STATE OF TENNESSEE
DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
BOARD OF BOILER RULES

QUARTERLY MEETING OF THE STATE OF TENNESSEE BOARD OF BOILER RULES

June 16, 2021

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

APPEARANCES:

Brian Morelock, Chairman
Owner-User Representative

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

Harold F. Bowers
Insurance Representative
Centerville, Tennessee

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

Dr. Keith Hargrove, Board Member

Chris O'Guin, Chief Boiler Inspector

Mike Ryan, Assistant Chief Boiler Inspector

Thomas Herrod
Assistant Commissioner, State of Tennessee

Daniel Bailey, Esq.
Legal Counsel, State of Tennessee

Carlene T. Bennett
Board Secretary, State of Tennessee

Jamie Presson
Executive Admin. Assistant, State of Tennessee

Michelle Irion
Boiler Admin. Staff Supervisor, State of Tennessee

Guest Appearances:

EASTMAN CHEMICAL COMPANY
Mike Rehart, Vessel Designer

NEVILLE ENGINEERING
James Neville

FM GLOBAL
Philip Hencherick
Branden Matue

TASCA
Vivian Paris

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

STERIS CORPORATION
Marie LaFrance, Senior Product Manager
Mark Chiffon
Dean Averell

TRISTAR SOUTHERN HILLS MEDICAL CENTER
David Lytle

A.O. SMITH CORPORATION
Joshua Greene, Corporate Vice-president of Global Government Affairs and Industry Affairs
Greg Reynolds, Global Director of Certification and Reliability,

LOCHINVAR, LLC
Jeff Kleiss, Senior Product Engineer on behalf of A.O. Smith Corporation

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Court Reporting Services

STONE & GEORGE COURT REPORTING
Cassandra M. Beiling, LCR

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

A G E N D A

I. Call Meeting to Order

II. Introductions and Announcements

III. Adoption of Agenda

IV. Approval of the March 10, 2021 Meeting Minutes

V. Chief Boiler Inspector's Report

VI. Variance Report

VII. Old Business
21-01 -TriStar Southern Hills Medical Center

VIII. New Business
21-02 -Eastman Chemical Company

21-03 -STERIS Corporation

IX. Rule Case & Interpretations
BI 21-02 ECS Consulting, LLC

BI 21-03 A.O. Smith Corporation

X. Open Discussion Items
David Baughman
Tennessee Code Annotated 68-122-110

Variance Guideline & Checklist Revisions

XI. Announcement of Next Meeting
Unless the Board decides otherwise, the next regularly scheduled meeting of the Board of Boiler Rules will be held 9:00 a.m. September 15, 2021, at the State of Tennessee Department of Labor and Workforce Development building located at 220 French Landing Drive, Nashville, Tennessee.

XII. Adjournment

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CHAIRMAN MORELOCK: Good morning, everybody. I have 9:00. And I would like to call to order this meeting of the Tennessee Board of Boiler Rules.

If you have an agenda --

MS. BENNETT: Chairman, can you activate your microphone?

CHAIRMAN MORELOCK: Oh, thank you very much. You'll have to stay on me about that, among other things.

But I do want to welcome everybody this morning. It is great to be able to see people face to face. I can't tell you how enjoyable this is today.

Make yourself at home. I hope you enjoy the meeting. We have a lot of good technical items to talk about. I hope everybody has an agenda. If you don't, they're right at the door where you come in. There's refreshments behind me. Restrooms are down the hall.

And so with that, I'm going to move on to introductions and announcements. And so my first item -- we always want to start out with the safety item. And so we're in the Department of

Labor building today, and if by chance there was some inclement weather or any type of emergency, just know that we have security personnel that would lead us to a safe place inside the building or if we had to go outside the building, we would assemble outside on the Rosa Parks side of this building. So that's just your safety moment here this morning.

I would also ask that -- we're in a big room, so we do have microphones, if I remember to turn them on. But please speak up. If you can't hear, let us know so we can speak up more. I want to make sure everybody has good, clear communication as we go through these items today.

I would also ask that you would silence your cell phones out of respect for the conversations and the presentations that we're going to hear today.

And I also wanted to make mention of something that's very important to us Tennesseans, is June the 1st of 2021, this great state celebrated 225 years of statehood. So I wanted to recognize that. That's a great date to celebrate.

I do have some sad news for us, as the board, but today -- well, not today, but this

will be our last board meeting with Carlene Bennett. She is going to retire on July the 9th. So we're going to wish her well today as best we can.

So we thank you, Carlene, for the many, many, many hours of putting all this material together so that we can have a productive meeting. And we are very appreciative of what you've done for us, so thank you for that.

MS. BENNETT: Thank you.

CHAIRMAN MORELOCK: So that's all the announcements I have. I'm going to turn it over to Mr. Herrod, and he's got some announcements to make.

MR. HERROD: Thank you, Mr. Chairman.

I'm proud to announce that Chris O'Guin is now our Boiler Chief, having assumed that office position back in April. He's been the assistant chief for awhile and served as an inspector for the State for a few years. So he has all the background and has all the experience and he's doing a fantastic job.

As long as I've been in my position, I can count on him to always do what's best for

the State of Tennessee. So congratulations to Chris. It's well deserved.

Also, Mike Ryan has assumed the position of Assistant Chief. He's been an inspector with us for a couple years and very talented, very knowledgeable, and no doubt he's going to take some of the load off of Chris that Chris has had to bear for a while. So Mike is very talented and we're thankful that we was able to be in a position to take this role on for us.

