well, I mean,
5 it's just like with the age Eastman is, any vessel
6 that was built prior to July 1, 1955 is
7 grandfathered. And we've got some, you know. So
8 there you go.

9 MR. BAUGHMAN: We're replacing a --
10 we've got a boiler in Louisiana that's being
11 replaced. It's still operating, but they've
12 mandated its replacement. 1905, and it's still
13 old, riveted, and still operating.

14 Which that brings me to this next
15 item, which we discussed, or at least it was put
16 in for the discussion on the checklist, was
17 that -- wood-fired boilers. So we've got
18 automatic-fired boilers that are above
19 5 horsepower, above 50 square feet of heating
20 surface operating at above 15 psi but how are we
21 applying the variance to those particular systems?
22 And it's a question that's been asked, and I
23 haven't had a definitive answer. So I just wanted
24 to kind of bounce that around, if that's
25 something, Mr. O'Guin or Mr. Bowers, that you know

1 about or seen applications of with the variance.

2 I don't know.

3 MR. BOWERS: Well, I don't know if
4 we even have any variances on any wood-fired
5 boilers that I'm aware of. Now, Chris can update
6 that for me. A wood-fire boiler takes a lot more
7 attention, a lot more attention. And --

8 CHAIRMAN MORELOCK: Well, what
9 about Jack Daniel's?

10 MR. O'GUIN: Yes, sir.

11 CHAIRMAN MORELOCK: Is that it?
12 And does Domtar have a wood-fired boiler? No, no,
13 no. They've got a black liquor boiler. That's
14 what they've got.

15 MR. O'GUIN: Right.

16 CHAIRMAN MORELOCK: But Jack
17 Daniel's has got a variance for a wood-fired,
18 don't they?

19 MR. O'GUIN: Yes, sir.

20 MR. BAUGHMAN: I thought the
21 variance applied to their gas boilers they've got
22 down there, the Nebraska and the other gas-fired.
23 You're saying that it actually applies to their
24 wood-fired?

25 CHAIRMAN MORELOCK: Well, I don't

1 know. You may be right about that. I don't know.

2 MR. O'GUIN: The variance request
3 they got three or four years ago was to the
4 Nebraska, but they also had a variance for the
5 wood-fired.

6 CHAIRMAN MORELOCK: Okay.

7 MR. O'GUIN: I had question about
8 as far as how quick it would shut off.

9 CHAIRMAN MORELOCK: Okay.

10 MR. O'GUIN: And we actually
11 watched it on video. It was seconds.

12 MR. BAUGHMAN: And so that's my
13 question to get clarification on. Does it apply
14 to wood-fired boilers? Yea or nay. And does it
15 apply to electric Section 1 boilers that are above
16 5 horsepower and operate above 15 psi? Because I
17 haven't -- and, of course, we know in this
18 industry it's a very segregated application of
19 this code. I don't think I've seen the first dry
20 cleaner with a variance. I haven't seen -- I
21 haven't seen a lot of boilers. It's a code that's
22 been segregated in its application and
23 enforcement.

24 So with that, when I go in and talk
25 to somebody, I would like to know definitively if,

1 in fact, this electric boiler needs to be looked
2 at from a variance standpoint, that they're
3 operating without anybody there. And the same
4 thing with the wood-fired. Wood-fired is
5 typically -- they've got operating personnel.
6 You're right. It takes a higher amount of
7 expertise to operate that wood-fired boiler.

8 But there's still some automatic
9 wood-fired I looked at over in Middle Tennessee,
10 and they brought it up. They brought me in for a
11 discussion. And if I'm not mistaken, Eugene was
12 the inspector at the time. And we discussed it.
13 And so I'm still kind of interested to know
14 definitively if that's to be applied or not.

15 CHAIRMAN MORELOCK: Well, but the
16 question to me is do you have electric boilers on
17 the 20-minute rule right now? I mean, that's the
18 only reason you need a variance, right?

19 MR. BAUGHMAN: Uh-huh. Let me just
20 say that I know there are boilers that are running
21 that aren't being attended to every 20 minutes.

22 CHAIRMAN MORELOCK: Well, so there
23 you go.

24 MR. O'GUIN: I did have a question
25 about Number 44.

1 CHAIRMAN MORELOCK: Okay.

2 MR. O'GUIN: If we do require that
3 to be integrated with the alarm system back to the
4 remote station, then we probably need to go back
5 and change the Inquiry 6 on that interpretation.
6 Is it required for the CO detector to be hardwired
7 electrically? And our reply was no.

8 CHAIRMAN MORELOCK: That's a good
9 point.

10 MR. O'GUIN: I'm asking the Board
11 this question.

12 CHAIRMAN MORELOCK: Well, like I
13 said, that was a comment that I received, and I
14 put it in the checklist. I'm not saying we've got
15 to do it, but we just need to think it over and
16 see what we -- how we want to handle it.

17 MR. BAUGHMAN: Yeah. The only
18 thing that's specifically hardwired back to the
19 remote panel is the e-stop.

20 CHAIRMAN MORELOCK: Yeah.

21 MR. BAUGHMAN: And so they can
22 enunciate as much as what they want back to
23 wherever the panel is at, but ultimately it's the
24 alarm that gets enunciated that they hit with the
25 e-stop. So the enunciation can be made in various

1 forms, whether that be hardwired or whatever the
2 case may be.

3 I thought it was interesting when we
4 were at a job site a few weeks ago in East
5 Tennessee, when their computer system got hacked.
6 It had ransom wear and it shut the place down
7 solid. And so I was there, going through the
8 training aspect of the variance, and I thought,
9 man, this is great. This is going to, you know,
10 be able to tell whether it's web-based or not and
11 what have you. And it wasn't. So it didn't
12 affect the variance itself. But it made me
13 wonder -- and that's why I'm interested in knowing
14 what the hardware capabilities are -- is are the
15 enunciations made via internet connections or are
16 they made via telephone connections?

17 But it was interesting, because if it
18 had been via internet, and even intranet, inside
19 their own system, all that was flat out shut down.
20 So the boilers would have enunciated on their own
21 but they wouldn't have kicked it back to tell
22 anybody.

23 So I don't know how that figures into
24 our checklist. This only came up a handful of
25 weeks ago. But I was interested to kind of bring

1 that up for discussion. Because if our
2 enunciations are back, tied in -- we talk about
3 from a security standpoint, can it be hacked, you
4 know, the password protected and so forth. But
5 that all gets back to communications and really
6 via internet, kind of, capabilities.

7 CHAIRMAN MORELOCK: Well, just
8 think about that CO item. It's not set in stone.
9 It's just a comment that I got and I incorporated
10 it. So let's think on that and I'll get this
11 cleaned up and get it out to you early enough to
12 where you can send me some comments back before
13 the June meeting.

14 MR. O'GUIN: I have one more
15 comment before we close, Chairman.

16 CHAIRMAN MORELOCK: Okay.

17 MR. O'GUIN: Should we include --
18 or I may have missed it -- requesting the e-stops
19 be hardwired back to the remote? Did I miss it
20 somewhere in here? I know we've had remnant of
21 that issue in the past.

22 CHAIRMAN MORELOCK: I thought it
23 was already in there.

24 MR. BAUGHMAN: I thought so, too.

25 MR. O'GUIN: I thought we were

1 going to try to integrate it in here.

2 CHAIRMAN MORELOCK: I thought we
3 did. Let me look again.

4 MR. BAUGHMAN: I don't see it.

5 CHAIRMAN MORELOCK: Well, I'm going
6 to add that. Do you want to make that 45?

7 MR. O'GUIN: I assume that will be
8 fine.

9 CHAIRMAN MORELOCK: Okay.

10 MR. BAUGHMAN: Good call.

11 MR. O'GUIN: How do you want to
12 word that, Chairman?

13 CHAIRMAN MORELOCK: Yeah. I'll
14 word it up.

15 MR. O'GUIN: Okay.

16 MR. BAUGHMAN: I'd probably suggest
17 to put Chris wants to know if the e-stop is
18 hardwired.

19 CHAIRMAN MORELOCK: And you want
20 that back to the remote station?

21 MR. O'GUIN: That's how we have
22 been approving the variances. And that was kind
23 of the question I had, if, you know, we're going
24 to stay true to --

25 CHAIRMAN MORELOCK: Well, I really

1 thought we had that somewhere.

2 MR. O'GUIN: I don't think it's in
3 the guidelines anywhere in the paragraphing,
4 either.

5 CHAIRMAN MORELOCK: Let's see.
6 Well, I'm burning your-all's time. I'll research
7 it. I'll make sure to put something about e-stops
8 in there and I'll send it out to you. Very good?

9 MR. O'GUIN: Yes, sir. Are we
10 going to keep this as a discussion item or do you
11 want it to be an agenda item for June?

12 CHAIRMAN MORELOCK: Let's keep it
13 as a discussion item, with STERIS coming back.

14 MR. O'GUIN: Okay.

15 MR. BAUGHMAN: So in this -- and I
16 had made one note, too, just quickly. This goes
17 back to page 3 of 5 under the introduction. And
18 one of the questions came up -- it says under
19 paragraph (a), a power boiler having a rating of
20 either 5 horse or 50 square foot and so on. So it
21 doesn't state if it's operating above 15 psi in
22 that particular statement. And the questions come
23 up on a power boiler, Section 1 power boiler, that
24 is operating under 15 psi.

25 And I've gotten some different

1 replies on that. But if the boiler itself is
2 operating under 15 psi, even though it's a
3 Section 1, does it have to meet the requirements
4 of that 20-minute rule or apply for the remote
5 variance?

6 CHAIRMAN MORELOCK: Well, but I
7 think you're going to have to go to Section 1 PG-2
8 maybe, because it says -- PG-2.1 says the rules of
9 this section are applicable to the following
10 services: (a) boilers in which steam or other
11 vapors is generated at a pressure more than 15 psi
12 for external to itself. And then high-temperature
13 water boilers intended for operation at pressures
14 exceeding 160 psig and above 250 F.

15 MR. BAUGHMAN: So according to that
16 statement, if they're operating below 15 psi --

17 CHAIRMAN MORELOCK: It's not a
18 power boiler.

19 MR. BAUGHMAN: It's not a power
20 boiler. Even though it's an S-stamped boiler,
21 it's operating below those parameters.

22 CHAIRMAN MORELOCK: Yeah. It's
23 going to fall in to one of those other categories
24 like a miniature boiler or something like that.

25 MR. BAUGHMAN: Well, let's say it's

1 a hundred horse boiler and it's got 500 square
2 feet of heating surface, it's rated at 150 as a
3 power boiler, section 1, but it's operating under
4 15 psi. The controls are set -- let's say the
5 controls are set to 11 psi, high limits, so forth.
6 So it's operating under those jurisdictional
7 requirements, and that's why I just was looking
8 for, you know, any clarification on that.

9 In our rules, it just states a power
10 boiler. It doesn't say a power boiler operating
11 at above 15 psi. Or does it? Maybe I'm missing
12 that.

13 MR. O'GUIN: It goes by the
14 horsepower and the square footage, is what it goes
15 by.

16 MR. BAUGHMAN: Okay. So there
17 might need to be some clarification at some point
18 to add if it's operating at or above 15 psi,
19 because, otherwise, we're taking some
20 high-pressure boilers, and whether they're
21 operating at above 15 psi or not won't matter;
22 they'd have to fall under that requirement.

23 CHAIRMAN MORELOCK: Well, and that
24 would be a rule change to 800-03-03.

25 MR. O'GUIN: Yes.

1 CHAIRMAN MORELOCK: That wouldn't
2 be a change to the guidelines.

3 MR. BAUGHMAN: Okay.

4 CHAIRMAN MORELOCK: That would be a
5 change to the rule.

6 MR. BAUGHMAN: Well, and I guess
7 I'm just asking for clarification on it, too --

8 CHAIRMAN MORELOCK: Yeah.

9 MR. BAUGHMAN: -- and whether or
10 not it -- I don't know how a rule gets changed or
11 amended or augmented or whatever the procedure is,
12 but I just know that that question has been
13 brought up. And my response has been as long as
14 it's not operating above 15 psi or producing steam
15 or vapor above it, then it doesn't fall under the
16 requirements. But that doesn't meet the letter of
17 how the code states. It just says a power boiler.

18 CHAIRMAN MORELOCK: Yeah.

19 MR. BAUGHMAN: So for whatever
20 that's worth, I wanted to bring that up.

21 CHAIRMAN MORELOCK: Something to
22 look up. We'll look at that.

23 MR. O'GUIN: If it's below
24 5 horsepower in 50 square foot, Mr. Baughman, we
25 don't enforce the 20-minute attendant rule.

1 MR. BAUGHMAN: Right. And I
2 understand that. What I was getting at was if
3 it's above that and it's operating below 15 psi
4 steam. So that was where my clarification needed
5 to come from.

6 MR. O'GUIN: If it's got the
7 controls and the safety valves, if the controls
8 are changed plus the safety valves are changed in
9 it, then it would not have to meet that 20-minute
10 attendant rule. But it has to have the controls
11 changed as well. They can't just change the
12 safety valve because then they could swap a safety
13 valve out.

14 MR. BAUGHMAN: I agree.

15 MR. O'GUIN: That's how we inspect
16 at WRC.

17 MR. BAUGHMAN: Okay.

18 CHAIRMAN MORELOCK: Okay. Very
19 good.

20 MR. BAUGHMAN: Thanks, Chris.

21 CHAIRMAN MORELOCK: All right. So
22 we are finally on Item 10. I know you-all are
23 excited to know that.

24 Unless the Board decides otherwise,
25 the next regularly scheduled meeting of the Boiler

1 Board Rules will be 9:00 a.m., June the 9th at the
2 State of Tennessee Department of Labor and
3 Workforce Development building. Which I hope
4 that's a true statement. If not, we'll do this
5 again.

6 MS. BENNETT: Well, we'll keep you
7 informed. The governor's mandate goes to the end
8 of April, I think. And then it will be subject to
9 renewal.

10 CHAIRMAN MORELOCK: Okay. Well,
11 before I adjourn, thank you-all for hanging in
12 there. I know we had a lot of stuff to talk about
13 and you-all have been very faithful, and I
14 appreciate that.

15 I want to thank everybody for setting
16 the Zoom meeting up and putting up with my East
17 Tennessee English and forgetting people's names
18 and all that stuff. But it's good to see you even
19 if it's through Zoom, and so I hope you-all have a
20 good rest of the week. And I hope to see you
21 face-to-face in June. If not, we'll do this.

22 And we are adjourned.

23
24
25

END OF THE PROCEEDINGS.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

C E R T I F I C A T E

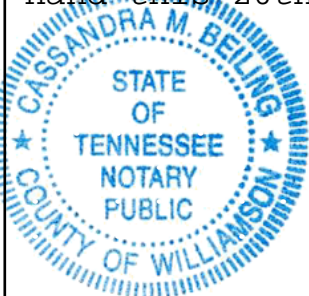
STATE OF TENNESSEE)
COUNTY OF WILLIAMSON)

I, Cassandra M. Beiling, a Notary Public
in the State of Tennessee, do hereby certify:

That the within is a true and accurate
transcript of the proceedings taken via Zoom
videoconference before the Board and the Chief
Inspector or the Chief Inspector's Designee,
Tennessee Department of Labor & Workforce
Development, Division of Workplace Regulations and
Compliance, Boiler Unit, on the 10th day of March,
2021.

I further certify that I am not related to
any of the parties to this action, by blood or
marriage, and that I am in no way interested in
the outcome of this matter.

IN WITNESS WHEREOF, I have hereunto set my
hand this 20th day of April, 2021.