And again, Carlene is leaving us, I'm sorry to say, not only as board secretary, but also, in the boiler unit, she has been very valuable. We'll miss her tremendously.

Michelle Irion, who is now the admin supervisor for boilers, having taken that position over a few months ago. And she's very talented, having come from TOSHA, so she has a good background there. And she's going to be the board secretary. So while we hate to see Carlene leave, she has a good person to take over those roles. So we've been blessed having Carlene and we're blessed to have Michelle take that position.

So I'm thankful for these people and the talents that they have and what they're going

to bring to the board. Thank you.

CHAIRMAN MORELOCK: Thank you, Mr. Herrod.

And so I do have one more announcement to make. The National Board of Boiler Pressure Vessel Inspectors, at their last general meeting, voted Mr. Chris O'Guin as a member of the National Board. So we do want to congratulate him for that, too, because that's a worthy office. So we appreciate your willingness to serve in that capacity and be inducted on the National Board. So congratulations.

CHIEF O'GUIN: Thank you.

CHAIRMAN MORELOCK: Are there any other announcements before I move on?

MR. BOWERS: I guess I do.

CHAIRMAN MORELOCK: Mr. Bowers?

MR. BOWERS: I'll do my introduction and move on from there. Harold Bowers, board member and inspector with the FM Global Insurance Company.

And I wanted to recognize a couple of visitors. Phil Hencherick. He's my boss. He's the assistant vice president and the operations chief out of the Atlanta office. And he handles

all of the southeast states, seven states, so he deals with the seven different jurisdictions and seven different sets of laws and seven different -- it changes all the time.

I also recognize Branden Matue. He has transferred from Seattle, Washington, to Middle Tennessee. And he will be one of our jurisdictional inspectors for Middle Tennessee. And he has moved to the Murfreesboro area, and I wanted to welcome him to Tennessee and the jurisdiction. I think he's going to do a real good job for the citizens of Tennessee.

And I wanted to congratulate Chris and Mike, and Carlene in her retirement and Michelle in her job. It's so good to see everybody larger than a seven-inch screen. It's like y'all look different, you know. But I'm glad to be back and so I welcome you-all back.

CHAIRMAN MORELOCK: Thank you, Mr. Bowers. Any other announcements?

(No verbal response.)

CHAIRMAN MORELOCK: All right. Hearing none, that will take us to adoption of the agenda. And one of the things I want to share with you on the agenda -- I'll pull it up here --

we do have some revisions that have been submitted by STERIS. Ms. LaFrance sent these in, and I'm going to read these changes to the March 10th minutes. And we will vote these as we vote any other corrections or changes to the minutes here in just a minute.

So from the March 10, 2021 minutes, on page 58, line 6, the statement was "meet any steam," and that was corrected to "meet" the acronym "NEC."

The next revision to the minutes is on page 58, line 22, where it says "sufficient plans," and that was corrected to read "sufficient clearance."

The next change is on page 63, line 15, where it said "vessels aren't," and it was changed to "vessels are."

And then the last change is on page 63, line 19, "different links," and that was changed to "different lengths."

So I wanted to read those changes. They have been made, and I just wanted to share that with the Board as well as the audience on those changes. And so while we're talking about the March 10 meeting minutes, once we adopt the

agenda, we will vote some other changes. So I wanted to put those out on the table.

Are their any other changes to the agenda? We'll vote that and then we'll vote the minutes. So any changes?

(No verbal response.)

CHAIRMAN MORELOCK: So hearing none, do I have a motion to accept the agenda?

MR. BAUGHMAN: So moved.

MR. HENRY: Second.

CHAIRMAN MORELOCK: Okay. I have a motion and a second. Any discussion?

(No verbal response.)

CHAIRMAN MORELOCK: Okay. Hearing none, I'm going to call for the vote. Those approved say "aye."

(Affirmative Response.)

CHAIRMAN MORELOCK: Opposed?

(No verbal response.)

CHAIRMAN MORELOCK: Abstentions, not voting?

(No verbal response.)

CHAIRMAN MORELOCK: We have an adopted agenda.

So now, with that, I want to step

back to Item 2 and have some introductions.

So Mr. Bowers, if you'll introduce yourself, we'll go around the table.

MR. BOWERS: Harold Bowers, board member.

DR. HARGROVE: Good morning. Keith Hargrove, board member.

CHAIRMAN MORELOCK: Brian Morelock, board member.

MR. BAUGHMAN: Dave Baughman, board member.

MR. HENRY: Jeff Henry, board member.

MS. IRION: Michelle Irion. I'm the admin supervisor and the new secretary.

MS. BENNETT: Carlene Bennett, board secretary.

MR. RYAN: Mike Ryan, Assistant Chief, boiler unit.

CHIEF O'GUIN: Chris O'Guin, Chief Inspector.

MR. HERROD: Tom Herrod, Assistant Commissioner for workplace regulations and compliance.

MR. BAILEY: Dan Bailey, legal

counsel.

CHAIRMAN MORELOCK: Cassandra, if you'll introduce yourself.

THE REPORTER: Cassandra Beiling, Stone & George Court Reporting.

CHAIRMAN MORELOCK: Mr. Rehart, if you'll start the visitors.

MR. REHART: Mike Rehart, vessel designer for Eastman Chemical Company.

MR. HENCHERICK: Philip Hencherick, FM Global, Atlanta Operations.

MR. MATUE: Branden Matue, FM Global.

MR. LYTLE: David Lytle, Southern Hills Medical Center.

MR. NEVILLE: James Neville, Neville Engineering.

MS. PARIS: Vivian Paris here on behalf of TASCA.

MR. REYNOLDS: I'm Greg Reynolds with A.O. Smith.

MR. GREENE: Josh Greene with A.O. Smith.

MR. KLEISS: Jeff Kleiss with Lochinvar, on behalf of A.O. Smith.

MR. PURI: I'm Chris Puri with Bradley. I represent STERIS.

MR. CHIFFON: Mark Chiffon, STERIS Corporation.

MR. AVERELL: Dean Averell, STERIS Corporation.

MS. LaFRANCE: Marie LaFrance with STERIS Corporation.

MS. PRESSON: Jamie Presson, executive admin assistant with WRC.

CHAIRMAN MORELOCK: All right. Thank you all.

So now we are ready for --

MR. BAILEY: Mr. Chairman?

CHAIRMAN MORELOCK: Yes?

MR. BAILEY: I may have missed this. You went over the revisions and then you had a motion to adopt the agenda.

CHAIRMAN MORELOCK: Yes.

MR. BAILEY: But I don't think the minutes were ever approved.

CHAIRMAN MORELOCK: That's what I'm getting ready to do.

MR. BAILEY: Okay. I'm sorry.

CHAIRMAN MORELOCK: I got out of

order. I apologize for that, Mr. Bailey.

So we were back to the minutes. We read the ones from STERIS, so I'm opening up the floor. Are there any other additions/corrections to the March 10th Tennessee Board minutes?

(No verbal response.)

CHAIRMAN MORELOCK: So I only had one additional, to what I've already read. On page 87, line 8, it states Section 8 with the numeral eight. And since that's ASME code, they use Roman numerals, so that should be Section VIII with a Roman Numeral VIII.

What other corrections to the minutes does anybody have?

(No verbal response.)

CHAIRMAN MORELOCK: Okay. Hearing none, do I have a motion to adopt the March 10th meeting minutes as corrected?

MR. BOWERS: I make that motion.

CHAIRMAN MORELOCK: Thank you, Mr. Bowers.

DR. HARGROVE: Second. Keith Hargrove.

CHAIRMAN MORELOCK: Thank you, Mr. Hargrove.

Any more comments or discussion?
(No verbal response.)
CHAIRMAN MORELOCK: Hearing none, I'm going to call the question. All in favor of approving the March 10th meeting minutes say "aye."
(Affirmative Response.)
CHAIRMAN MORELOCK: Opposed?
(No verbal response.)
CHAIRMAN MORELOCK: Abstentions, not voting?
(No verbal response.)
CHAIRMAN MORELOCK: The March 10th meeting minutes are approved.
That takes us to Item 5 of the agenda. And we will have the Chief Inspector's -- the Boiler Inspector's Report. I'll turn that over to Mr. O'Guin.
CHIEF O'GUIN: Thank you, Chairman.
For inspections July 1, 2020 through June 14, 2021, the first quarter for the state inspectors is 4,052; insurance is 7,021.
The second quarter is 3,146 for State; insurance 6,928, for insurance.
Third quarter for State, 4,444; for

insurance is 8,427.

For the fourth quarter, state inspectors 3,042; insurance is 5,499, granting a total for the State of 14,684 inspections performed this year; insurance is 27,875.

Delinquency totals and rates: The State, as of yesterday, was 568 delinquent, 0.8 percent. Insurance was 1,005, totaling 1.4 percent. Total delinquent is 1,573, which is a 2.2 percent delinquency rate.

High-pressure vessels delinquent: For the State we've got 63 delinquent high-pressures, 0.1 percent; insurance is 209 delinquent high-pressures which 0.3 percent. Total high-pressure delinquents is 272 or 0.4 percent delinquency rate.

MR. BOWERS: Chris, I had a question on that. This is Harold Bowers, board member. Delinquencies, is that considered from the actual expiration date due or the grace period? How do they figure delinquency?

CHIEF O'GUIN: The delinquency is from the certificate date.

MR. BOWERS: Thank you.

CHIEF O'GUIN: I'm going to turn it

over to Mike Ryan, assistant chief, for the variance report.

MR. RYAN: Variances, currently, we have active 75. Inspections performed, 15 have passed in the quarter. The Board has approved 13 that are not ready at this time.

CHAIRMAN MORELOCK: Okay. Are there any questions of Mr. O'Guin or Mr. Ryan?

DR. HARGROVE: Yeah, a question: Just generally speaking, as a result of the pandemic, was the frequency of inspections, did that vary from previous years?

CHIEF O'GUIN: Everything stayed where it's pretty well the same. The delinquency rate did jump during COVID. We went to 4 percent probably around August of last year. We are slowly getting back down to normal.

DR. HARGROVE: And the availability of inspectors?

CHIEF O'GUIN: Yes. During the pandemic, we -- probably for a 10-week span, we had inspectors kind of working more office days, trying to figure everything out. We stayed inspecting most of the -- the majority of the time.

Insurance inspectors, I believe 60 days might be the time frame last year. They had a work-from-home status which kind of raised our delinquents. But everybody is back working now. We've increased a couple of inspectors over the years which has helped tremendously in the major metropolitan areas.

DR. HARGROVE: Thank you very much.

CHAIRMAN MORELOCK: Are there any other questions or comments?

(No verbal response.)

CHAIRMAN MORELOCK: Thank you, gentlemen. That was an excellent report.