Cassandra M. Beiling
Cassandra M. Beiling, LCR# 371
Notary Public State at Large
My commission expires: 3/10/2024

(15 17:25 53:12 187:20 189:16 195:21,24 196:2,11,16 197:4,11, 18,21 198:14 199:3	25 89:17	42 179:4 180:23
(a) 138:14 195:19 196:10	150 197:2	250 196:14	43 180:4,6
(a)(2) 124:12	16 15:10,17	26 175:12	44 138:21 181:6 190:25
(d) 179:14	160 196:14	27 175:18 177:15	44.95 70:2
(e) 179:15	18 114:22	28 175:18	45 69:14,25 70:1 102:5,8 194:6
(f) 179:16	18,325 17:7	28,316 17:8	
0	19 45:3 173:21	294 17:23	5
0.145 69:16	1905 187:12	3	5 16:15 34:4 88:22,23 149:17 150:7 154:12, 18 159:16,19,25 160:17,18 173:5,6 187:19 189:16 195:17,20 198:24
0.8 165:11	1950 186:8	3 14:2 18:1 22:4 44:8 86:21,22 154:18 158:3 159:16 165:12 173:15 174:14 195:17	50 114:17 187:19 195:20 198:24
06.3 81:24	1955 187:6	3.5 17:14	500 197:1
0800-03-03.08(11) 20:6	1:00 122:24	3.7 17:13	6
0800-3-3-.04(13) 114:11	1st 17:5	30(a) 175:15 177:22	6 191:5
0800-3-3.04(13)(a) 55:12 56:1	2	300 69:20	600 56:6 57:10,21 63:19 72:21 89:10,16 91:4,14,25 93:2 114:15 115:14 117:17 119:19
1	2 5:13 21:10 22:4 44:8 86:21 87:1 150:7 154:12,25 155:5 159:21 160:6,20 173:10,12,20	300-and- 69:17	601 93:2
1 17:5 22:4 43:12 44:8 47:18 48:25 86:21,23 87:7 149:17 160:22 173:10 187:6 189:15 195:23 196:3,7 197:3	2(b) 161:18	310 69:23	615 10:3
1.8 17:9	2.3 17:19	310 69:23	62 17:23
10 15:11 149:18 154:23 199:22	2.3.3 87:5	34 177:25	68-122-110 124:11 125:23
100 31:4	20 11:24,25 12:1 31:13 190:21	35 178:20	6:00 122:24
10:25 53:15	20-minute 190:17 196:4 198:25 199:9	356 17:24	7
10th 5:6 15:17	2017 149:19 154:24	36 47:6 48:19 69:13 179:7,9,25	7 24:22 25:6 34:8,12 37:13 47:10,11,18 48:5,6,20,24 49:3 50:4,19
11 138:12 149:19 154:23 197:5	2019 111:19	386 21:12	70 17:24
11.1 138:13	2020 15:10,17 17:5,9, 11,12 46:15	4	75 100:9
110 157:9	2021 15:11,18 17:6,19 53:7 123:21 149:20 154:24	4 15:9 17:12 86:21,22 159:19 160:16 161:17 173:10,12,15,20 174:15 178:20	7800 39:11
12 18:1 112:13	21 174:5	4.2.3 86:20	
12-minute 112:14	21-01 20:3 52:19 53:21 123:21	4.3.2 55:24 87:2	
140 102:23	21-02 111:2 124:7	4.32 55:17	
	24/7 31:18	400 91:15	
		400,000 114:15	
		4124 10:12	
		4140s 165:19	

781-4124 10:9	accessible 58:4,9,17 75:22	additionally 177:15	149:21 195:11
<hr/> 8 <hr/>	accommodate 57:23 107:4	additions 14:5	agents 139:22
8 24:13 30:1 87:8	accomplished 98:1, 9	address 116:24	agree 29:12 32:7 52:4 72:24 74:22 82:18 92:25 94:11 110:17 139:17 147:8 152:18 157:9,21 158:21 162:25 167:10 171:4, 7 172:23 177:7 182:2 185:6 187:3 199:14
80 100:9,10	account 81:24 84:1	addressed 104:4 106:15,24 124:23	agreeable 110:9,10
800 170:10	accountability 130:18,20	addressing 53:3	ahead 27:9 46:21 55:7 101:6 105:9 106:13 113:2 134:5 173:19
800-03-03 197:24	accounts 54:5,7	adds 28:10 29:5	air 144:19 182:18
<hr/> 9 <hr/>	accuracy 68:22 103:23	adept 29:11	AJAX 127:4
9 47:10,11 48:6,20 49:4 50:19	acknowledge 12:7	adhere 114:10	alarm 45:5,8 163:11 164:5 165:5 181:7,17, 21 182:9,12 183:4,6, 8,24 185:20 191:3,24
9,991 17:6	Acknowledgment 16:16	adjourn 200:11	alarms 50:7 183:2,9, 11,13
90 100:8	act 25:1	adjourned 200:22	alike 57:18
98-03 87:15,21,25 88:8	acting 25:10 26:4 27:5	adjustment 102:1	alleviate 129:25
9:00 200:1	active 17:25	admin 6:15 11:9	Allied 7:17
9th 200:1	activities 30:12	administers 176:24 177:10,12	allowed 121:23 133:8 167:24
<hr/> A <hr/>	actual 35:24 39:25 44:22 84:10 115:16 118:16,17 120:7 125:12	administrations 138:23	alluded 13:21 82:4 104:10 134:17
a.m. 200:1	add 13:1,4 30:15 31:25 33:5 37:12,14, 17 42:8 46:14,17 47:19 50:9 75:7 117:13 120:14,20 133:15 150:8 159:4 161:9 175:15 176:23 177:10 179:2,3,4,15, 25 180:4 184:3 194:6 197:18	administrative 20:25 37:22 140:13	Alpha 93:2
ABC 94:19	added 52:6 120:18 155:4 156:4 179:13, 14	administrators 37:24,25	alterations 86:22
ability 81:20 83:12 98:14	Addie 9:24 20:24	adopt 5:12 11:18 14:11	altered 135:11
Absolutely 176:18 182:1	adding 12:21 14:6 159:9	Adoption 14:2	amended 14:12 198:11
accept 15:16,19 94:7 166:19	addition 58:22 73:9	Advamed 57:14	amount 76:5 165:3 176:10 190:6
acceptable 31:10 33:20 110:3,5 119:11 121:5,13 122:18 123:1,14 148:20	additional 43:8 58:18 94:22 108:24 132:3 183:2 184:18	advance 54:21 90:14	amounts 168:19
acceptance 123:4 160:8 161:2,12		advantage 58:19 75:4	AMSCO 56:6 57:10, 21 63:19 72:21 89:10, 16 91:14 119:19
access 46:3 55:14,20 57:23 64:7,8,12,13 74:11,20 75:5,13 80:24 81:1 88:8 147:1		advise 141:3	analyze 71:10
accessed 75:3 78:5		advocate 126:10 186:13	and/or 58:10
accessibility 67:14 77:1,4 98:2		affect 192:12	
		afford 116:15,21	
		afforded 75:4	
		affords 58:19	
		age 130:20 167:16 187:5	
		agenda 5:8,11,12 11:18 12:20 14:3,4,5, 12 15:8,10 17:1 95:15 110:20 116:14 148:19	

Andrusky 9:14,15 56:11 72:25 73:18 75:6 77:16 78:18,24 79:4,12 80:4,17 81:2 82:7 98:10,17,21 99:6,18 100:5 102:12 104:23,24 105:22 106:1 107:11,12 108:2 109:2 119:5,6, 17,21,25 120:3,5,12, 16,19,25 121:3,12 122:6,18 123:12	189:13,15 196:4 applying 155:13 167:15 187:21 appreciated 110:24 appropriately 170:22 approval 15:10 90:1 94:6 151:6,7,22,25 152:12,25 154:3,4,9 155:6,21 156:5,17,18, 23 158:4,8 159:11 approve 132:20 152:4 170:6 approved 16:14 133:16 153:12 155:22 approves 151:2 approving 51:23 194:22 approximately 21:12 April 200:8 architects 90:16 92:12 architecture 96:15 area 75:14 147:25 areas 58:3 argument 136:24 arm 66:18 arm's 75:3 Armstrong 34:13 37:3 Article 138:12 asks 127:7 ASME 57:25 86:3 138:12 141:8 ASME-CERTIFIED 55:9 aspect 132:9 165:25 172:7 192:8 aspects 44:19 128:2 assembly 68:24 75:11	assigned 34:15 111:5 178:1,4,11 assist 56:19 assistant 5:24 6:2 11:9,20 12:21 20:25 79:15 82:1 101:3 105:1 111:16 128:13 151:14 assume 194:7 assumed 166:5 175:19 assumes 165:4 assumption 176:1 assure 57:15 105:9 assured 117:7 atmospheric 22:6 40:19,24 41:14 attempt 17:4 attend 24:10 attendant 21:21 23:15,17,19,20,23 24:8,14,17 25:1,10 26:23 27:5,12,20,25 28:13,16,17,18,20,24 30:1,3,5 31:3,6 32:11 33:7,13 34:5,11,24 35:7 36:11,15 37:9, 13,23 38:2 42:7,8,10, 11,24 43:4 52:6 53:22 149:17 174:17,21 175:1,3,7,13,16,20,25 176:6,8,16,25 177:11, 13,19,23 178:1,11 198:25 199:10 attendants 30:4 36:3 attendants' 178:3,22 attended 137:12 190:21 attending 25:2 98:4 attention 13:25 114:2 188:7 attorney 54:19 attributed 181:18 augmented 198:11	authority 128:12 129:13 130:5 132:22 142:5 authorized 33:9 auto 99:19,25 121:4 122:23 Autoclave 60:20,23 61:2,8,19 63:13 66:21 79:17 82:13 automatic 99:17 120:7,10,18,21 121:7 122:1,2,3 123:9 168:4,5 190:8 automatic-fired 187:18 automatically 150:10 153:5 168:7, 16 average 17:9 averaging 17:20 averted 126:8 aware 118:20 188:5 Aye 14:25 15:2,4,6 16:6,8,10,12
<hr/> B <hr/>			
B-1 44:2			
B-2 44:2			
B-3 44:2			
back 18:22 24:20 33:25 34:8 35:12 36:11 42:4,20 44:21 45:2 46:15,22 50:14 63:23 66:13 69:2,4 72:10,12 75:10 84:25 85:7,22 87:5 88:24 90:19 92:11,24 93:3 94:4,11 108:10 109:14 110:21 111:22 112:10,15,20 113:1 115:2,7 118:24 128:12 129:6,10,14 130:2 132:18 134:12 138:9,16 139:2 140:15,24,25 141:3, 13,20,23 143:4 147:4			

148:17 155:18 157:12 160:11 167:7 173:16 179:7 181:1,19,21 182:6,23 183:25 185:22 186:21 191:3, 4,18,22 192:21 193:2, 5,12,19 194:20 195:13,17	97:12,13,16 98:12,18 99:2,14 100:2,14 101:3,6,7 103:7,8 105:2 106:11,12,14 107:25 121:14,15 124:10,16,18 130:15 133:14 134:17 136:23 140:10,11 141:10 146:13 147:8 148:18, 25 149:14 150:20,25 151:4,15,18,24 152:9, 15 153:11,16,23 156:20 158:13,21 160:2,5,16,18,21,25 161:5,7,14,16,20,25 162:11,20 163:2 164:6 165:7 166:21, 23 168:1,20,23 169:13 171:12,16,24, 25 173:16,20,23 174:2,6,9 175:10,17, 24 176:9,13,20 177:1, 4,14,20 178:6,9,14, 16,25 179:8,19 180:1, 10,15,19,22 181:1,9, 15,23 182:8 185:15, 19 186:2 187:3,9 188:20 189:12 190:19 191:17,21 193:24 194:4,10,16 195:15 196:15,19,25 197:16 198:3,6,9,19,24 199:1,14,17,20	big 11:3 12:13 127:4 135:18 145:12 184:2 biggest 30:25 170:14 bill 90:22 birthdate 157:4 bit 23:18 46:21 66:8 113:9 119:11 136:4 166:22 black 173:12 176:4 188:13 blank 113:18 blanket 55:9,24 89:10 blow 98:19,21,24 99:9 101:12,13 105:8 119:9,15 120:23 121:10 122:1,2,3,10, 13,14,15 123:10 blow-down 97:25 98:1,11 99:8 103:2,4 118:21 119:7,10 122:12,17 blow-downs 98:8 118:8,11,12 123:9 blow-out 42:22 blowing 79:23,25 98:13 105:16 blown 98:5 101:14 board 5:3,5,6 6:8,25 7:8,10,16 14:10 16:17 18:7 19:7 20:10 23:8, 11 28:4 31:10 32:4 33:24 41:23 42:2 43:10 51:8 52:3,15, 21,24 53:8 54:2,20 55:7,19 56:4 59:21,25 60:13 63:13,14,15 64:4,17 65:16 66:12, 19,23 67:6 73:14 74:7 78:1 80:25 81:23 84:23 87:16,19 88:7, 20 89:5,8,25 90:2,6 91:22,23 92:4,18,24 93:3,21,23 94:4,20 95:1,3,12,18 96:1,19 97:8,11,13 103:8 106:12 108:9,14 109:22 110:10 112:2 114:3,13 116:12,14	117:2,9,13 118:3,10, 24 121:15 125:18 135:22 141:9 142:21 143:9 146:15,25 147:2 148:17 149:24 150:10,16,25 151:1,6, 8 152:11,18,25 154:2, 3,8 155:22 156:13,18 157:12 158:4,8 159:8, 12 160:9 161:12 166:12 167:23 170:6 172:19 183:1 186:21 191:10 199:24 200:1 Board's 114:2 117:3 123:4 171:20 boiler 5:24 6:16 7:17 8:5 11:22 21:11,20,21 22:11,18,19 23:15,16, 19,22,23,25 24:2,5,8, 14,17,18,20 25:1,10, 12,18,19,20,21 26:20, 23,24 27:5,13,17,22, 25 28:12,13,14,15,17, 22,24 29:3,11,14,16, 17,19,23 30:1,3,5 31:3,17,18,23 32:10, 19,20,23 33:7,8,10, 13,15,16 34:11,15,23 35:7 36:3,11,13,15 37:9,13 38:2 40:1,10, 23 42:5,8,11,19,23, 24,25 43:4,23 44:7,8 45:22 47:7,14,20,21 48:7,12,15,21 49:1,18 50:5,10,16,17 52:6,15 53:22 60:13,21 64:4 67:13 69:7 71:16 72:19 74:14 86:9,10 94:6,15,22 95:1 96:6 99:13 102:7 104:8,15 106:19 111:17 113:4 114:12 115:20 116:3 121:17,25 123:4 126:14 127:2 128:8, 13,24 129:2,3,22 130:2,11 131:3,4,9 132:19 133:1,7,17 134:2,4,5,14 135:3 136:3,6,7,10,11,12 137:6,7,15,16 138:5 140:14,22,24 141:4, 18 142:6 144:2,5,25 145:21,22 146:11 147:24 148:4 149:17
backbone 166:17 background 29:2,3 54:22 137:19 backlog 95:25 backside 98:2 backup 98:7 bad 149:10 180:13 Bailey 6:19,20 54:12, 14 142:17,24 based 168:7,14 174:22 basically 32:8 157:16 basis 73:10 75:2 99:22 101:23 102:11 126:13,18 128:22 130:9,12 145:15,20 178:23 battled 81:23 Baughman 7:15,16 14:24,25 15:19,25 16:5,6 18:6,7,24 19:9, 14,17 22:25 23:2,10, 11 24:6,12,21,25 25:3,5,8,16,23 26:2, 17 27:1 28:3,4,7 29:25 30:16 31:4 33:23,24 35:2,11,16 36:1,6,20,25 37:8,11, 20 38:7,13 39:2,10 40:5,7,14,17,22 41:4, 9,12,15,21 43:9,10,17 44:6,10,16 45:10,16, 24 46:20 47:2 48:3, 14,18 49:3,12,15 50:11,21,25 51:7,8 53:1 60:6,8,14 66:11, 12 67:6,11,22 68:15, 19 69:2,7,15,22 70:2, 4,19,24 71:8,19 72:9 74:6,7,13 75:18 81:16 88:6,7,15 89:7,8,18	Baughman's 89:23 BC 53:21 87:15 123:21 bear 5:16 beginning 114:4 behaving 115:5 Bennett 6:6,7 12:18, 24 13:6 16:18 200:6 Benson 57:13 bet 37:20 BI 111:2 124:7 biannual 135:5 biennial 126:13 135:4 biennially 124:14 139:16		