That takes us to Agenda Item 7, which is Old Business. And we are going to hear a presentation on Item 21-01, TriStar Southern Hills Medical Center. And they are requesting a variance for three high-pressure boilers under the requirements of Chapter 0800-03-03.08(11), which is the 20-minute rule.

So gentlemen, if you want to come to the public podium and introduce yourselves. And before you do that, are there any conflicts of interest from the board members?

(No verbal response.)

CHAIRMAN MORELOCK: Okay. Hearing none, proceed with your presentation.

MR. NEVILLE: I'm James Neville with Neville Engineering.

MR. LYTLE: And I'm David Lytle with TriStar Southern Hills.

MR. NEVILLE: Today we would like to apply for a variance for three high-pressure boilers. We've listed those boilers in the manual.

As far as the monitoring of those boilers we would like to monitor those from the PBX office. On page 2 of the manual we show the diagrammed location of the PBX and the location of the boiler room, approximately 386 feet apart.

We've listed those boilers in Appendix A. Boiler Number 1 is a Kewanee, Boiler Number 2 is a Cleaver-Brooks, and Boiler 3 is a Cleaver-Brooks.

The controls on those are the Honeywell 7800 series, and currently, the expanded annunciator has been ordered for those.

MR. LYTLE: And they have arrived and we expect them to be installed by the end of the week. Industrial Boiler will be doing the

install.

MR. NEVILLE: There was -- as far as the remote station, the PBX operator and security officer will be the individuals monitoring from the remote station. And the boiler attendants for that are classified as a maintenance mechanic and as a security officer.

Now, the security officer on third shift will be trained to monitor those boilers. So I had some additional handouts, as far as -- the job description contained some wording as far as the third-shift boiler attendant that would be a security officer. So they will trained on site by Industrial Boiler to operate those boilers during that third shift. So that's how the facility will be qualifying those individuals.

MR. LYTLE: And I do have that training set up for next Wednesday for the security team. I've got buy-in from our security director.

Everybody, you know -- we function as a team. We are a hospital, and everybody is eager to learn and to advance their careers learning about these boilers.

MR. NEVILLE: And the other piece

of information that was handed out, as far as the power piping and feedwater diagrams, those were pretty small on the original eight-and-a-half by 11. The 11 by 17 is a little clearer to read, so...

If there's any questions...

CHAIRMAN MORELOCK: What -- do I have a motion to discuss?

MR. HENRY: So moved.

MR. BAUGHMAN: Second.

CHAIRMAN MORELOCK: All right. What questions or comments do you have for this proposed variance?

MR. HENRY: Mr. Chairman?

CHAIRMAN MORELOCK: Yes?

MR. HENRY: If I could. This is really more in the nature of a clarification, I guess. If you look on page 6, there's a reference to, in the first item under emergency duties, there's a reference to a boiler controller. And I don't find that defined anywhere else. Is that the boiler attendant?

MR. NEVILLE: That's page 6. What is your reference?

MR. HENRY: Page 6, the first item

under emergency duties, it references the "boiler controller." And I was just -- I'd like to get a clarification; is that the boiler attendant?

MR. NEVILLE: Well, the controls on the boiler will shut down --

MR. HENRY: Oh, I see.

MR. NEVILLE: -- and annunciate at the remote station, so --

MR. HENRY: Okay. So this is referring to the equipment.

MR. NEVILLE: Yes, that's the equipment. And that's the Honeywell equipment that we show in Appendix B.

MR. HENRY: Okay. Well, that leads to my next question, then. If the controller is automatically going to shut the boiler down -- it said that in Number 2 -- the person on duty at the remote station shall shut down the alarming boiler from the remote panel.

MR. NEVILLE: That is correct. So on the remote station, there is an alarm panel. And that is the second lockout for that boiler.

MR. HENRY: Okay. Well, I apologize for the confusion, but if the controller has already shut the boiler down, then what action

is the remote attendant actually taking?

MR. NEVILLE: They're preventing that boiler from restarting until the boiler attendant is in the boiler room to restart the boiler.

MR. HENRY: Okay. Thank you.

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

MR. BAUGHMAN: David Baughman, board member. Glad to see your face again.

MR. NEVILLE: Glad to be back.

MR. BAUGHMAN: All right. Just a couple of notes.

MR. NEVILLE: Yes?

MR. BAUGHMAN: First, on page 3 under Remote Monitoring System Description, the first sentence just says, "TriStar Southern Hills Medical Center will install a complete microprocessor-based integrated boiler monitoring," and so forth.

I would just change the wording on that. "TriStar Southern Hills Medical Center," maybe, "will be installing."

From what I understand, it's not installed as of yet.

MR. NEVILLE: That's correct.

MR. BAUGHMAN: So I would just make that very simple change.

Are there CO alarms installed in the boiler room?

MR. LYTLE: Yes.

MR. BAUGHMAN: Are they integrated into the monitoring system?

MR. LYTLE: Yes.

MR. BAUGHMAN: So when the CO alarm annunciates, it'll alarm back to the system itself?

MR. LYTLE: Yes.

MR. BAUGHMAN: Fantastic. Thank you.

How many personnel staff does the remote station have at any time?

MR. LYTLE: The remote station location is a minimum of one 24/7/365.

MR. BAUGHMAN: My question -- and thank you. The question being is how many personnel are at that remote station at any given time?

MR. LYTLE: One.

MR. BAUGHMAN: One. Did they have

any other duties that would take them away from that remote station?

MR. LYTLE: Yes. Potentially.

MR. BAUGHMAN: And would they be away from that for any given time that would be -- to where they would have to be on the 20-minute rule.

MR. LYTLE: No.

MR. BAUGHMAN: Okay.

MR. LYTLE: No. Everything is isolated. They're, like, in a control room, is kind of their location. They answer the phones. They call codes when a patient needs a code. And her remote annunciator station is right there beside where she sits.

MR. BAUGHMAN: Okay. So you've got the PBX station and you've got the remote station.

MR. LYTLE: Right. And, you know, she's sitting here (indicating), there's a wall right here (indicating), and that is right there on that wall. So it's within arm's length of any given time from the phone to the computer to the intercom system to -- even the fire alarm annunciator and everything is right there within arm's reach of where she would be sitting.

MR. BAUGHMAN: Very good.
MR. NEVILLE: On B-4 we do show that alarm panel in the photo.
MR. BAUGHMAN: Yes. I appreciate that. That's a very good photo and I appreciate that.
Did the e-stops shut down -- in other words, in the boiler room, do you have an e-stop for each boiler? Or does one e-stop --
MR. LYTLE: One e-stop does them all.
MR. BAUGHMAN: Does them all.
MR. LYTLE: And we have an e-stop at every exiting door.
MR. BAUGHMAN: So every point of egress --
MR. LYTLE: Yes.
MR. BAUGHMAN: -- on this expanded drawing --
MR. NEVILLE: Yes.
MR. BAUGHMAN: Thank you very much -- identifies the boiler e-stops at those points of egress out of the boiler room. I noticed other exits but I couldn't really --
MR. NEVILLE: There's an "S" shown

at each of the exit doors from the boiler room. So there should be four of them.

MR. BAUGHMAN: Four. Very good.

MR. NEVILLE: And there are pictures of those --

MR. BAUGHMAN: I saw those pictures --

MR. NEVILLE: -- e-stops as well.

MR. BAUGHMAN: -- which leads me to my next question: Are those doors able to be locked?

MR. LYTLE: Yes. It's badge entry to get in.

MR. BAUGHMAN: Badge entry to get in there?

MR. LYTLE: Yes, sir.

MR. BAUGHMAN: Okay. So that badge would be available through any personnel, and in particular, this third-shift security person who you're now also saying will be a boiler attendant on third shift. So all of those have badge entries.

MR. LYTLE: (Nods head.)

MR. BAUGHMAN: I wonder if anybody ever loses a badge -- that would be a bad thing,

but that's always a possibility. Not that I've ever done that.

MR. NEVILLE: And we do list that in Appendix B as far the boiler room is key card protected. So that's part of the authorized access protection.

MR. BAUGHMAN: Very good. Going to -- I've got it listed as D-1 on the organizational chart. And thank you for letting me jump around, by the way. I appreciate it. That's just the way my notes get taken, so I have to take them in the order that I'm writing them.

Under D-1, the organizational chart, under the security section, it shows security manager. And then coming down to security officer/boiler attendant. All the others within their listings except the administrative assistant on the left-hand side have duties, boiler attendant, remote station and so forth.

Not that it's a huge issue, but I just didn't see any of the other security officers being listed as remote attendants or boiler attendants.

MR. NEVILLE: They do need to be -- there is one security officer, mainly the third

shift, that will be qualified as boiler attendants, as far as the remote station. The rest of them will be remote-station qualified. So I will need to add "remote station" to the other security officer.

MR. BAUGHMAN: Very good.

And David, you may answer this for me, but is there a maintenance mechanic on site every shift of every day?

MR. LYTLE: With the exception of third.

MR. BAUGHMAN: With the exception of third.

MR. LYTLE: Yes.

MR. BAUGHMAN: So should there be an incident where the security officer is pulled away from his duties as a security officer and he's needing to now be a boiler attendant but there's something else that comes up on site that requires a security officer be present, what's your protocol at that point?

MR. LYTLE: We have two security guards there for each shift, so we would have potentially an extra security guard. Not an extra but another guard there that could attend during

that time.

MR. BAUGHMAN: Very good.

Has there ever been a previous variance granted for this facility?

MR. LYTLE: No, not to my knowledge.

MR. NEVILLE: No.

MR. BAUGHMAN: This is the original?

MR. NEVILLE: I believe this is the original.

MR. BAUGHMAN: So under Appendix A, the last boiler, Number 3 -- let me get to Appendix A. It's on A-1, Boiler Number 3. So Boiler Number 1 and Number 2 identify that these controls that you're putting on, I take it, were upgrading or changing the present controls that are on the boiler, whatever they may be, to the Honeywell. And I take it the two Cleavers are not going to be OEM Cleaver controls; they're going to be standard Honeywell controls.

MR. LYTLE: Correct.

MR. BAUGHMAN: My question is, and I see under the equipment description, under Appendix C, I see the Honeywell 7800L's but I

don't see a 7140L. And I'm not familiar with what that is.

I try to keep up with all the newest and greatest things since sliced bread that are in the market but I'm not familiar with that particular control.

MR. NEVILLE: We can provide that information. Apparently, it's not in here.

MR. BAUGHMAN: I appreciate that, Mr. Neville. If you'll provide that just so we can have it for review. There again, I'm familiar with the other two but not with that one, and I'm kind of interested on why that would be different, or if that's a possibility of a typo.

MR. NEVILLE: I believe that is the number off of that individual controller. So I believe I've got a picture of it that I can provide.