150:1,14,16 151:1,6 152:6,11,24 154:2,3, 8,9,22 155:7 156:1,6, 19,24 158:9,14,24 159:9,12 160:9 161:13 163:5,12,13 165:24 166:7 167:24 168:5,6,12 169:4,5 174:17,20 175:1,3,6, 13,16,20,25 176:6,7, 16,25 177:11,13,19, 23 178:1,3,11,22 179:12,16 181:16,25 182:15,17,18,21 184:5 185:23 186:8 187:10 188:6,12,13 190:1,7 195:19,23 196:1,18,20,24 197:1, 3,10 198:17 199:25	Bowers 7:9,10 14:16, 17,19 15:1,2 16:7,8 23:3,6 27:8,10,11,16, 19 32:6 33:1,5 42:1 43:7 52:2 54:4 60:1, 12 62:23 63:12 64:3, 15 65:15 66:19 73:13, 20 74:4 77:2,25 78:20 79:1,5,13 82:4 84:22, 23 88:19 92:17 93:1 101:4 103:10 105:4 110:11,12 111:10,15 118:2 128:8 130:16 132:11 139:9 145:14 157:2,15,19,22 158:5, 11 171:21 173:3 175:8 177:6,7 179:22 181:11 182:3 183:18 184:12,16 185:4,14 186:15,23 187:1,25 188:3	broke 82:10 131:4 brothers 100:15 brought 82:2 93:20 116:24 124:25 128:6 139:1 190:10 198:13 brush 91:21 127:23 BTU 114:15 bud 170:25 building 156:11 200:3 buildings 137:14 buildup 100:20 115:20 built 72:7 187:6 burner 163:6 164:3, 23 168:14 169:4,5,6,7 burners 169:5 burning 195:6 bus 39:21 46:6,8 business 13:5 19:25 20:1,2,3 53:18 96:3 124:4,6 busy 128:24 button 13:23 87:13 buy 150:1 182:11	cancel 129:15 capabilities 192:14 193:6 capable 155:11 capacity 26:5 37:15 59:7 61:15,16,20 carbon 181:7 182:5 184:4 185:10 care 32:15 137:17 careful 169:9 Carlene 6:7 12:19 13:24 carry 35:17 case 28:3 31:9 53:20 76:19 77:18 80:25 87:16,19,20 89:5,25 90:2,6 91:22,23,24 93:21 94:4,20 95:2,3 108:10,14 109:25 110:4,6 113:7 114:3 116:14 117:2,13 122:11 123:5 124:6 172:5 182:24 192:2 case-by-case 128:22 130:9,12 132:6 145:15,20 cases 81:23 92:4 93:23 96:19 Cassandra 158:19 catastrophic 115:5 catch 161:9 174:4 catching 66:16 categories 196:23 category 19:6 caution 7:24 ceiling 183:12 cell 13:13 16:21 center 8:16 20:4,19 56:21 58:12 65:5 70:13 74:11 76:24 cents 169:23 certificate 93:15 135:2
boilers 20:5 21:9,13, 16,20 22:1,3,5 32:14 37:5 43:24 87:5 103:1 111:6,23,24 124:12, 13 125:10 126:2,3,5, 7,23 127:3,10,12,17, 21,23 128:4,22 129:11 133:18 134:22 135:5,16,17 136:12 137:4,11,13,20,24 138:5,11,13,14,15,23 139:5,14,18 140:17 145:12,17,18,23 147:11,13,23,24 166:6,8 168:21 169:2 180:8,17 187:17,18 188:5,21 189:14,15, 21 190:16,20 192:20 196:10,13 197:20	box 65:11 150:8,11 boxes 58:5 174:21 Bradley 8:9 brand 93:22 144:3,5 brands 144:9 break 19:5 53:14 111:12 112:9,12,14, 19 126:2 breaks 90:16 brewery 148:5 Brian 7:21 92:19 111:11 154:2 bring 24:20 26:19 51:22 107:7 109:13 125:18,25 126:16 128:6 131:12,21 137:2 139:8 141:19 148:14 173:16 184:23 192:25 198:20 bringing 17:7,23 25:22 125:16 131:13 132:3 149:1 brings 137:9 166:1 187:14 broad 90:3 91:21 broadly 167:12	built 72:7 187:6 burner 163:6 164:3, 23 168:14 169:4,5,6,7 burners 169:5 burning 195:6 bus 39:21 46:6,8 business 13:5 19:25 20:1,2,3 53:18 96:3 124:4,6 busy 128:24 button 13:23 87:13 buy 150:1 182:11	<hr/> C <hr/> cabinet 80:5,7 calculator 88:14 California 140:1 call 5:10 11:11 14:23 16:4 24:3,6,19 25:11 33:8,12 41:23 73:7,11 119:9,10 139:25 194:10 called 18:20 74:15 181:24 calling 24:9 42:16 calls 102:25 camera 62:13
boils 128:3 133:13 boing 37:9 Boisco 9:1 bolted 127:4 book 142:14 books 86:20 bothers 38:20 bottom 38:9 68:1,16, 24 76:7 78:6 85:8,9 110:20 122:1,3,10,13, 14 123:9 bounce 51:9 187:24			

certification 31:8	18,22 177:3,5,9,17,21 178:8,12,15,19 179:1, 9,20,24 180:3,11,18, 21,24 181:3,10,13,22 182:1 184:6,15,25 185:6,18 186:1,22,25 187:4 188:8,11,16,25 189:6,9 190:15,22 191:1,8,12,20 193:7, 15,16,22 194:2,5,9, 12,13,19,25 195:5,12 196:6,17,22 197:23 198:1,4,8,18,21 199:18,21 200:10	checking 67:14 137:15,21	claim 138:3
certified 31:7,17 33:13 57:25		checklist 42:13 43:12 48:3,4,11,15,16 49:21 73:12 102:15 149:5 160:1 173:9 184:11 187:16 191:14 192:24	claiming 138:4
cetera 145:7 153:10		checks 23:22,24 26:3 72:15,16 103:20 105:11,12,19,25 121:5	claims 137:25 138:9
Chairman 5:2,25 6:5, 9,13,17,19,22 7:4,9, 13,19 8:6,8,11,17,22 9:2,9,14,17,22 10:2,7, 18,23 11:1,5,10,15,19 12:9,18,23 13:3,8,12 14:8,14,18,22 15:1,3, 5,7,15,20,24 16:3,7,9, 11,13 17:3 18:2,3 19:19,22 20:13 22:22 23:1,5 26:17 27:9 30:6,23,24 32:2,25 33:3 41:20 43:6 51:2, 5 52:9,13,18,23 53:6, 10,17 54:12,16,18 55:1,5 56:24 57:4,7 59:23 60:3,7 62:22,24 69:19,24 70:3 81:10, 11 84:20 85:15 86:1, 6,8,12,17 87:11 88:4 89:19,21,22 90:4,8 91:3,7,17 92:4,8,15, 22 93:4,18 94:5 95:6, 7,23 97:9,15 100:23 106:7,8,13 108:3,6,18 109:6,18 110:9,13,16, 18,25 111:13,14 112:3,6,7,11,18,23 113:1,8,17,23 116:6, 10 117:10 121:20 123:19,24 124:19 134:15 140:9 141:6, 25 142:12,22,25 143:3,18,21,25 144:12,16 145:10 146:13,24 148:15,22 149:3,15 150:21,24 151:3,12,16 152:1,13, 17,20,24 153:7,20,24, 25 154:5,10,14 155:8, 10,20 156:3,10,22 157:7,17,20,24 158:12,17,22 159:3, 18 160:4,14,17,19,23 161:3,6,8,15,19,23 162:9,12,16,19 170:5, 19 171:4,7,11,14,18, 23 172:10 173:4,8,18, 22,25 174:3,7,11 175:9,11,23 176:3,12,	challenges 95:13	Chemical 7:23 18:11	clarification 28:12 29:13 30:17 46:18 50:9,22 87:6 108:1 134:9 176:2,14,21 189:13 197:8,17 198:7 199:4
	chamber 57:24 63:4 69:5,8,14,15,18 71:14,25 104:14	chief 5:24 11:22 79:15 82:1 101:4 105:1 111:16 128:13, 14 129:3,7 130:3,13 132:13,23 134:19 142:3,8 146:4 150:22	clarify 45:25 97:3
	chambers 86:14	Chief's 12:21 14:6 17:1 18:5 151:13,14	clarity 26:19 116:20 125:18,25 126:16 128:7 131:21 141:15
	Chandler 9:24 20:25	chiefs 147:1,4 148:11	classified 28:14,19
	change 34:2 35:12 74:16 92:23 93:5,11 108:11 123:13,15 154:19,23 155:17,25 157:10,11,18 159:20 166:13 172:14 180:23 184:21,23 186:20 191:5 197:24 198:2,5 199:11	Chiffon 8:18,19 56:12 62:11,16,19 63:2,14 64:9,18 65:9,24 66:4, 9 67:10,21 68:10,18 69:1,6,13 70:12,22 71:5,18 72:8 73:23 74:5,12 78:22 82:22, 25 83:7,18 86:5,7,10, 14 89:14 100:16 104:13,21,24	Clayton 93:24
	changed 90:20,21 138:24,25 139:1 149:18,19 160:7 198:10 199:8,11	choose 94:7	clean 67:24 100:20 172:17,25
	changing 174:19	chooses 33:15	cleaned 193:11
	Chapman 11:22	Chris 5:23 6:12 8:9 13:2 54:6,19 79:14 104:25 108:14 132:15 142:19 188:5 194:17 199:20	cleaner 189:20
	Chapter 20:6	church 138:2	cleanliness 67:15
	charged 100:7 125:16 131:16,19 185:16	churches 137:14	clear 29:9 50:3 66:21 107:17
	chart 35:22 150:7,21 153:14	Cincinnati 8:5 113:5 114:1	clearance 53:22 55:11,15,22,25 56:6 58:6,18 80:13 81:19 89:4 107:4 109:21 114:5,10,21 115:1,6 116:1,19
	check 49:5 50:7 61:7 68:21 72:17 82:14,15 98:14 105:8,16 118:9 121:2,6,10,16 127:15, 16 174:21 179:14,15, 16	circuit 163:11 164:5	clearances 87:2,21 93:13
	checked 32:13 98:19 105:13 131:8		cleared 58:1
			clearer 44:3,15 48:24
			Cleaver-brooks 22:5
			Clever-brooks 165:2
			client 33:14 83:3
			clients 31:1,19 32:12 42:21 123:8 170:20
			clock 33:21
			close 26:13 83:22 193:15
			closed 76:13 101:9 136:12

closed-loop 137:2	commissioner 6:3 11:20 139:25	Conbraco 71:3	consultant 84:3
closely 83:13	commissions 133:6	concern 30:25 57:16 66:23 79:16 81:13 95:24 101:11 103:19 121:24 170:14	Consulting 9:1 111:3
cloth 105:17	committee 141:8	concerned 31:3 84:15 109:2	contact 182:9
CO2 183:13	common 37:19	concerns 52:24 53:4 116:12 150:19 170:17	contacts 182:12
code 67:23 72:4,7 81:18 84:7 85:19 94:5 102:25 104:7 113:7 114:19 122:3,10 123:11 124:11 125:12,24 126:11,17 128:5 131:14 133:21 134:11,23 139:7 140:7,18 141:11,12, 16,22 142:5 163:20 186:11 189:19,21 198:17	commonplace 96:24	concise 50:24	contingency 36:21
code-stamped 86:4	communicate 134:13 140:15	concludes 53:18	continue 43:9 148:12
codes 39:11,22 148:13	communication 38:19 133:22 134:4	condition 24:3 25:20	contractor 134:3
coiled 83:17	communications 38:18 46:5 193:5	conditions 39:17 115:21 127:17 138:7	contractors 130:10
cold-water 98:25	companies 143:14 146:22	confer 110:6,21	contradicting 87:24 88:3
collapsed 131:5	company 7:11,23 17:7 94:19 101:22 128:18 138:3,8 141:2 142:9	conference 143:7,8, 14,16	contradictory 23:19 24:13
colorless 185:23	compartment 115:13	confined 129:24	control 58:5 73:25 99:17 121:8 163:14 168:7,17 182:6 183:24 186:9
column 47:8,15,20 48:7 49:2,19 50:6,10 179:12	competency 30:20	confirmed 138:10	controlled 38:17,20, 22 102:18 164:22
combination 89:4	competent 51:13,20	conflict 16:15 54:11, 15	controller 40:13 162:3 163:20 164:15 165:15
comfort 76:16	competently 134:6, 14 140:23	conflicts 20:10,14 54:2 111:8	controllers 22:15
comfortable 38:1 105:20 111:24	complete 40:8 123:15	confused 25:24 26:5 27:2,6 183:13	controls 39:4 84:15 102:1,6 136:5 137:21 162:22 165:12 167:14 168:14 172:6 184:2 197:4,5 199:7,10
comment 26:18 32:24 42:3 43:5,14 84:24 129:18,20 149:24 184:10 191:13 193:9,15	completely 75:15 83:24 99:11,12	confusion 28:10	conversating 111:17
comments 18:4 19:20 23:7 26:14 32:4 41:22 43:8 44:22 51:3 52:24 57:3 59:24 60:10 89:20 91:19 97:11,14 106:10 108:4 123:20 129:18, 20 149:24 160:10 179:3 193:12	Compliance 6:4	connected 70:15	conversation 108:7 109:9 110:8 112:17 116:22 174:13,24
commission 133:7 135:21	Complies 67:10	connections 192:15, 16	conversations 13:15,18 143:11
	component 58:17 76:9 77:14	consideration 59:17 81:22	cool 101:16
	components 55:14, 21 74:24 78:19 98:5 107:2 167:12	considerations 107:5	cops 130:6
	computer 17:16 143:17 192:5	constant 34:3 166:13	copy 14:3 109:11 149:6,13
	computerized 45:4 149:25 150:2,4 154:21 155:2,4 161:22 162:5 166:5,6 168:10 173:11,13,14, 23	constitute 160:12	Corporation 8:21 9:8,16 53:21
		construct 85:18	correct 24:10,11 25:15 26:18 27:18 35:7,8,9 36:4,5 38:5,6 40:12,21 44:9 52:21 62:6 64:8 67:21
		construction 63:25 124:14 125:11 126:24 127:18 128:10 129:5 132:9 134:11 135:17 139:16 140:19 141:5, 18 144:3 156:14	

68:12,13,25 71:17 78:17 79:3,11 83:7,16 86:4,5 89:13,14 90:4 92:6,25 98:16 142:23 146:6 148:21 157:6	customer 56:20 65:4 73:8 74:11 77:18,19, 22 78:12 123:1,16 127:1 133:23 134:3	deal 184:3	describe 23:18 26:10 38:13 49:4 63:1 70:9
corrected 97:19	customers 59:14,18 73:7 131:15	deals 89:5	describes 49:5
corrections 14:5 15:13	customers' 57:12	deaths 181:18	description 24:21 26:6 27:3,4,20 38:15, 19 39:3 40:8 44:18 45:1,3,11 46:1
correctly 73:2	cutoff 98:7 163:24 164:4 165:1 179:15	debate 136:25	descriptions 21:15
correlate 44:7	cutoffs 162:23	decades 134:19	descriptive 48:1
corroborating 103:22	cycle 73:25 96:25	December 15:10,17	design 59:3,10 61:13 67:23 90:17 92:13,23 94:8 104:6 110:1
corroded 105:15	cycles 70:15	decided 116:9	designed 55:13 57:11,22 58:2 74:23 91:14 164:14
corrosion 82:16 101:2 138:4	<hr/> D <hr/>	decides 94:22 133:8 199:24	designs 131:23
corrosive 136:14	DA 22:6 40:18,19	decision 51:13 146:20	desire 117:3
cost 186:3	daily 30:11 47:18,19, 21 48:2,23,25 50:5	declared 75:21	detection 165:11
costs 59:6	Dan 6:20 142:14	dedicated 26:20	detector 191:6
counsel 6:21 8:10	Daniel's 188:9,17	deem 72:1	determination 115:8 116:2 132:24 133:2
country 18:10,17 54:9	data 44:8 58:15 65:5, 13 77:9,11 80:23 84:6,8,9,11 106:18 147:4	defer 100:14	determinations 130:4,7,14
couple 81:12 97:14 109:19 116:15	date 17:23 149:19 154:23 155:6,13,17, 22,24,25 156:2,5,6,7, 18,23,24 157:5,16	definitive 187:23	determine 115:5 132:8
cover 88:1 117:14	Dave 7:16 18:6 23:11 27:14 28:4 32:7 33:23 43:10 51:8 52:4 66:11 67:6 74:6 78:6 88:6 89:7 97:12 103:7 106:12 121:2,14 124:10 139:12 182:4	definitively 189:25 190:14	Development 8:20 200:3
coverage 37:4	David 9:25 10:11 20:20,22 23:12	degree 137:12,13,19 147:14 167:20	develops 57:14
covered 91:10	day 11:24 13:16 67:17 104:7 108:15 112:1 130:20	deionized 101:1	device 182:10
covers 56:22	day-to-day 178:23	deionizer 100:18	devices 84:15 86:23 93:7 127:14 136:5
COVID 17:10 37:2 143:6	days 18:20 147:14	Deleting 162:11	diagram 43:21 44:15
COVID-19 96:1,15	deadly 185:25	delineation 30:18	dialogue 117:7
crawl 62:4	deerator 40:25 41:2,8	delinquency 17:8 19:10	diameter 114:17
create 174:16		delinquent 17:22	dictate 167:1
creating 95:3		delinquents 19:1,2,3	dictates 131:14 183:5
crew 37:2		Delite 18:10,17	difference 32:9
critical 58:3		demand 168:14	differently 89:3
CSC 70:13		deny 94:16	difficult 43:20,22 75:21 77:6 127:5 144:7
CSD-1 186:5		denying 51:24 138:3	
cubic 88:10,11,22,23 89:17		department 56:11,14 200:2	
current 140:5		department's 21:1	
		departments 59:6	
		depending 97:8	
		Depot 182:11	