MR. BAUGHMAN: Very good. The feedwater system is a Lockwood BFS. It shows it being an ATM, being for atmospheric, no pressure ratings. But it would not be delineated as a deaerator, being that it's not a deaerator; it's a boiler feedwater system, just for technical jargon, I would say.

The other -- you mentioned that Industrial Boiler has the responsibility of training the personnel both as boiler attendants and, I guess, on this system itself. I would ask what their qualifications are for training.

MR. LYTLE: My answer to that question is when I started with HCA five years ago, Industrial Boiler trained me, trained the entire staff when we was at Skyline. I would have to go back to Industrial Boiler and say, hey, you need to give me some sort of documentation showing me that you're capable of conducting this training. That's just the company I've used in my five-year tenure with HCA that has took care of my boilers at each location I've been.

MR. BAUGHMAN: Very good.

MR. LYTLE: So that would be my answer to that question.

MR. BAUGHMAN: Well, that's a --

MR. LYTLE: It's an honest answer.

MR. BAUGHMAN: -- fair question -- a fair answer to a fair question.

MR. LYTLE: Yes, sir.

MR. BAUGHMAN: We've got a lot of different folks out in the industry, and I just

wanted to make sure that you're getting what it is you need and that the public is getting what they need from a safety standpoint and the personnel that are there at the place.

The position in -- having a security officer work in the position of a boiler attendant, I've spoke with different personnel that are in that position, and they feel very uncomfortable. They're great at security duties. They're out of their element when it comes to working on a piece of mechanical equipment that has more power than dynamite.

MR. LYTLE: Yeah.

MR. BAUGHMAN: And so we want to make sure that their training is brought to the highest level possible when they're acting as a boiler attendant. Remote station attendant is totally different than a boiler attendant. So I know none of us take that lightly but that's why the questions.

MR. LYTLE: Yes, sir.

MR. BAUGHMAN: Thank you very much.

CHAIRMAN MORELOCK: Any other questions or comments?

DR. HARGROVE: (Indicating.)

CHAIRMAN MORELOCK: Dr. Hargrove?

DR. HARGROVE: Yes. I do want to comment.

Thank you, Mr. Neville, for responding to our previous request.

David, you mentioned that this week there will be participants in boiler training.

MR. LYTLE: Next week.

DR. HARGROVE: How many?

MR. LYTLE: Next week. Next Wednesday. And there will be five people in training.

DR. HARGROVE: Five individuals?

MR. LYTLE: Yes.

DR. HARGROVE: And some of them include security guards?

MR. LYTLE: Yes.

DR. HARGROVE: Thank you.

MR. LYTLE: Yes.

CHAIRMAN MORELOCK: Any other questions or comments?

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

Who is the present boiler inspector at your facility?

MR. LYTLE: His name is on the tip of my tongue. He was there last week. I don't remember. I got it in an email but his name slips me right now.

MR. BAUGHMAN: I understand how that goes.

MR. LYTLE: It's a little different environment so I've got a little nerves involved, and that name does escape me.

MR. BAUGHMAN: I'm sorry for the nerves. We try not to make this too hard of an ordeal, but I'm always interested. It's an intimate relationship that everyone should have. And that's why I'm always curious myself. But I wanted to make sure that I ask the question.

MR. LYTLE: Okay. Yes, sir. Yes, sir.

CHAIRMAN MORELOCK: Any other questions or comments from the board or visitors?

MR. LYTLE: Scott Bull.

MR. BAUGHMAN: Hartford.

DR. HARGROVE: It came to you.

MR. LYTLE: It came to me. I knew it was right there, so...

CHAIRMAN MORELOCK: All right.

Hearing no more questions or comments, do I have a motion for this variance proposal?

MR. BAUGHMAN: I would propose the motion that we approve upon the inspection and also would like to have the additional information on this 7140 just for review, if we can email that or whatever --

MR. NEVILLE: Yes.

MR. BAUGHMAN: -- way we can take a look at that. Or if it's a typo just let us know.

MR. NEVILLE: Okay.

MR. BAUGHMAN: But I make a motion to approve upon inspection and review.

CHAIRMAN MORELOCK: Okay. Do I have a second?

DR. HARGROVE: Keith Hargrove. Second.

CHAIRMAN MORELOCK: Okay. Last call for comments or questions.

(No verbal response.)

CHAIRMAN MORELOCK: All right. So we have a motion on the floor for contingent approval of this variance based upon getting some additional information on the Honeywell 7140 and a successful site visit by the boiler unit at your

facility. So I'm going to call the question. All in favor say "aye."

(Affirmative response.)

CHAIRMAN MORELOCK: Opposed?

(No verbal response.)

CHAIRMAN MORELOCK: Abstentions, not voting?

(No verbal response.)

CHAIRMAN MORELOCK: Gentlemen, you have a contingently approved variance.

MR. LYTLE: Thank you, sir.

MR. NEVILLE: Thank you.

CHAIRMAN MORELOCK: Thank you for your presentation.

Okay. That takes us to Item 8, which is New Business. And our first new business item is Item 21-02. Eastman Chemical Company, Kingsport, Tennessee, requests permission to install and operate one centrifuge as a Tennessee Special.

Does any of the board members have a conflict?

MR. BOWERS: Harold Bowers. I have a conflict.

CHAIRMAN MORELOCK: I also have a

conflict, Mr. Bailey. So with my conflict, is there any -- what can I not speak to?

MR. BAILEY: You can't vote on the approval.

CHAIRMAN MORELOCK: Obviously.

MR. BAILEY: You can speak on it as long as you don't get into the area of your conflict. Which I don't know if you're going to be able to do that.

CHAIRMAN MORELOCK: Okay.

MR. BAILEY: And you can't vote.

CHAIRMAN MORELOCK: Well, yeah. That goes out without saying. So yeah, I will abstain from the vote. All right.

MR. BOWERS: (Indicating.)

CHAIRMAN MORELOCK: Mr. Bowers?

MR. BOWERS: I have a conflict.

CHAIRMAN MORELOCK: Right.

MR. BOWERS: Our insurance company insures Eastman Chemical, so we have a conflict.

CHAIRMAN MORELOCK: Go ahead and introduce yourself and present your item.

MR. REHART: Good morning everyone. I'm Mike Rehart. I'm a vessel designer from Eastman Chemical Company. I appreciate the

opportunity to present this request on behalf of Eastman.

We have one centrifuge that we acquired from our previously owned Rotterdam site in the Netherlands. This was operated there for about 10 years and then moth balled in storage for about 12 years.

When we sold that company, we acquired that equipment and brought it to Kingsport where it sat for a little while. We have the opportunity now to install that and use it to replace an existing centrifuge.

From the presentation, you'll see that it is ASME code designed as far as calculations. And I've provided an additional set of calculations for one of the centrifuges that we have in operation -- or had in operation.

The thing that keeps it from being ASME code stamped is that it is manufactured from a cast Inconel 625 which is not an ASME code approved material. It is ASTM approved material as is the CX2MW, which our current operating centrifuges are manufactured from.

The geometry of the centrifuge in question from Rotterdam is identical. It's

manufactured by the same corporation. The castings were from Wollaston Alloys which also casts the centrifuge parts for the ones that we have in operation.

The reason for using the Inconel 625 for the Rotterdam centrifuge was -- it's been a while ago. I spoke to our materials engineer and believe that it was probably economics and availability.

The Dutch code Stone Weissen had no trouble with Inconel 625 as the material of construction so we went with that.

When we received it at our shop, we removed it from the crate, disassembled the major components, which there's three major components with a cover on top and a cover on bottom with the inlet and outlet nozzles. We inspected those with dye penetrant and visual inspection.

You could visually see some of the original weld repairs in the casting which still looked in perfect condition. Any spots that we found that were questionable, we did -- we repaired those by grinding then dye penetrant again, cleaned up any surface imperfections and dye penetrant those.

Inspected all the gasket surfaces, the o-ring surfaces; those looked fine. They were then reassembled and given a hydrostatic pressure test at MAWP, which it passed.

The -- looking at the attachments, you'll see that the original drawing, compared to the drawing of the other one that we have from -- made from CX2MW, the geometry is identical. The only difference is the material.

We also have traceability between our actual parts and the drawing and the calculations by the order number, the 93219. And you can see, also, from the photographs at the back, that DO642 is actually cast into the components. And that is also listed on the drawing and on the calculations.

So we feel confident that the documentation that we have is actually for that centrifuge.

CHAIRMAN MORELOCK: Do I have a motion to discuss?

MR. BAUGHMAN: So moved.

CHAIRMAN MORELOCK: Thank you.

Do I have a second?

MR. HENRY: Second.

CHAIRMAN MORELOCK: Thank you.

What questions does the Board have on this proposal for a Tennessee Special?

DR. HARGROVE: Yes. I'll begin. Keith Hargrove.

As a result of an inspection, it was revealed that there were spots of surface corrosion.

MR. REHART: Yes.

DR. HARGROVE: And as a result, there was a weld overlay --

MR. REHART: Yes.

DR. HARGROVE: -- to certain sections. Do you recall how many sections that was?

And then secondly, were any of those sections part of the reinforcement calculations, which I think are very thorough, I may add? But, you know, in making those calculations, were they located in the same place of the welding?

And you may or may not know that, but I'm just --

MR. REHART: Right off the top of my head, I don't know about the reinforcement areas. I do know that -- I think there were about

four areas that were weld repaired, actually ground out and weld repaired back and then dye penetrant tested again.

DR. HARGROVE: Second question on page 1-2, a calculation was made for reduction based on different temperatures. Typically, that calculation is done for a minimum and a maximum. And I understand here it was done at 350.

And, again, you may or may not know this as well, but were the calculations for this to determine the percent reduction? Was that done or could be done for the minimum and maximum temperature?

In other words, you have it for 350 degrees where you have a 1.27 percent reduction. Should you also have that for the minimum and maximum temperature?

MR. REHART: It could be done. I think the ambient would be the minimum temperature, like 70, 75, room temperature. These are inside in a building that is always hot. So it's never going to be below that. There's no, like, a zero or minus 20.

DR. HARGROVE: Okay. That will suffice for now. Thank you.

CHAIRMAN MORELOCK: What other questions do you have?

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

So I'm assuming, which is a bad thing to do, but I'm assuming that the repairs were accomplished at the facility in Tennessee?

MR. REHART: Yes, sir.

MR. BAUGHMAN: Looking at page 1.3, I'm showing the hydro test pressure of 150 times 1.5 times 1.013 at 228. And on Attachment 9 in the back, I'm showing pressure test details of test pressure on the shell side of 150 psi.

I was just interested in what actually it's hydro test pressure was.