digest 114:8	documents 77:16,22	e-stops 111:23 180:7 193:18 195:7	end 50:13 127:4 133:23 137:1 159:22 200:7,24
direct 47:14	dog 84:2	earlier 44:21 104:10 120:21 153:17	ends 64:13
directed 140:23	Domtar 188:12	early 65:1 68:11 193:11	enforce 198:25
directer 56:15	doohickey 70:10	easier 74:20	enforceable 135:8
directly 164:5	door 63:21,22,23 64:10,11 82:13,14 107:17,20 127:4	easily 58:8,13 75:22 78:5 109:5	enforced 140:8
director 8:20 10:22 20:23 37:22 56:12	doors 22:19 64:13 107:15	East 192:4 200:16	enforcement 189:23
discharge 71:13,16, 22 72:2,6 104:1	double 36:23 37:3 64:10	Eastman 7:23 180:13 187:5	enforcing 141:16
discouraged 106:3	Dow 18:11	easy 50:13 58:12	engine 169:20
discretion 125:11 132:8,12,14 134:10 140:20	draft 170:23	economy 97:2	engineer 9:16 73:1
discriminatory 166:2 167:19	drain 67:25 68:2 98:3, 11,23,25 102:22 103:1,5 119:10 120:7, 8,10,19 133:19	ECS 8:25 111:3	engineering 8:15 9:21 20:18 56:11,13
discuss 22:24 26:15 49:20 57:1 60:2,10 112:20 147:19 162:21 169:14	draw 114:2	editorial 159:24 160:13	English 158:20 178:17 200:17
discussed 148:3 162:4 187:15 190:12	drawing 43:15,20,25 118:24	education 127:19 183:10,15	enjoyed 12:14
discussing 49:22	drawings 59:2	effect 123:2	enlarge 44:14
discussion 14:20 16:1 35:17 48:9 76:7 97:17 117:2 124:9 125:7,14,17 126:9,16 127:1 128:5 132:2,10 136:25 139:9 140:12 148:20,23 149:4 160:12 167:10 171:17 172:12,18 174:10 180:16 186:12 187:16 190:11 193:1 195:10, 13	dry 189:19	effective 57:19	ensure 57:18 58:3 59:13
discussions 124:20 130:18 183:3	due 95:25 143:6,16	effectively 59:20	enter 168:14
displayed 180:23	duplicate 84:8,11 108:22	efficiently 59:20	entered 168:13
distill 100:18	duplicating 87:24	electric 82:21,23,24 83:5 189:15 190:1,16	entertain 95:19
distracting 13:15	Duran 68:5	electrical 65:11	entertains 95:18
document 92:2 154:19	duties 34:15 37:16 47:18 175:16 177:24 178:23	electrically 191:7	entrusted 135:19,21
documentation 34:16 94:21	duty 37:3	electronic 14:9 73:16	enunciate 39:6,13, 17,22 182:14 191:22
documented 137:24	dynamic 162:1,3,5, 14,17,22 163:7,13 164:14,21 166:11,13 171:19,22 172:1,13 174:5,8	elements 115:18	enunciated 39:7 181:19,21 191:24 192:20
	dynamite 76:15	eliminate 100:20	enunciates 39:11
	<hr/> E <hr/>	email 141:14	enunciating 50:8 182:23
	E-1 43:19	embarrassing 42:21	enunciation 46:7 49:6 191:25
	e-stop 38:25 42:17 191:19,25 194:17	emergency 22:18 30:13 32:21 42:13 43:2,5 96:21 180:5,7	enunciations 192:15 193:2
		emergency-called 96:19	environment 101:14
		encompassing 19:4	equalization 67:14
		encountered 137:4	equally 136:7
		encouraged 106:2	equipment 37:23 44:20 46:23 51:17

59:1 76:2,5,14,17 77:12,17 96:5 117:21 133:25 155:14 166:18 167:13,17	expertise 76:20 190:7	falls 148:1	fire 42:22,25 165:19
equipped 73:4	expiration 92:21	familiar 12:5 94:15 103:11	fired 168:23 172:5 179:18
erosion 138:4	expire 156:1 158:3,7 159:10	family 63:19	fires 168:13
erroneous 48:19	expires 155:12	fantastic 117:20	Firm 8:9
essence 84:12	expiring 156:16	fast-acting 119:24	fishing 12:3
estate 81:17	explain 62:18 118:18	fault 24:3 25:20 29:17 39:11,22	fit 91:22 169:24
Eugene 8:4 113:2,3, 25 190:11	express 97:6	favor 94:8	fix 109:5
event 115:19	extending 31:11	FDA 58:1	flame 38:16 39:18 40:10 44:23 163:7,18 164:9,21,22 165:17, 23 166:24 179:17 180:23
eventually 12:12 81:6	extent 50:18 141:16 166:21 167:20 172:8 182:13	FDA-VALIDATED 107:17	flat 192:19
everyday 31:23	external 103:14 129:21 131:7 136:1,4 142:10 196:12	features 58:4	float 127:15 131:5 165:2
exact 154:7	externally 124:14 139:15 146:3	feedwater 40:19,24 41:14 168:13 169:19	floor 62:5 76:8 80:6,9, 12,14 183:12
exam 31:22,24	extinguisher 43:1	feel 84:3 105:11,20 149:10 172:6	floors 137:16
exceed 102:23 114:14,17	extra 131:12,13	feeling 51:11	flow 63:10 73:17,19 121:6 127:16 150:6,7, 12,21 153:13 154:11
exceeding 196:14	extremely 130:22 136:9	feet 21:12 88:10 89:17 114:17,22 187:19 197:2	flush 98:11,25 99:1, 19 119:10,12 120:6,7, 10 121:6 122:8,10,20, 23
excellent 19:23 108:7 148:13	F	field 9:16 22:21 71:11,12 73:1,3 75:25 108:24 125:1	flush-and-drain 99:24,25 102:17
exception 90:13	face 12:5 58:6 96:12, 13	figures 192:23	flushed 99:21 102:19
excited 12:11 199:23	face-to-face 13:17, 18 96:21 200:21	filed 92:2	flushing 99:15
excuse 28:4 104:13, 16 143:25	facility 148:6 156:12	fill 12:14 28:22 32:17	FM 7:11
Executive 11:9	fact 68:12 102:2 106:3 147:10 165:21 190:1	filled 12:2	focused 58:3 66:7
exempt 114:18	factory 71:17	filling 28:1,23,24 29:4	folks 56:19 73:3
exemption 53:22 55:10,24	failed 18:1,9 153:12	final 172:21	follow 31:16 138:18
existing 43:22	failure 115:22 126:7	finally 58:14 199:22	food 183:2
exists 87:16	fair 155:16,21 172:11	find 72:19 83:13 87:13 107:20 136:1 165:6 180:20	Foods 18:12
exit 22:19	faithful 200:13	finding 125:2,4	foot 42:23 88:11,22, 23 195:20 198:24
expansive 76:15	fall 27:24 35:3,4 49:24 143:7,8,16 196:23 197:22 198:15	fine 57:8 82:18 83:10 91:12 110:11,15 160:4 170:13 177:8 179:22,23 194:8	footage 197:14
expect 100:12 159:6	falling 17:20	finished 124:6	footing 90:22
expense 184:1,18		finishes 124:4	footprint 76:6
expensive 182:10			
experience 37:7 46:8 81:13 94:24 168:20			
experiencing 139:4			

force 31:5,20 33:6	fuzzy 76:21	glasses 43:17	guards 33:9
forces 31:2		Global 7:11	guess 30:19,20 33:25 34:25 36:7 37:15 44:12 47:17,18,21 48:4,22,24 49:19,24 50:3 56:25 66:22 67:16 70:4 95:23 101:11 139:19 143:4 163:2 165:7 198:6
foreseeable 95:21	G	good 6:14,24,25 7:2, 4,18,19 11:21 19:17 29:10 36:1 38:7 41:15 43:24 44:10,24 53:1 55:1 56:24 62:24 66:22 67:11,13 77:4 85:12 86:18 88:5 99:14 100:23 103:15 107:25 111:1 112:6, 19 124:22 126:14,15 133:10,11 140:11 143:10 145:16 147:5, 7 149:3 153:17 157:23 158:11,15,20 159:14 161:9,15 164:20 169:25 171:22,25 173:1 174:4 179:18,23 183:19 184:5 191:8 194:10 195:8 199:19 200:18,20	guidance 57:22 117:3
forgetting 200:17	G-2 42:5	governor's 200:7	guide 170:12
form 140:17 141:14 147:1	game 46:21	grammatically 178:17	guideline 149:5 154:18 170:24
format 116:25	gardening 12:3	grandfathered 184:20 186:6 187:7	guidelines 136:19 154:21 195:3 198:2
forms 192:1	gas 39:13 82:24 83:4 163:24 168:23,25 169:3,18 188:21	grandfathering 186:5	gun 169:6
forte 88:18	gas-fired 188:22	grant 142:5 158:3,7 159:10	guy 42:16 132:21 144:1,22
forward 13:16 58:6 146:23 170:1 184:24	gate 119:25 120:2,22	granted 56:2 156:17 158:4,8 159:11	guys 7:3 36:9 84:4 104:18 113:7,12 115:17 129:6,10 130:6 133:3 145:22 148:14 169:24
found 43:19,22 72:21 138:7 146:19	gauge 68:1,15,20,22, 23 72:17 97:20,21,22 103:22,24	grasping 30:21	gymnasium 137:6
four-hour 23:22 26:3 28:1	gave 169:23	great 55:6 61:25 66:3 94:19 105:12 118:4 148:18,25 167:10 171:17 180:2,10,19 192:9	H
fourth 17:13,14	gave 169:23	grinning 142:15	hacked 192:5 193:3
frame 107:23	generated 196:11	ground 90:16	hand 13:23 125:21,22 128:19 145:5,7 172:5
fresh 137:3	generator 58:8,11, 12,15 60:21,25 61:5, 9,23 64:16,17,19,20, 22 65:6,10,25 66:2, 10,24 71:25 73:4 75:14,25 79:18 80:14, 15,22 82:21,23 83:4, 16 86:3 87:4,17 89:2, 6 93:7,24 97:23 100:7,17,21 104:15 108:23 117:15	group 9:1 11:3	handful 192:24
Friday 11:25	generators 79:22 99:7,8 102:13 105:14 119:20	groups 176:5	handle 32:21 42:13 43:2,4 83:5 94:3 139:21 142:1 191:16
front 40:6 55:21 58:4, 9,12,13,16,18,23 61:3,5,23 63:21,22 64:7,12 65:10,12,18 72:13 74:24,25 75:12, 15 77:1 78:16,17,23, 25 80:12,24,25 115:18,19 119:9 133:23	gentleman 75:19	guard 26:21 31:12 32:13 33:15 42:24	handled 27:7 136:19 141:7,8
front-only 55:14	GEORGE 10:5,8,11, 14,17 104:16,22		handling 96:7 182:19
frontal 57:23	give 8:2 13:2 18:22 44:24 53:13 92:13 112:8 114:7 141:24 142:3 149:9 167:7		handy 5:8
frozen 66:8	giving 72:15,16 93:6		hang 123:25
frustration 95:25 97:6	glad 7:11,13 19:12 22:21 146:18		hanging 200:11
fuel 168:23 169:1,16 179:17	glass 58:11 67:8,9, 12,19,20,24,25 68:2, 3,4,7,8,12,14,24 76:10,12,18 101:5,9 179:16		happen 105:6 131:2, 10
full 32:19 57:22 67:19 80:6 82:19 137:5 139:2			happened 32:14
functional 45:23 70:13			
functionally 29:11			
future 19:7 95:21			

happening 62:3	heavy-wall 68:4	honest 100:6	identified 22:3 80:10
happy 61:24	helpful 9:12	honestly 159:19	identify 29:20 40:23 104:19 133:25
hardware 38:11 39:3, 25 40:9 44:25 45:1,4 46:18 192:14	hen 149:7	Honeywell 22:16 38:16	ignorance 144:1
hardwired 191:6,18 192:1 193:19 194:18	Henry 7:6,7 14:13,15 15:5,6 16:11,12 110:14,15	hope 5:8 14:3 18:11 96:11,12 200:3,19,20	impact 93:11
Hargrove 6:23,24,25 15:3,4,22,23,25 16:9, 10 110:16,17	Herrod 6:1,2 11:19, 20 12:10	horrible 105:15 137:25	impactful 91:2
Harold 7:10 14:16 23:3 32:6 42:1 52:2 60:1,4,12 64:3 65:15 66:19 73:13 77:25 84:22 88:19 92:17 110:12 111:10 118:2 132:16 179:21	hey 78:11 82:12 83:3 129:6,10 181:4 184:4	horse 195:20 197:1	imperative 65:17
Hats 117:22	hide 105:17	horsepower 187:19 189:16 197:14 198:24	imperial 85:22
Hawk 39:16	high 19:3 39:13 102:21 128:11 136:8 137:18 197:5	hoses 115:24	implement 26:8
HCA 90:23	high-efficiency 127:11	hospital 21:24 33:20 37:5 41:8 54:5 90:15 163:23	implementation 45:19
he'll 140:1	high-pressure 17:22 19:1 20:5 21:8 31:18 60:21 68:7 72:19,23 76:14 98:6 100:4,10, 11 102:21,25 103:13 121:17 129:22 135:5 136:6 197:20	hospitals 54:10 59:4 118:22	implemented 182:25
head 125:15 142:14	high-temp 135:17	hot 114:5,9,13 126:5 127:25 131:3 133:17 135:15,16 136:11 137:1,5,24 147:11,24, 25	implementing 182:13 183:16
head-to-shell 144:23	high-temperature 56:9 98:23 147:25 196:12	hour 53:12 112:20	implication 186:3,4
header 154:20 173:13 175:6 176:4	higher 131:25 190:6	hours 31:11	important 28:19 115:11,20 136:7,9 165:17
healthcare 59:19	highlight 94:7	human 122:16	impossible 127:13
hear 26:11 55:4 56:5 80:1,18 95:12 110:6 113:12 117:3 164:7	highly 136:14	hundred 197:1	improper 138:4
heard 95:17 102:4 105:11 116:11	Hills 8:16 10:1 20:3, 19,24 31:9	hung 17:17	improve 44:4 58:20 97:1
hearing 13:13 14:8 15:16 16:4 51:5 94:19 117:8 154:17 157:25 173:9	historic 169:20	hunt 84:2	in-expertise 131:22
heart 172:14	hit 37:2 191:24	<hr/> I <hr/>	in-person 95:17
heat 114:14	hitting 42:17	I-2 44:17	inadequate 107:4
heaters 58:13 81:25 91:20 114:6,9,14 135:16 145:3 182:19	hold 62:18 172:1	I-3 45:2	inch 144:21
heating 115:17 124:13 126:6 127:23 135:16 136:11 139:14 147:13,14,23 187:19 197:2	holds 128:20 133:7 145:5,7	I-4 47:6	inches 114:22
	hole 70:7	i.e. 72:14 97:19 98:5 162:23 163:6 164:9, 22 168:12	incidences 126:6
	holes 70:16 71:2	IBCL 73:7,11	incident 32:14
	Home 182:11	idea 144:18 157:23 183:21 184:5	inclined 115:3
	homework 136:17	ideal 96:17	include 44:18 45:3 47:7 48:6 50:10 177:25 178:10,21 179:11 193:17
		ideas 135:9	including 58:5 134:19
			inclusive 175:19
			incoming 34:14,19
			incorporated 7:17 149:23 193:9

incorrect 48:5	inside 66:15 82:14,17 94:10 115:20 138:10 192:18	57:18 103:11 118:12 125:5 126:11 128:11, 16 129:1,9,18 132:4 134:20 136:19,20,22 140:16 141:23 143:9, 16 146:23	192:13,25
increases 59:7	inspect 62:7 73:5 79:18 93:14 134:25 139:24 144:7 199:15	install 59:14 90:19	interesting 41:4 68:19 70:24 107:7 186:12 192:3,17
Indicating 30:22 33:2 95:5	inspected 84:16 124:13 125:10 126:13 130:25 139:15 140:18,22 141:4 145:24 147:13,17	installation 45:17 77:12 81:4 86:23 90:12 93:14 95:10 97:23 106:16,24 107:1 108:22 110:1 183:7	interface 38:18,19 46:6,19 122:16
indication 80:8 163:9	inspecting 83:24 126:22	installations 53:24 116:18	interject 175:18
individual 78:18	inspection 6:16 55:16,23 57:24 58:10, 19 66:24 73:2,6,8 76:23 78:8 80:3 82:6, 19 83:13 84:5 86:24 93:15 105:5 109:21 120:24 124:11 125:19 126:8 127:19 129:15 131:7 132:15,16 133:16,20 135:2,6,25 136:1,2 138:14,15 144:24 145:21 146:1, 2,4,6,9 147:16 151:20,21,25 152:10 153:6,9 155:7,12,16, 25 156:6,19,24 157:3, 6 158:9 159:12	installed 39:5 45:13, 15,22,25 46:16 47:1,2 51:18,19,21 78:22,25 100:1 102:17 104:1 111:6 138:13 167:12 183:14	interlocked 182:14, 21
individuals 21:19 31:15 35:23 36:18 75:1 135:10	inspector 5:24 8:5 60:13 61:7 64:6 78:8, 13 81:14 83:21 84:3 85:4 100:3,12,15 101:12,15,24 105:1 113:4 114:1 115:8 120:23 121:5 128:13, 15 129:4,7,8 130:3,13 132:7,13,23 133:24 134:1,10 135:19 138:10 139:23 140:1, 19 141:3 142:4,8 150:23 190:12	instances 137:13 180:12	intermittent 122:4,15
Industrial 45:22	inspections 17:5,6, 17,25 73:10 81:21 103:13 118:13 125:5 130:1,19 131:16,17 133:9,12 138:13 147:22 151:9	installing 77:14 108:16	internal 73:8 103:14 127:18 129:21 130:1 131:6 135:25 142:8, 11 144:10,15 145:6,9 146:10,17
industry 39:17 40:23 77:3 101:21 125:2,19, 20,21 126:1 127:20 128:7 131:1 132:1 139:4 141:1 167:13 169:4 183:16 189:18	inspector's 128:9	instance 127:3	internally 124:13 126:3,13,23 127:13 128:4 130:25 131:4 139:15 140:22 141:4 145:24 146:3 148:6,9
influx 127:25 137:9	inspectors 17:6	instances 137:13 180:12	internals 137:23
information 16:24 19:2,11 40:3,4 47:4 48:18 49:21 51:12,15, 19,25 52:8,12 60:18 62:5,6 63:17 68:11,13 72:5 77:7 94:23 109:12 115:4 125:8 126:21 141:13,23 147:20 148:11 153:17 167:7		instantaneous 91:20	internet 192:15,18 193:6
informed 200:7		instrument 127:3	interpretation 110:5 111:3,9 124:7 139:20 140:6 170:14 191:5
infrared 164:10 165:10		instances 137:13 180:12	interpretations 53:20 90:2 92:5 171:2
infrequently 133:18		instantaneous 91:20	interrupt 22:8
initial 34:16 78:7 94:21 109:20 157:3		instruments 59:8	interrupting 87:14
initially 33:22		insurance 7:11 8:5 17:7,23 113:5 114:1 129:9 138:2,8 139:21, 22 140:16 142:9 143:14 146:21	intervals 72:22
injuries 181:18		insure 54:10	intranet 192:18
input 104:5 114:14 117:7 118:1 130:16 136:24 139:11 141:24 149:1		integral 77:13 181:17	introduce 5:15 20:7, 14,20 53:25
inquired 77:19		integrate 194:1	introduced 5:20
inquirers 108:8		integrated 191:3	introduction 195:17
inquiry 55:7 56:3 86:19,25 87:6 89:9,12 109:20 191:5		intended 59:15 196:13	introductions 5:14 11:17
		intent 36:18 93:11 107:23	invoiced 135:1
		interest 16:15 20:10, 14 54:2,15 111:9	involved 75:24 95:3 159:8
		interested 19:10 97:24 98:3 190:13	IR 164:12
			Irion 6:10,11,15,18

<p>isolated 125:13</p> <p>issue 81:3 109:23 115:20 116:24 123:7 140:4 166:9 172:3 193:21</p> <p>issued 170:2</p> <p>issues 17:16 33:25 67:18 103:25 109:19, 22,23,25 116:17</p> <p>item 5:11,13 14:2 15:9 16:15,23,25 20:2 45:3 47:6 48:19 52:14,15,19 53:7,14, 20 77:8 90:1,7 93:21 95:9,11 106:25 109:7, 13,16 110:4,20 111:2, 25 112:21 124:17,20 149:4 154:25 155:5 159:21 160:2 163:22 172:18 173:10,21 178:20 180:23 181:6 187:15 193:8 195:10, 11,13 199:22</p> <p>itemizes 47:9</p> <p>items 22:2 23:13 96:3,8 97:18 124:10 131:8 148:12,23 153:22</p> <hr/> <p style="text-align: center;">J</p> <hr/> <p>Jack 188:9,16</p> <p>jacket 63:4 69:5,14 71:15,24</p> <p>James 8:14 20:17</p> <p>Jamie 11:8</p> <p>January 15:11,17</p> <p>Jeff 7:7</p> <p>Jenny 146:19</p> <p>JO 146:11</p> <p>job 21:15 67:18 84:4 106:19 107:4,9 128:17 129:11 132:17 133:4,10,11 135:24 192:4</p> <p>joining 56:15</p>	<p>July 17:5 187:6</p> <p>jump 18:22</p> <p>jumped 17:11</p> <p>June 52:20 53:7 109:14 112:4 116:14 123:21 124:8 147:19 148:20 149:20,22 154:24 170:7 172:16, 20,25 193:13 195:11 200:1,21</p> <p>jurisdiction 138:19 141:21</p> <p>jurisdictional 60:19 138:16 141:12 197:6</p> <p>jurisdictions 111:21 135:14 146:16</p> <hr/> <p style="text-align: center;">K</p> <hr/> <p>keeping 34:15</p> <p>Keith 6:25 15:22</p> <p>Kewanee 22:4,12</p> <p>key 133:23</p> <p>keyword 38:22</p> <p>kicked 129:23 192:21</p> <p>kilopascals 69:9,16, 20,23 85:18,25 104:9, 14 106:20</p> <p>kind 7:1 23:17 26:25 27:12 33:4 38:22 44:13 47:15 52:4 68:2 74:16 76:6 87:6 107:7 109:24 111:21 117:6 125:9,15 129:2 133:23 139:5 141:24 144:18 146:4 187:24 190:13 192:25 193:6 194:22</p> <p>kit 99:25</p> <p>knew 11:1</p> <p>knowing 43:1 76:18, 19 85:13 192:13</p> <p>knowledge 103:16</p> <p>kw 114:15</p>	<hr/> <p style="text-align: center;">L</p> <hr/> <p>L-E-C-L-E-R-C 18:15</p> <p>L-Y-T-L-E 10:16</p> <p>Labor 200:2</p> <p>lack 44:22 46:1 70:9 76:20,21</p> <p>lacking 26:7 47:3 72:22 77:13</p> <p>Lafrance 9:6,7,13 54:24 55:3,6 56:8 57:2,5,9 62:10,17,20, 25 65:3,22 66:1,6,16 67:1 74:22 88:13,17 90:5 104:17 108:13, 19 109:4 113:12 117:25 119:4 123:23</p> <p>large 184:18</p> <p>larger 75:8 99:7 103:5</p> <p>largest 89:17</p> <p>laugh 144:17</p> <p>law 8:9 31:7,16 139:13 142:3 170:8</p> <p>Lead 9:21</p> <p>leadership 126:20 134:13 140:14</p> <p>leads 99:4</p> <p>leak 79:8 80:8 81:6 83:9 85:6</p> <p>leaking 80:16,20,22 83:11 85:5,14 115:23</p> <p>leaks 105:16,18 137:6,8</p> <p>lean 136:3</p> <p>leave 5:17,19 8:1 26:13,14 48:9 88:12 117:17 130:9 171:19 172:13 185:10</p> <p>leaving 167:6</p> <p>Leclerc 18:12</p> <p>leeway 144:25</p>	<p>left 10:19 11:7 12:25 79:20,24 115:2,6</p> <p>left-hand 150:20</p> <p>legal 6:20</p> <p>legislative 170:9</p> <p>length 72:22 114:18</p> <p>lengthy 124:21,22</p> <p>let alone 76:17</p> <p>letter 72:6 141:14 142:2 146:21 198:16</p> <p>letters 57:12</p> <p>letting 155:17</p> <p>level 29:6 30:19 49:17,19 67:9 72:18 76:16 128:11 131:12, 13,25 141:7 163:8,9 165:2,4,5 166:1</p> <p>levels 131:1</p> <p>licensed 55:8</p> <p>lieu 142:10</p> <p>life 37:7</p> <p>lifetime 92:19</p> <p>lighting 169:17</p> <p>limit 98:6 100:4,7</p> <p>limitations 102:22</p> <p>limited 36:22 136:2</p> <p>limiting 172:7</p> <p>limits 197:5</p> <p>line-item 117:1</p> <p>lines 39:20</p> <p>lingo 94:5</p> <p>links 63:20</p> <p>liquor 188:13</p> <p>list 5:18 8:1 21:9,15 37:12 38:10 41:2,5 48:25 73:6,8</p> <p>listed 18:25 22:16 26:9 36:16 37:9,13 38:15 40:13 44:1 50:5 160:3</p>
---	--	---	---

listening 41:17	Louisiana 187:10	24 23:15 24:4,7,8,19	manual 20:7,15 21:9,
listing 48:23	love 59:21	25:11,14 27:23 29:1,	10 26:10 28:15 30:8,
lists 34:18 41:5,8	low 39:12,13 100:3	2,18 31:15,22 33:21	11 44:18 45:3 47:7
literally 76:14 84:12	121:2 126:4 131:5	34:7,12,18,21 35:4,6,	51:20 53:8 72:15,21
literature 62:1	136:8 137:12	19,24 36:2,15,18	96:6 119:7 120:5,18,
live 16:19 37:7	low-pressure 19:2	37:16 42:16 55:16,23	19,22 121:4,10,12
living 97:1	88:1 111:5,22,23	57:24 72:20 73:12	155:17 156:25
LLC 111:3	124:12 126:4 134:22	74:14,16 75:20	157:10,11 160:6
load 58:25 168:14	135:3 136:3 139:14,	102:15 125:20 138:5	168:2,3 174:24 175:4,
local 180:8	18 142:6 146:11	major 79:1	21 177:25 178:10,21
localities 59:12	147:11 180:17	majors 178:17	179:10,11 185:21
located 58:11 63:7	low-water 98:7,15	make 13:24 16:20	manually 102:19
66:10	103:20 127:14 162:23	37:3 42:3 44:2,3,14	111:4 121:10 122:4
location 21:10 22:18	163:24 164:4 165:1	49:8 50:3,23 51:13,20	166:8 167:24 168:12,
47:25 65:1,7,8 66:15,	179:14	52:19 54:23 60:2	21 169:18,19 172:5
22 93:6	Lowe's 182:11	61:11,15 68:13 75:2	manuals 26:19 33:6,
locked 165:24	lower 17:15 169:7,8	84:24 87:23 88:2	8 45:6 174:23
lockers 137:17	Lytle 9:25 10:1,6,9,	89:15 96:24 97:1	manufacture 68:6
Lockwood 41:5,6	11,12,16 20:20,22,23	105:20 115:8 117:17	manufacture's
log 25:19 28:25 29:4	21:5 35:20,23 36:5,	123:13 130:3,4,7,8,14	77:11
32:17,24 34:16 47:21	17,23 37:1,10 38:3,6,	132:13 133:1 146:2,	manufactured 63:16
48:13,21 49:1,8,9,12,	8 45:18,21 51:1,11	20 147:9,19 148:7	manufacturer 55:8,
23 50:16,17	53:2	149:8 152:15 154:14,	20 72:3,23 101:19
logistics 36:9	M	15 157:11 159:4,10	127:7 141:2
logs 28:1,22,23	M-L-A-F-R-A-N-C	170:16,21,24 172:15,	manufacturer's 77:9
long 55:19 112:1	9:5	20 176:1 178:9	162:15
123:6 134:7 172:23	M-STAMP 86:7	181:20 184:20 186:20	manufacturers 68:6
176:13 198:13	machine 58:9,14,16,	194:6 195:7	123:8 127:12
longer 95:21 109:1	25 62:21 65:4 99:20	make-up 137:9	manufacturing 64:1
looked 61:1 64:24	102:16	makes 50:13 132:23	77:24
67:17 77:5 78:4 88:21	made 15:25 23:14	158:23	March 5:5,6 17:5
89:1 97:17 105:4	43:14 51:16 54:6 68:7	makeup 128:1	Marie 9:6 56:8 88:12
106:18 127:9 128:4	71:20 85:12 116:2	making 46:22 70:5	104:17
131:3,23 132:16	129:20 157:9 183:18,	125:5 161:22	mark 8:19 56:12
138:10 165:15 190:1,	19 191:25 192:12,15,	man 29:3 74:14 181:2	62:11,12,15,17,25
9	16 195:16	192:9	104:23 153:21
lot 33:5 42:17 62:1	magnifier 43:19	management 163:6	market 127:11
89:15 106:21 109:8	main 66:22 67:18	164:3,23 165:23	167:14,16
116:11 128:16 131:22	79:16 103:3	166:24	marketing 10:22
136:15,17 137:13	maintain 93:15	manager 9:7 56:9	56:14
144:8,14 154:15	maintained 37:4	mandate 144:19	marking 149:10
167:5 184:7,16 188:6,	137:11	200:7	Marty 8:25 32:7 88:24
7 189:21 200:12	maintaining 137:15	mandated 76:1	114:4 121:21 162:13
	maintenance 21:21,	133:20 185:3 187:12	masks 104:18
		mandating 183:7	massaged 87:20
		manhole 128:19	
		manipulate 102:6	

Master 165:2	meets 61:16 186:11	mirror 144:22	178:22 181:7 182:25 184:9 185:2,10
match 61:12	member 6:25 7:8,11, 17 18:7 23:11 28:5 33:24 42:2 43:11 51:8 52:3 60:13 64:4 65:16 66:12,20 67:7 73:14 74:7 78:1 84:23 88:7, 20 89:8 92:18 97:13 103:8 106:12 118:3 121:15	missed 47:12 91:16 161:24 174:1 193:18	monitors' 178:4
materials 54:21 56:5 63:25	members 5:3 14:11 16:17 20:11 23:8 41:23 52:24 54:3 56:4 59:21,25 97:11 110:10 116:12 143:10 152:18 172:19	missing 118:7,8 197:11	monoxide 181:7 182:5 184:4 185:10
math 88:16	members' 149:24	mistaken 106:21 190:11	months 7:2 127:24 135:7 147:15
matter 97:7 136:8 157:6 197:21	men 104:17,18	mix 32:1	Morelock 5:2,25 6:5, 9,13,17,19,22 7:4,9, 13,19,21 8:6,11,17,22 9:2,9,14,17,22 10:2,7, 18,23 11:1,5,10,15 12:9,23 13:3,8,12 14:8,14,18,22 15:1,3, 5,7,15,20,24 16:3,7,9, 11,13 18:3 19:19,22 20:13 22:22 23:1,5 26:17 27:9 30:6,23 32:2,25 33:3 41:20 43:6 51:2,5 52:9,13, 18,23 53:6,10,17 54:12,16 55:1,5 56:24 57:4,7 59:23 60:3,7 62:22,24 69:19,24 70:3 81:10 84:20 85:15 86:1,6,8,12,17 87:11 88:4 89:19,22 90:4,8 91:3,7,17 92:4, 8,15,22 93:4 95:6,23 97:9,15 100:23 106:8, 13 108:3,6,18 109:6 110:9,13,16,18,25 111:13 112:3,6,11,18, 23 113:1,8,17,23 116:6 117:10 123:19, 24 134:15 140:9 141:6 142:12,22,25 143:3,18,21,25 144:12,16 145:10 146:24 148:15,22 149:3,15 150:24 151:3,12,16 152:1,13, 17,20,24 153:7,20,25 154:5,10,14 155:10, 20 156:3,10,22 157:7, 17,20,24 158:12,17, 22 159:3,18 160:4,14, 17,19,23 161:3,6,8, 15,19,23 162:9,16,19 170:5,19 171:4,7,11, 14,18,23 172:10 173:4,8,18,22,25 174:3,7,11 175:9,11,
MAWP 61:12	mention 23:14 82:2 93:24 100:17	mod 39:21 46:6,8	
maximize 59:5	mentioned 82:12 103:5 105:11 114:3 132:2 166:11	mode 24:19 102:16, 18 115:22	
means 24:7 49:16 67:13,24 68:20 97:21 103:23 106:2 123:15 140:25 176:17	members' 149:24	model 55:13,21 56:1 115:15 165:1	
meant 127:6	men 104:17,18	models 89:15 135:12	
measured 114:17	mention 23:14 82:2 93:24 100:17	modes 126:7	
measurement 85:21	mentioned 82:12 103:5 105:11 114:3 132:2 166:11	modified 150:7	
measurements 85:20	messed 111:19	mods 153:10	
mechanic 21:22,25 23:15 24:4,7,8,20 25:12,14 27:23 29:1, 2,18 34:7,13,18,21 35:5,6 36:16 37:17	met 165:18	moment 5:13,20 114:7	
mechanical 81:15	Method 57:14	Monday 105:4	
mechanics 33:21 35:19,25 36:2 133:24	metric 85:21	money 90:24	
mechanism 99:17	mid-approval 17:18	monitor 13:24 24:1, 22 25:9,25 26:20,24 27:3,13 28:9 30:10, 13,14 34:24 44:19 73:18 165:22 167:6 176:6,7 177:10,19 178:22 186:14	
Medical 8:16 20:3,19	middle 80:6 190:9	monitor-only 21:23	
meet 13:17,19 57:11 58:6 59:19 72:6 97:24 104:7 196:3 198:16 199:9	midst 96:1	monitored 38:21,24 46:5 167:21	
meeting 5:5,7,10 14:9 15:11,12,18 16:14,19 19:6 52:8, 16,21 53:8,11 54:21 95:17,19 96:12,13,16, 22,25 98:4 114:4 123:22 124:1,21 151:8 166:12 170:1 172:20 193:13 199:25 200:16	mind 38:21 57:3 90:20 99:10 111:11	monitoring 21:16,20 22:1 23:17,20 25:10 26:4 28:22 29:10,22 30:4 34:10 35:5 38:14 39:25 40:9 44:23 45:4 46:2 47:8 48:8 50:2 74:2,3 154:22 155:2 162:7 166:18,24 167:2,4 172:9 173:14, 24 174:19,20 175:2,6, 13,15,20 176:25 177:11,12,23,25 178:10 179:13 180:5	
meetings 12:6 19:7 96:19,21 125:1	mine 123:5	monitors 73:17	
	miniature 86:9,10 121:23 196:24		
	minimum 114:21 155:3 182:22		
	minor 93:11		
	minute 113:11,14 179:5		
	minutes 9:11 15:11, 12,13,17,18 16:14 31:13 53:12 109:10, 11 111:1 112:8,13 190:21		

23 176:3,12,18,22 177:3,5,9,17,21 178:8,12,15,19 179:1, 9,20,24 180:3,11,18, 21,24 181:3,10,13,22 182:1 184:6,15,25 185:6,18 186:1,22,25 187:4 188:8,11,16,25 189:6,9 190:15,22 191:1,8,12,20 193:7, 16,22 194:2,5,9,13, 19,25 195:5,12 196:6, 17,22 197:23 198:1,4, 8,18,21 199:18,21 200:10	National 63:13,14,15 64:16 66:23 135:22 141:9 146:15,25 147:2 148:17	61:11 69:10	188:10,15,19 189:2,7, 10 190:24 191:2,10 193:14,17,25 194:7, 11,15,21 195:2,9,14 197:13,25 198:23 199:6,15
morning 6:24 68:11 122:24,25	nature 163:25	noon 112:13	O'Guin's 139:10
motion 14:11,15 15:16,21,25 22:24 51:6 57:1 60:2,9	Navy 12:1	normal 30:11 47:18 55:15,23 150:15	objects 60:19,22
motor 74:16	nay 51:10 178:5 189:14	notation 68:7	observed 53:16 112:25
mounted 65:10 68:1 77:1	NBIC 55:16,24 57:22 86:19,21 117:14	note 68:3 71:19 82:1 85:17 146:2 195:16	obtain 55:9
mounting 64:24	Nebraska 188:22 189:4	noted 77:8	October 160:11
mountings 84:11	necessarily 24:9 28:23,25 29:5 30:5 38:1 46:24 47:13 49:7,23 81:5 116:18 132:5 162:5,8 165:13 180:13	notes 52:19 125:5	odorless 185:23
move 15:19 20:1 66:18 110:19 123:20 154:18 159:19 165:3	needed 51:12 96:1 126:19 168:13 199:4	nother 174:17	offers 122:19
moved 14:13 22:25 76:2 115:13	needing 72:14	noticed 18:25 70:6	office 21:11 170:15
moving 14:2 64:15	Neville 8:13,14,15 20:17,18 21:7 22:8,9, 12,14,23 23:12,21 24:11,15,24 25:2,4,7, 15,17 26:1,16 27:15, 18,22 28:4,6 29:12 30:7,15 31:2 33:17 34:22 35:8,14,17,20 37:14 38:10,12,23 39:9 40:2,12,15,16,21 41:1,6,10,13,19 43:16 44:1,9,12 45:9,12,18 46:13,25 47:17 48:12, 17,22 49:11,14 50:1, 20,23 51:1,11 52:1, 10,11,14,17,22 53:2,9	notification 151:7 152:11,25 154:2,4,9	officer 21:18,22,23, 25 23:16,24 24:16,22 25:8 26:8 27:5,24 28:9,19 29:10,14,21 30:9,12 33:19 35:3 36:12,16 42:4,6,9 52:7 185:22
mud 137:5	newest 167:13	notified 18:18 151:22	officer's 25:18
multiple 169:5	next-to-the-last 161:10	notifying 152:23	officers 34:1
mute 13:14 84:18	nice 117:23	nozzle 42:22	oil 168:24 169:1,3,18
muted 87:11	nicer 154:16	number 10:3,9,13 36:22 47:18 48:25 57:16 81:13 101:19 102:5 116:16 125:3 130:23 135:9 149:18 173:10 190:25	omitted 12:19
<hr/> N <hr/>	nip 170:25	nurses 76:16	on-call 21:24
nameplate 41:2 60:23,24 61:2,4,22 66:21 78:6,10,14 114:19	nipple 144:21	<hr/> O <hr/>	one-half 114:21
names 200:17	noisy 80:1	O'GUIN 5:22,23 17:2, 3 18:4,8,10,15,17,25 19:5,12,15,16,18,23 60:15 62:8 77:2 79:14 80:11,19 81:8 82:1,12 84:25 85:12 103:10 104:25 105:24 106:6, 9 111:16 116:22 119:14,18,23 120:2,4, 9,14,17,20 121:1,9 128:25 139:12 141:24,25 143:1,2,12, 19,22 144:8,13 145:2, 11 146:7 147:6 148:16 152:22 153:2, 8,15,19 154:1,8 155:8,11,23 156:9,16, 21 159:2 187:25	online 5:3 20:19 25:22 96:16
Nan 13:21	nomenclature 25:24		open 26:14 48:9 56:25 59:21 82:13 103:4 124:9 125:6 126:2 127:2 132:18 134:4 144:10 148:20
Nashville 18:11 20:4			opened 102:19 128:20 130:11 131:24 134:5,6,14 138:6,23 139:18 145:13,17,18

operated 111:4,6 122:4 166:8 167:24 168:12,22	osmosis 101:1	participant 5:18 7:25	permits 105:2 126:24 128:10 129:5
operating 24:2 76:11,17,20 98:6 100:9 115:12,21 160:6 186:8 187:11, 13,20 190:3,5 195:21, 24 196:2,16,21 197:3, 6,10,18,21 198:14 199:3	out-there 144:18	pass 31:21,24 78:10 105:7 108:9,14 132:20	permitted 114:23 141:5
operation 38:1 55:15,23 57:23 76:12, 23 99:5 131:9 163:5 168:3 196:13	outdated 169:11	passed 18:1 125:9 131:6 151:10	permitting 77:12 94:6,12 125:11 127:18 132:9 134:12 140:19
operational 67:22 127:16 137:19	owner/user 135:1	passing 141:13,22	person 43:3 137:15 144:2
operations 20:23 29:11,23,24	owners 7:22	password 46:10 193:4	personal 94:9
operator 21:17 27:13,23 28:12,15 29:15 31:17,23 32:10, 19 35:4 81:5	oxygen 136:13 137:3	past 11:23,24 79:21 129:19 138:22 141:21 165:15 193:21	personally 12:16 94:3 117:19 141:10
operators 57:17 58:25	P	patience 96:10	personnel 25:6 26:7 28:8 31:22 34:9,14,19 35:12 36:22 37:12 38:4 76:16 126:10 174:20,21 175:2,7,14, 16 177:23 178:1,10 181:24 190:5
opinion 29:9 55:18 75:20 87:17 94:9,24 95:4 108:15 114:13 123:5	package 115:16	patients 57:20	personnel/ maintenance 126:10
opportunities 116:15	packaging 70:17,19	pay 13:25	personnels 178:7
opportunity 94:16 149:9	pages 48:5 50:12,14	paying 131:15	perspective 58:20 98:3
opposed 115:12	paid 138:9	PBMA 144:19	pertaining 68:5
opposition 157:25	pan 66:13 67:8	PBX 21:11,17 26:21 34:6,20,25 35:4 176:15,16 183:25	PG-2 196:7
optimistic 149:20	pandemic 17:10 111:19	PDF 16:20	PG-2.1 196:8
option 64:19,22 99:20 100:1 122:19	panel 58:4 65:12 182:6,23 183:24 191:19,23	pending 95:14	phone 10:3,8 16:21 62:13,18
options 96:23	panels 107:21 182:24	people 26:15 30:20 57:17 76:10,13 77:2 96:4 97:1 118:17 129:19 136:17 148:5 176:16 183:12 184:19	phones 13:13 66:3
order 5:11 65:13 73:25 76:2	panning 72:10,12	people's 200:17	phrase 162:14
organizational 35:22	paper 62:3	percent 17:12,19 31:4 157:9	picture 16:21 65:23 130:21
oriented 37:23	paragraph 150:3 158:3 159:21 160:20, 22 195:19	perfect 13:6 57:9 92:11 157:22 159:4 173:3 175:8	picture 16:21 65:23 130:21
original 84:9	paragraphing 195:3	perfectly 57:8	pictures 45:7 46:14, 17 137:23 145:17
	paragraphs 117:14	perform 50:4,7 107:9 142:10	piece 76:14,17
	parameters 39:6 74:1 91:23 93:5 166:25 167:1,6 196:21	performed 17:25 105:5 135:2	pieces 133:25
	parentheses 25:3,5, 9 28:9	period 25:13	piggy-back 94:20
	parenthetical 180:7	periodic 75:2 138:14	pipe 109:3
	part 23:23 70:17 74:25 86:21,22,23 87:1 122:23 130:19 132:10 134:11 135:18 136:24 138:22 140:12 155:5 164:1 180:15, 16	permit 124:15 129:14 132:20,24 139:16	piped 104:2
			pipng 43:14 71:13, 16,17,20,21 72:2,6

85:3,9 97:19 104:1 108:24,25 109:1 137:5,8	26:9 29:17 34:2 37:18 101:9	21 103:21,22 104:7 114:6,10,16 126:4 136:8 144:1 163:25 169:7 196:11	product 9:7 56:9 74:1 91:11,25 117:16
place 141:11 152:11 192:6	positions 35:1 36:19 153:21	pressures 196:13	production 148:4
places 65:1 128:16	positive 179:14	pretty 29:9 66:21 88:22 91:4 111:25 128:9 139:7 149:9 158:20 164:18	products 91:18
plan 21:9 90:14 143:13 170:6	possessive 178:3	prevent 46:2 96:4	professional 123:5
planned 105:6	possibly 44:4 143:19	preventative 73:12 102:15	professionally 12:15
planning 90:17	post 31:25 33:14	previous 34:21 124:20 125:1 132:2 163:22 175:21 185:21	program 70:14 122:19
plans 58:23	posture 117:5,8	primary 39:12 162:3	programmer 38:17 39:19,21,22 40:11 44:24 46:4,9 167:7
plant 20:23 89:2	Potable 114:9	prior 160:8 161:2,12 187:6	programmers 165:17,20
plate 63:13,15,16 64:17,25 65:5,7,9,14, 18 66:23 75:9 84:7,8, 9,11	potential 101:2	probable 115:22	project 92:12
plates 58:15 145:4	potentially 185:25	probe 127:15	pronounce 18:11
play 143:17 163:21 164:17	power 43:14 49:13 58:5 76:15 195:19,23 196:18,19 197:3,9,10 198:17	problem 78:5 84:12 103:15 115:8 184:4, 12	proof 139:6
playing 24:17	precautions 107:1	problems 134:6 137:3 182:16	proper 74:1 80:3 126:8 128:17 183:7
plays 135:18	prepare 150:22	procedurally 95:16	properly 55:13 131:17
pleasure 10:25	prepared 138:15 143:23	procedure 23:23 26:24 35:13 59:4 106:2 180:5 198:11	proposal 23:8 41:25 46:22 51:17 54:22
plug 144:11	prerogative 169:14	procedures 26:23 30:11,13 34:12 35:7	propose 21:8
plugging 67:15	present 20:7,15 124:17 146:19 147:2	PROCEEDINGS 200:24	proposed 33:22 45:17 172:16
plugs 70:16	presentation 61:25 94:18 117:20,23 118:5 119:3	process 59:7 91:1 95:8 97:7 101:20 147:23,24 148:1 150:15 151:5 170:9 171:2	proposing 33:18 35:15 45:14
plumbing 107:16	presented 45:7 117:22 153:17	processing 59:6	proposition 75:22
plural 178:7	presenting 20:18 23:13 116:25	procured 47:3	protect 63:9
PMCL 73:11	presently 104:12 125:24 131:14	produce 46:11	protected 46:10 193:4
point 24:5 47:15 59:20 71:22 72:2 84:6 85:13 87:6 88:5 89:23 116:11,13 128:23 146:23 167:10 191:9 197:17	President 8:15	produced 107:2	prototype 65:3
poisoning 181:18	Presson 11:8,9	producing 182:18 198:14	provide 55:8,14 73:25 116:1
policy 16:15 106:5	pressure 7:22 19:3 49:17 55:9 60:20 61:12 63:11,16,24 67:4 68:17 69:11 73:20,24 74:3 79:7 83:11,15,17,18,21,23 84:10 85:1,2 86:15 87:2,19 88:2 96:4 98:6,20,22 99:15 100:8 101:14 102:3,		provided 16:18 34:6 43:15 54:20
pop 145:4			Providing 114:19
portion 164:20			provisions 84:7
ports 67:15			prudent 53:13 185:12
poses 54:15			psi 69:17 70:1 85:18, 24 100:8 102:5,8
position 21:24 24:1			

104:8,15 106:20 187:20 189:16 195:21,24 196:2,11, 16 197:4,5,11,18,21 198:14 199:3	PVC 102:22	189:8	reapproved 150:17
psig 69:13,14 196:14	<hr/> Q <hr/>	quickly 160:3 195:16	rear 55:10,25 58:18 64:7 74:11,21 75:5 80:13 115:18
public 105:21 170:2, 8,11 185:17	QAI 141:8	quote/unquote 164:25	reason 37:21 67:2,5 86:18 107:13 124:25 163:16 175:21 190:18
publicly 109:10	qualification 29:23	<hr/> R <hr/>	recall 142:5,18
publish 172:21,22 173:1	qualifications 29:1 32:19	radio 49:5	receive 68:10 135:21 167:24 175:14
published 92:5,9	qualified 29:14,16 30:5 36:3,13,14 38:3	raise 13:23	received 191:13
pudding 139:6	qualify 49:18	raised 109:19,22 116:17	receivers 144:20
pull 75:11 79:9,10 82:3,10 103:4 108:10	quality 100:22	ran 123:7 149:8	recently 51:18
pulled 37:3 75:15 79:9 82:5	quantified 71:22	ransom 192:6	recess 53:16 112:25
pump 75:8,9,11 76:3	quantifies 46:12	rate 17:8 169:8	recommend 42:8 73:9 94:3 156:4
pumps 115:24	quantifying 40:18	rated 63:9,18 68:6 69:9,17 104:9,14 197:2	recommendation 161:21
Puri 8:7,8,9 54:18,19 95:5,6,7 97:5 108:14 109:18 110:23 112:7, 16,22 116:8,10	quarter 17:8,11,12, 14,18 18:1	rating 195:19	recommendations 127:8
purpose 103:3	quarterly 73:10 96:11,25 105:10,12, 16,19,25	ratings 63:24	reconvene 53:15
purposes 47:4 66:25	question 13:22 18:25 23:14 36:8 40:15 55:20 60:17 70:5 78:15 81:9 82:3 86:18 88:9 95:8,16 96:10 97:4 101:6,23 108:17 109:24 110:7 114:25 116:19 119:6 140:12, 21 145:12 147:3 149:6 155:9 157:2 163:24 167:23 174:4, 9 180:20 187:22 189:7,13 190:16,24 191:11 194:23 198:12	re-opping 158:25	record 9:11 16:23
purview 171:20	questions 18:4 19:20 22:20 23:7 35:18,21 41:18,22,24 43:8 51:3 53:4 56:18,25 59:10, 11,22,24 60:10 81:12 84:21 89:20 91:19 97:10 106:10 108:4 110:2 118:6,10 141:17 150:19 159:15 170:15,17 175:5 195:18,22	reach 75:3 119:8 146:14	rectification 165:8
pushback 184:7,10	quick 52:19 111:15 121:19 130:21 142:3, 18 173:17 175:18	reached 142:9	red 70:9 181:4
put 9:10 42:19 44:4 61:25 69:25 76:5 83:2 84:9,10,12 93:22 94:10 95:15 98:22 107:18 108:24 109:1, 14 118:5 129:18 138:1 144:20 146:10 148:19 155:21 156:25 158:6,15 160:11 161:3 163:17 170:3 174:20 175:2 177:18 178:2 180:6 181:4 183:10,15 184:8,11 185:2,8,12 187:15 191:14 194:17 195:7		reaching 142:14	red-tagged 79:22 105:14
putting 45:14 123:9 125:17 183:23 184:2 200:16		reactions 13:22	redesign 90:24
		read 55:7 61:2,4,20, 22 69:10 78:9 80:23 158:13	redundancy 152:7
		readability 44:5	refer 34:8
		readily 77:23	reference 47:22,24 48:5,20 50:15 86:19 87:1,4 92:3
		reading 39:20 139:13 153:3	referenced 48:20
		readings 31:13	references 50:12
		reads 134:23	referencing 34:13 87:1
		ready 18:18,21,23 56:19 112:15,16 155:16 172:20	referring 81:19 99:10
		real 26:10 81:17 111:15 118:4 142:3 173:17 175:18	refers 39:7
		realize 59:9 114:25 115:14 128:15	regard 44:13 47:14 87:17
			register 60:22 65:19

registered 78:12	removable 58:13 65:12	requesting 20:4 193:18	resubmit 51:10 52:1, 11,16
regular 99:22 101:23 102:11 159:7	remove 161:21 169:6,10	requests 53:21 111:3 169:11	resubmittal 51:25
regularly 199:25	removed 70:17 75:17 107:3	require 95:19 100:21 184:13 191:2	resubmitted 52:20 53:8
regulations 6:3 114:12 136:21	removing 166:16 168:17	required 31:13 58:24 95:9 121:18 181:11, 14,15 191:6	results 126:3
reinspect 133:17	renewable 150:14	requirement 68:21 72:3 77:11 114:18 119:12 141:12 155:3 162:7 165:18 197:22	retained 48:23
reinspection 18:19, 21	renewal 150:9,15 155:19 156:8 159:7, 13 186:19 200:9	requirements 20:5 53:23 55:11,25 58:7 111:4 114:5 121:17 138:16 175:3 196:3 197:7 198:16	retirement 11:21 12:2,12
relationship 12:15	repaired 79:1,11 186:7	requiring 182:20	reverse 101:1
relative 109:20,21,22 116:17,20,25	repairs 86:22 186:10	research 8:20 118:14,25 140:25 143:4 195:6	review 43:13 47:4 48:16 51:20 56:5 94:12 96:7 150:11 160:8 161:2,12 170:2, 8,10,11
relief 66:9,14 69:3,4, 10,11 70:7,10,23,25 71:2,14,21,23 72:3 77:6,7 80:16,22,24 83:10,11 85:1,2,3,24 86:23 93:6 97:20 104:1	repeat 90:6	resolution 108:16	reviewed 94:14 170:10 172:4 174:25 175:22
relieving 83:11	replace 79:6,10	resolve 175:4	reviewing 170:1
relying 36:11 134:2	replaced 183:6 187:11	resource 148:14	reviews 151:1
remark 107:24	replacement 187:12	respond 94:11	revise 175:5
remarks 54:23	replacing 187:9	response 10:10 11:14 13:11 14:7,21 15:14 16:2 19:21 20:12 51:4 62:16 82:4 87:10 92:13 108:5 151:23 152:19 154:13 159:17 162:18 173:7 198:13	revision 149:18 154:23 172:15,16
remnant 193:20	replies 196:1	responsibilities 35:10 174:25 178:2,4, 11	revisions 149:5 172:21,22,24 173:6
remote 21:12,14,17 23:19 28:13,16,17,20 29:7 30:4 32:11 34:5, 10,24 35:5 38:14,25 39:4,25 40:8 42:7,10 44:22 45:5,8,13,20,21 46:2,8,16,17 47:8 48:8 49:6 50:8 95:19 111:4 121:21 154:21 155:2 162:7 167:2 172:8 173:14 174:19, 20 175:2,6,13,15,19, 24 176:6,7,24 177:10, 12,19,23,25 178:4,10, 21 179:12 180:5,8 181:7 182:23,24 185:5,11,12 186:13 191:4,19 193:19 194:20 196:4	reply 55:18 86:19 87:7 191:7	responsibility 129:25	revolves 36:8
remotely 38:17,20, 21,24 39:17 46:5 56:15 95:12	report 12:22 13:2 14:6 17:1 18:5 19:17, 24 62:7 77:9,11 132:17 146:1,2,9 151:13,14	responsible 34:10, 14,19 176:14	rhetoric 138:25
	REPORTER 18:13, 16 21:3,6 22:7,10,13	rest 124:1 200:20	Rite 127:3
	reports 145:21	restart 29:19 33:9,16 36:13	riveted 187:13
	represent 7:21	restricted 134:23	RM7800 22:16 38:16 39:8 46:6,11
	represented 170:22		RO 99:20
	representing 8:15		road 145:16
	request 20:8 43:13 48:16 54:24 56:6 59:17 87:16 93:22,25 94:10,22 95:13 115:3 151:20 152:10,25 153:5 163:23 189:2		Robinson 8:3,4 77:3 103:10 113:3,4,10,13, 19,24,25 116:7 139:10
			Roger 9:15 56:10 72:25 74:25 104:24 107:11 119:5
			role 24:16 27:24 31:6, 20 33:19

roll-call 14:10	Sam 10:21 11:22 56:14 90:10	security 21:17,22,23, 25 23:16,24 24:16,22 25:8,17 26:8,21 27:4, 24 28:9,19 29:9,14,21 30:9,12 31:2,5,12,20 32:13 33:6,19 34:1 35:3 36:12,16,19 42:4,6,9,24 52:7 176:15 185:22 193:3	service 9:16 12:7 56:11 57:17 58:20 72:14 73:1,3 74:17 75:1,5,9 76:1,24 102:16,18 105:19 125:20 126:1,10 131:18 141:2
room 21:11,20 22:19 25:19 28:1 32:23 81:5 137:6,7 181:16,25 182:17 184:5 185:23	satisfactory 52:25	sediment 98:13 101:5,8 137:10	serviced 74:23
rooms 81:15	satisfy 30:14	seeking 90:9	services 196:10
roughly 69:20 135:6	save 81:16,20	segregated 189:18, 22	servicing 83:23
routine 50:5	scale 100:20 115:19	self-check 163:19	serving 31:6
rule 53:19 55:12 56:1 110:4 114:20,23 124:6 143:1 149:18 170:10 190:17 196:4 197:24 198:5,10,25 199:10	scanner 163:18 164:9,10 165:9	self-checked 164:2	session 113:2 129:2
rules 114:12 130:5 135:11 136:20 144:19 150:16 151:1,2 160:9 161:13 196:8 197:9 200:1	scanners 163:19 164:13,21 165:10	self-checking 162:2, 3,6,13,22 163:8,13, 16,17,18 164:8,11,15, 17,21,25 165:13,19, 25 166:10,15 167:9 168:10 171:19 172:2, 6,13 174:10	set 55:4 61:12,20 69:11 99:16 100:8 104:8 114:11 122:20, 21,22 123:6 156:8 193:8 197:4,5
run 89:1 100:22 164:13 169:7	schedule 122:20,21, 23 170:4	sell 63:20	sets 129:3,4
running 70:15 102:4, 5 124:21 190:20	scheduled 122:8,10 199:25	selling 77:14	setting 61:15 166:25 200:15
rupture 76:19	scheduling 147:22 150:10	send 103:1 146:21 172:18 182:6 193:12 195:8	settings 103:21 168:7
	school 138:2	sending 163:10	setup 79:23 122:22
	schools 137:14	senior 9:7 56:8	severed 115:24
	scoot 113:9	sense 152:16 158:23 159:4,10 181:20	shape 137:25
	scope 109:24	sensor 98:15 184:3	share 17:4 62:12 113:6,21
	Scotese 9:19,20 56:13	sentence 150:5 155:1,4 156:5 158:6 159:5,21 161:1,10 162:10	sharing 113:20
	scratching 149:7	separate 35:9 63:2 99:12 135:15 176:23	sheet 28:25 29:4 44:8 49:8,9,12,23 50:16,17 154:11
	screen 9:5 17:4 62:12 104:17 113:6,16,18	separator 103:2	sheets 44:4
	seam 89:2	September 46:15,22 143:8 170:7	shift 21:22 23:23 26:7 28:2,21 29:22 36:7 178:23
	seams 144:21,24	series 22:16 71:3 72:21	shifts 36:24
	secondary 39:12	serves 31:20	shipped 77:17
	seconded 16:1		shoes 12:14
	seconds 163:20 164:16 165:11,12 189:11		shop 70:25
	Secretary 6:8		short 57:3 110:8
	section 55:17,24 69:9 71:15 86:20 87:2,7,8 129:20 160:6 161:17, 18 174:17 189:15 195:23 196:3,7,9 197:3		shot 8:2
	sections 30:10 129:19		Shotz 68:5
	secure 42:18		
S			
S-STAMPED 196:20			
sacrificed 116:4			
safe 42:19 57:17,19 71:22 72:1 115:9			
safeguard 38:16 39:18 40:10 44:23 163:7 164:22			
safeties 105:8 121:11			
safetiness 116:2			
safety 29:6 44:19 57:15 58:7,21 61:7,8, 10,11,15,21 62:21 63:3,6,8 65:20,24 66:1,20 71:6 76:9 79:21 84:15 85:3,5,9, 10,13,24 105:21 107:1 109:1 116:3 131:13 136:5 166:1 185:17 186:4 199:7,8, 12			

show 22:17 26:22 35:21 56:22 61:18,20, 22 62:11 63:12 65:6,7 66:15 145:16 152:20	simpler 176:10	solutions 56:21	staff 35:19,24 116:22
showed 74:10	simplistic 145:1	somebody's 130:12	stainless 100:17
showing 29:13	simulate 70:14	sort 57:2 95:13 117:5	stamping 114:19
shown 137:24	single 64:10,11	sounds 26:6 31:14 158:11	stand 167:11
shows 21:10 48:13 49:1,13,17	singular 115:18	source 77:24	stand-up 145:3
shut 25:13 67:20 96:20 97:21 168:6 180:8 189:8 192:6,19	sir 6:22 19:16 54:17 80:17 98:12 105:24 112:5 143:2 149:14 161:14 171:13 174:6 188:10,19 195:9	Southern 8:16 10:1 20:3,19,24 31:9	standalone 99:8
shut-down 111:5	sit 101:15	space 58:24 59:5 76:4,8 81:17,20 109:20 129:25	standard 31:16 46:10 85:20,22 106:1 115:21
shut-off 68:23	site 21:9 24:9,14 28:18 30:2,3 31:15,17 60:15,16 67:18 74:9 101:4 106:19 107:4,9 123:17 152:4 155:7 156:7,24 157:13 159:1,14 179:16 192:4	speak 84:6 95:24 98:10 104:20 146:7	standards 184:24
shutdown 24:19	sites 59:5	speaking 75:19 120:21	standpoint 51:13 64:23 74:14 76:23 95:8 98:14 104:6 106:16,25 132:6 167:18 169:16,20 190:2 193:3
shutoff 21:13 45:13	sitting 80:6 139:13	special 90:1	stands 97:18 104:12
shutoffs 22:18	situation 29:19 32:12 33:18 37:2 42:12,19 43:2,3 78:11 83:2,9 123:8 134:17 164:13 185:24	special-called 15:12,18	start 5:21 23:10 69:5 83:25 87:12 126:19 166:16
shutting 42:25 96:4 105:18 182:15	situations 32:21,22 42:13,18 43:5 83:14 118:19 168:15	specific 49:7 89:9,24 90:9 91:5,11,24 92:9 116:17,18 117:1,17 125:23 135:11 139:8 142:6 144:2 169:2 179:21	started 17:10,13 168:6 174:16
sick 36:10,21	size 89:17 93:7,8 121:23 135:12	specifically 33:7 57:11 89:12 91:8,11, 13 117:16 119:19 135:23 138:17 144:22 164:14 167:3,4 168:4 191:18	starting 32:20
side 35:10 42:23 55:10,25 58:18 64:8 70:10 71:14 79:7,19, 20,24 80:3,13,20 83:14 85:4 107:21 115:2,6 128:9 144:11 145:4 150:8,20 169:18	slash 42:24	specifics 146:17,18	starts 36:10 150:21
sides 71:23 114:22 115:23	slid 79:2	spell 10:14 18:13 21:3 176:7	startup 122:22
sight 58:11 67:8,9,12, 19,24,25 68:1,3,4,24 76:9,12,18 101:5,8	slide 78:17	spelling 167:3,5 180:22	state 11:23 12:1,8 17:6 25:25 33:7 53:24 59:25 62:7 78:7,8,13 96:2 111:6 126:22 129:8,15,23 131:14 132:22 133:1,9,12 135:23 138:20 140:15 141:7 143:15 146:23 151:20,21 152:10 153:5,9 155:5 167:25 170:15 195:21 200:2
sign 123:1	slides 78:16	spells 128:9	stated 55:11,25 114:20
signal 163:10 164:16 182:6	slow 121:18	spend 90:23	statement 86:2 107:2,6,10,13 162:2 195:22 196:16 200:4
signed 16:20	slow-acting 120:4	spending 117:24	states 17:23 59:13 124:12 125:12,24 126:11 128:5 138:18 139:24 140:18 168:11 182:12 197:9 198:17
significant 90:23	small 44:13 76:5	spoke 10:6 145:9	
significantly 59:7	smaller 122:11 128:21	square 114:17 187:19 195:20 197:1, 14 198:24	
signing 32:23	software 123:15	stack 179:17	
similar 37:1 79:22 91:9,19 92:25	sold 78:12		
simple 147:10	solid 169:1,16 192:7		

statewide 143:24	86:15	suggestion 30:8 148:10	166:15,25 167:2 173:14,24 185:5 191:3 192:5,19
stating 138:17	STERIS 8:10,21 9:8, 16,21 10:22 53:21 54:8,19 56:10 57:11, 14 59:12 63:17 70:21 73:1 75:20 76:1 77:20 90:11,22 91:25 94:17 95:10 100:10 105:22, 25 107:1 114:25 117:17 195:13	suggestions 108:21 109:12	systems 39:15 47:7, 13 48:7 49:14,16,18, 25 64:2 102:12 122:1 150:2 154:22 162:5 164:7 165:8,16,22 168:17 179:12 187:21
station 21:12,14,17 38:25 42:7,10 45:13, 20,21 46:16,17 50:8 180:6 181:8,21 183:25 185:11,13 191:4 194:20	stick 143:15	summary 59:3	
statistics 151:17	stone 193:8	summer 147:15	
status 17:18	stop 113:20	super 148:11	
statute 141:22 142:19	stops 180:7	supervisor 6:16 21:2 34:7,20	
stay 31:24 33:14 85:19 96:25 123:25 147:10,21 165:5 194:24	story 42:20	supplies 63:5	T
steadily 17:20	straight-up 159:13	supply 7:17 68:13 70:25 94:21 126:5 135:15 140:7	table 52:15 110:19 111:1,15 112:4 116:13 123:21 124:23 128:6 132:3 146:14 148:14 149:2
steam 49:17 53:23 55:7,12,22 57:10,14, 21 58:6,8 60:21,25 61:5,9,16,23 63:5 64:16,17,19,20,21 66:10,24 68:22 71:25 72:17,19,23 73:4,15, 16,17,18,20 75:25 79:18,22,23,25 80:14, 15,21 82:21,22 83:4, 15 85:10 86:3 87:4,17 89:2,6 93:7,24 97:20, 21,22,23 100:17,21 105:14 115:23 117:14 119:20 126:5 136:7, 10 147:12 169:8 196:10 198:14 199:4	stressing 143:23	support 31:4 57:13	tabled 52:20 53:7 124:8,20 180:17
step 56:19 97:2 167:8 183:19	stretch 37:24	supported 71:20 72:2 96:2 104:2	tabling 111:24
sterile 59:5	Strickland 105:6	supporting 109:3	tag 41:7 69:8 76:25 106:18 108:22,23
sterilization 57:19	strictly 80:25 143:15 147:13 159:8	supposed 67:3,4 131:8 139:2 183:11	takes 11:16 16:22 19:25 50:18 111:2 112:13 124:9 160:1 188:6 190:6
sterilize 74:1	striking 159:23	surface 122:2,13 187:20 197:2	taking 37:16 56:4 72:11 89:10 96:3 105:19 107:14 127:22 137:17 141:21 152:22 166:4 167:8,20 197:19
sterilizer 53:23 55:8, 13,19,22 56:9,16,21 57:10,15,21,25 58:2, 8,14,23 59:3 62:12,14 63:3,4 64:14 73:24 78:11 89:15 93:8 107:3,15 117:15	strong 43:18	surfaces 82:15,16	talk 37:24 42:6 92:12 112:9 125:25 168:5 186:4 189:24 193:2 200:12
sterilizers 63:19,22 64:6,9,11,12,20,21	struck 30:2 150:4 155:3 173:10,13	surgical 59:4	talked 128:25 133:4 135:9 158:5 162:8
	stuff 52:6 118:6,21 130:5 166:17 169:12 200:12,18	survey 147:3	talking 39:1 42:5,15 85:17 87:13 105:10 137:20 144:4 163:5,6 185:21 186:15,16
	subject 92:20,23 94:4,5,11 200:8	swap 152:12 199:12	talks 49:5 81:18
	submit 62:6 129:14 132:25 146:1	swapped 152:21	tank 99:9 103:4
	submittal 46:23	swapping 153:21	tanks 118:21
	submitted 57:13 115:17	switch 100:8	tasteless 185:23
	submitting 132:21	switches 39:14 104:8 111:5 121:6 127:15, 16 163:25	team 10:1 74:25
	successful 158:9 159:12	system 17:17 38:14 40:20,24 43:14 44:18 45:4,5,8 46:2 49:6 50:1,2,7 63:6,10 64:25 73:16,21 74:2,3 96:6 99:9,11,16,19, 21,23 100:20 104:11 122:2,3,13,14,15 123:10 136:14 137:2, 5,7 143:17 146:12 155:2,11 160:6 163:6 164:3,23 165:23	

92:13	tested 45:23 47:14 84:17 102:13,14 103:17 183:6	time 11:21 18:19,22 21:25 25:13 33:11 35:11 37:17 50:18 56:5 72:11 82:6 90:19 94:12 105:13 110:21 112:15 116:21 117:24 119:1 124:3,24 125:15 128:23,24 134:5 140:5 143:13, 23 147:15,16 149:8 154:6 158:19 165:3, 11 169:15 186:18,20 190:12 195:6	track 43:20
technical 56:18 70:9 93:9 150:12,17 157:10,11,18 158:25 159:6 160:13 161:4, 10,11 184:21,22 186:20	tester 182:5	times 24:14 28:18 30:2,4 73:5 102:14 130:24 134:25	traction 169:19
Technically 79:4	testing 58:10 68:20 136:5	today 5:9 7:12 56:7, 10,17 109:14 111:25	train 136:16 139:22
technician 9:21 33:12 76:1	tests 48:23,25 49:4,7 50:6,10 101:25	Tom 6:2 11:20	trained 35:6 101:25 134:21 137:18
technicians 77:21 118:7,10,13,16,18	Texas 182:20 183:5	tomorrow 105:5	training 9:1 25:18 32:16,22 34:1,3,5,6, 11,14,16,19,23 35:1, 13 38:4 42:6,7,8,10, 11 128:12 129:2 132:1,3 133:5 135:10 136:19 143:11,24 145:15,19 146:22 175:12 176:8,15,25 177:11,13 192:8
technology 13:19	text 44:12	tone 129:4	transcribes 158:19
telephone 192:16	thankful 13:18	Tony 21:1	transducer 73:24
telling 155:12 184:3	the's 159:22,23	Tony's 21:3	treated 88:25 89:3 100:19
temperature 74:2 179:17	thing 31:14 75:6 80:7 83:24 84:14 85:17 100:16 133:14 145:19 147:5 148:2 157:8 163:1 164:24 175:12 180:13 181:6 183:4 190:4 191:18	tool 147:7	trip 102:2,7 163:11
ten-minute 53:13 112:12	things 71:10 75:8 81:24 93:24 94:25 96:7,14,20 101:1,22 102:9 104:3 106:15, 22,23 107:14,22 109:5 130:17,19,21 138:24 140:2 143:6 147:9 163:25 166:10 168:9 174:23 186:5,6	tools 66:3	Tristar 20:3,24
tended 138:8	thinking 142:4,20 143:1 152:8 167:18	top 13:1 62:21 63:8 69:5 85:2 94:20 112:19 126:19 130:6, 13 134:9 142:13 147:10,21	trouble 180:14 183:22,23
Tennesseans 59:19	thought 106:18 161:7 174:18 183:2 188:20 192:3,8 193:22,24,25 194:2 195:1	total 17:7,24 19:10	troubleshoot 24:4
Tennessee 5:5,6 31:6 52:20 53:7,24 55:10 56:1 59:25 62:7 96:2 97:2 111:7 114:11 124:11 133:9, 12 135:23 139:24,25 140:1 150:16 153:9 158:20 160:9 161:12 167:25 190:9 192:5 200:2,17	thoughts 7:1 54:13 141:9 143:5	totally 183:14	troubleshooting 25:21
tense 178:3	three-foot 114:10	Toth 8:24,25 9:3 30:22,23,24 32:3 33:2,3,4 81:10,11 82:8,24 83:1,8,20 84:21 85:15,16 87:9, 10,12 89:21,22,23 93:17,18 100:24,25 101:10 102:24 104:10 111:7,14 112:5 114:4 116:24 117:12 121:20 122:9 123:3 124:7 134:15,16 136:24 139:9 162:12,21,24 163:4 164:12 166:3, 22 167:22 168:3,25 169:22 170:13,20 171:6,9,12,13	true 40:19,24 49:20 80:4 81:3 86:1 172:1 194:24 200:4
tentatively 153:21	three-quarter 144:20		turn 17:2 27:16,17 54:23
tenure 134:19	three-year 156:8		two-tenths 17:21
term 27:12 70:10 162:15 166:10	throw 7:24 157:8,14		tying 39:19,21
terminology 163:21	tie 183:24 186:19,23		type 25:6 28:8 37:12 94:25 99:17 100:18 102:9 125:13 127:15 144:3,4 148:1 167:16 181:4 183:1
Terry 34:13 37:3	tied 184:17 185:5 186:13,17 193:2		types 134:22
test 47:7,19,21 48:2, 6,13 49:2,5,14,15,16, 20,25 50:1,2,5,15 97:22 100:3,4,10,11 101:22 103:17,23 179:11	ties 67:12		typically 12:24 47:25 98:24 99:3,4,21 103:13 151:13 190:5

<hr/> U <hr/>	6,19,24 158:9,14,24 159:9,13 179:17 182:19	80:16,22,24 83:10,11 85:2,3,5,24 97:20,21 102:17,18 104:1 119:7,15,24 120:1,2, 4,6,22 121:4,12 199:12,13	verbiage 47:20 166:5 176:11
U-STAMPED 86:15	Unit's 94:6	valves 58:7 61:7,9,11 62:21 63:6,8 66:20 67:20 69:3,4,10 70:7, 23,25 71:6,14,24 77:6,7 85:1,9,10,13 101:9 102:16 109:1 121:18 199:7,8	verify 62:8
Uh-huh 69:6 164:6 177:14 190:19	United 139:23	Vanderbilt 54:5 90:23	versus 23:19 71:11 93:21 117:1 136:1 183:13 186:3
ultimately 191:23	units 54:8 59:14 60:18 73:3 75:24 77:5,14,15 82:20 84:9,16 88:1 89:1,4,6, 11 90:17 101:12,13 103:6 108:16 115:12 119:8,13 121:25 127:9 135:12,15	vapor 198:15	vessel 60:20 63:7,8 67:4 77:10 79:7,20,23 80:20 83:15,17,19,21, 23 84:10 87:8 88:11 93:16 105:7,13,17,18 107:18 114:22 115:9 119:15 121:6 144:1 187:5
ultraviolet 164:10 165:9	unload 58:25	vapors 196:11	vessels 7:22 17:24 55:9 61:13 63:16 86:16 87:3,19 88:2 93:16 105:3,13,23 114:6,10,16 145:8
unable 115:16	unnecessary 162:14	variable 148:8	veteran 11:25
unauthorized 46:3	unprecedented 93:22 94:1	variance 17:25 20:4, 8 21:8 23:9 26:19 29:7 34:6 41:25 43:13 48:16 51:6,17 54:24 90:9,13 91:8,10,11,24 92:8,20 93:6,12 95:9 96:6 117:1 142:6 149:5,17 150:9,13,17, 22 152:3,23 155:6 156:5,13,23 158:3,7, 24 159:10 164:2,19 166:18 167:25 172:4 182:4 183:22 184:22 185:1 187:21 188:1, 17,21 189:2,4,20 190:2,18 192:8,12 196:5	video 74:9 189:11
unclear 119:11	unscrew 75:16	variances 17:24 95:25 142:20 167:15 184:14,17 186:16,17, 18 188:4 194:22	view 44:24 101:4,8 114:20
understand 122:7 151:5 163:3 199:2	unsure 115:17	varying 130:25	viewing 58:12
understanding 43:24 67:3 89:11 101:3 151:11	untypical 99:5	vast 168:19	virtually 13:20 127:13 182:25
understood 73:2	unusual 37:6 47:12	vendor 70:18,20,22	visible 58:15 65:18
unfired 7:22 19:2 60:19 69:8 71:15 86:15 87:19 88:1,10 114:6,9,16	update 109:13 188:5	verbal 10:10 11:14 13:11 14:7,21 15:14 16:2 19:21 20:12 51:4 62:16 87:10 108:5 151:23 152:19 154:13 159:17 162:18 173:7	visit 54:7 152:5 155:7 156:7,25 157:13 159:1,14
unions 75:10	updates 186:9,11	verbally 27:4	visitor 65:4
unique 115:14	upper 100:7,8		visitors 97:11
unit 6:16 60:16 61:1, 17,21 65:19,21 66:13 68:14 70:12 71:23 72:10,13,14,16,23 73:21 74:8,10,17,19, 21,23 75:23 76:11 78:2,16,20 79:2,8,17 80:5,12 82:3,5 83:3, 17,23,24 85:8,18,25 89:13,24 90:9 91:9,22 92:23 93:14 94:10,14, 15,16,22 95:1,10,11 97:18,25 98:5,13,15, 19,22 101:16 102:2, 19 103:12,13,16,24, 25 104:6 106:16,22 111:17 115:3 120:6 121:3,23,25 122:11 123:4 128:13,24 129:2,3 130:3 133:1,7 140:14,15,24 142:1 143:20 145:21,22 146:10 150:14 152:6 154:2,9 155:7 156:1,	users 7:22 184:8		Vito 9:19,20 56:12 62:11 66:18
	USPI 57:13		voice 62:15
	utility 81:4		volume 88:11
	utilize 31:2 121:2 147:7		vote 14:10,23 16:4 51:9,21 109:14 149:22 172:22,25
	utilized 44:25		voted 170:3
	UV 164:12		<hr/> W <hr/>
	<hr/> V <hr/>		W-A-L-P-O-L-E 21:5
	vacuum 75:7,9,11 76:3		
	vague 27:12,21		
	valuable 181:20		
	values 63:18		
	valve 61:10,15,21 63:3 65:20,24 66:1,7, 10,14 69:11 70:11 71:2,21 72:3 76:12		

wait 101:16 179:5,7	welding 64:1	199:16
waiver 54:25 56:6 59:17 90:2	wheel 75:9	wrench 157:8
walk 54:24 72:13 90:25	wheels 75:16	wrestled 179:10
walking 32:23 185:24	wide 127:22 148:8	write 30:8 117:16 139:20
wall-mounted 81:25	wind 7:25	writing 68:5,9 130:19 158:14
Walpole 21:1,5	wired 163:10 164:5	written 26:12 107:8
wanted 12:6 31:25 100:19 107:7 125:24 187:23 198:20	wonderful 94:18	wrong 42:14,15 142:19
wanting 111:20 136:21 165:22 166:1	wondering 155:24	wrote 46:15 82:1
warm 76:21	wood-fire 188:6	
watched 189:11	wood-fired 187:17 188:4,12,17,24 189:5, 14 190:4,7,9	<hr/> Y <hr/>
water 39:12 47:8,15, 20 48:7 49:2,17,18,19 50:6,10 67:9,19 72:18 85:11 91:20 99:23 100:3,19,22 114:6,9, 14 121:2 126:5 127:25 131:3,5 133:17 135:15,16,17 136:10,11 137:1,5,9, 24 145:3 147:11,24, 25 163:8,9 165:4 179:12,15 182:19 196:13	word 99:3 149:25 150:4 154:1,20 155:3 161:10 162:17 166:12 173:11,13 176:20 177:18 185:8 194:12, 14	y'all 175:7
Watkins 10:21,25 11:3 56:14 90:10 91:6,12 92:1,7,10	worded 162:1	yea 51:10 178:4 189:14
waxing 137:16	wording 139:8 161:21 167:11	year 72:17,18 73:5,10 95:14 102:14 103:14 124:24 127:25 128:24 138:21 143:13,15 155:18 170:15
ways 145:2 187:2	words 38:20 131:16 140:21 142:12 147:15 154:7 164:8 165:23 167:5 176:24	years 11:23,24,25 12:1 81:23 90:18 125:4 126:14,23 135:4 137:22 138:20, 21 155:15 156:1,14, 17 157:5,14 158:4,7 159:11 166:12 189:3
wear 192:6	work 5:9 7:23 12:13 74:19 75:12,20 76:2 96:17 97:7 108:11,21 111:20 113:4 114:1 117:12 123:16 146:25 148:16 150:12 177:2	yes/no 150:12
web-based 192:10	worked 59:13 79:2	yesterday 54:7 60:14 61:1 62:9 76:10 77:6 78:4 88:21
website 92:3,5	Workforce 200:3	you-all 7:12 62:20 110:3 112:20,24 116:8 117:20 129:6, 16 146:14 157:21 173:1 174:15 199:22 200:11,13,19
Wednesday 88:16	working 66:4 90:16 103:16	you-all's 170:23
weeds 93:9	Workplace 6:3	your-all's 195:6
week 17:21 105:7 140:2 200:20	works 91:16 92:14 125:21 130:21 146:11	
weeks 79:21 105:14 192:4,25	worries 11:4	<hr/> Z <hr/>
weep 70:7 71:1	worth 19:11 43:25 160:12 198:20	Zoom 96:13,22 200:16,19
	wrapped 105:17	
	WRC 11:9 142:1	