MR. REHART: The 228 is the original manufacturer's hydrostatic test pressure. And we did our hydrostatic test after repairs at 150, which is the radium AWP.

MR. BAUGHMAN: Very good. The materials, in what little I know about the materials, of what is utilized, is that actually a stronger material, a less strong --

MR. REHART: Stronger. The allowables -- even after the reduction factors,

the allowable was slightly better than the CX2MW.

MR. BAUGHMAN: Very good. Thank you.

CHAIRMAN MORELOCK: Any other questions or comments?

MR. HENRY: Mr. Chairman?

CHAIRMAN MORELOCK: Yes.

MR. HENRY: Just making a quick observation regarding material, the fact that the cast version of 625 doesn't appear in Section 2, Part B in this case or Section 2 Part D is simply the fact that nobody has requested. And it's not any concern about the material.

CHAIRMAN MORELOCK: Any other questions or comments?

(No verbal response.)

CHAIRMAN MORELOCK: Hearing none, do I have a motion for this item?

MR. BAUGHMAN: I have a motion that we approve this vessel as a Tennessee special.

CHAIRMAN MORELOCK: Do I have a second?

MR. HENRY: Second.

CHAIRMAN MORELOCK: Any other discussion?

(No verbal response.)

CHAIRMAN MORELOCK: Hearing none, I'll call the question. All those in favor say "aye."

(Affirmative Response.)

CHAIRMAN MORELOCK: Opposed?

(No verbal response.)

CHAIRMAN MORELOCK: Abstentions? I'm abstaining.

MR. BOWERS: Abstaining.

CHAIRMAN MORELOCK: Mr. Bowers is abstaining. So you do have three positive votes, so this item does pass.

So thank you for your presentation.

MR. REHART: Thank you. Appreciate it.

CHAIRMAN MORELOCK: And just as a point of order that will not have any impact on my conflict of interest, just so we put it on the record, as a Tennessee Special, this vessel will be handled, as far as operation and the repair and alteration requirements per Tennessee Boiler Rule Interpretation BI04-22, which is repair and alterations to Tennessee specials.

And I won't read all this, but it

boils down to that any repairs to this centrifuge must have the approval of the Chief Inspector from the State of Tennessee. So any repair. And any alteration would have to come back to the Tennessee Board.

MR. REHART: Okay.

CHAIRMAN MORELOCK: And we meet quarterly, so just note that. Thank you.

MR. REHART: Thank you.

CHAIRMAN MORELOCK: Okay. So that takes us to our next item of new business which is Item 21-03. STERIS Corporation requests an exemption from the clearance and boiler attendant requirements for AMSCO 600 Steam Sterilizer installations in the state of Tennessee.

And as you-all are coming forward, are there any conflicts of interest from the board?

(No verbal response.)

CHAIRMAN MORELOCK: I see no conflicts so you may proceed with your presentation.

MS. LaFRANCE: Good morning. My name is Marie LaFrance. I'm from STERIS Corporation. I am the senior product manager for

steam sterilization. I've been there for 28 years in that role.

Today, I've brought with me Mark Chiffon who is our director of R & D. We've been making sterilizers for 125 years, and Mark has been with us for 34 of those years developing all kinds of steam sterilizers and vaporous hydrogen peroxide sterilizers as well.

And I also have a field service expert, Dean Averell, with us today. Dean has supported AMSCO 600 steam sterilizers in the field quite extensively, and so he can answer a lot -- any service questions that we have today.

Dean has been around for a long time, too, 30 years, so he has a lot of experience to bring as well.

So today we are requesting, as we did at the March 10th board meeting, that STERIS have a blanket variance for the AMSCO 600 steam sterilizer from the Tennessee side and rear clearance requirements stated in Rule 0800-3-3-.04(13)(a) based on the fact that the AMSCO 600 has been properly designed to provide front-only access to all components and sufficient clearance for normal operation maintenance and

inspection per the NBIC Section 4.3.2.

In the way of items to discuss today, we'd like to review some of the items that were bought up at the last meeting on March 10th of 2021. You may have received a list of those items.

What we did is we went through the transcript from the meeting, the March 10th meeting. We identified about 13 items; about 5 of those were design items. We'd like to go over those first.

We have some computer models and some photos to show you on those and then go over the remaining items that the Board commented on.

We would like to briefly discuss healthcare facility impact, product safety features. And if we have time, we'll show you some photos of what our competition is doing. They have a very similar product to ours. And then some concluding remarks.

But before we get started on all that, we would like to have a few words from Kelly Norman who is a member of the Board of TAASC, the Tennessee Association for Ambulatory Surgery Centers. And she would like to have some customer

perspective for the meeting.

We're going to have her on the phone. She's working today. She's about two-and-a-half hours away at the Advanced Family Surgery Center. She's part of the Covenant Health System, I believe. And she's going to have a few remarks before we get started on the main body of the presentation.

Kelly, are you around? Are you on line?

MS. NORMAN (telephonically): Yes.

MS. LaFRANCE: Okay. Please, if you could, give us a summary of the letter that you've actually written to the Board.

MS. NORMAN (telephonically): Yes. I submitted my letter yesterday. And what I would like -- (indiscernible) -- the change in our history like anyone else's. (Indiscernible) -- for allowing --

THE REPORTER: I can't get her.

MS. LaFRANCE: Kelly, we're having a little problem hearing you.

MS. NORMAN (telephonically): I'm sorry. Can you hear me now?

MS. LaFRANCE: Yes.

MS. NORMAN (telephonically): All

right. I apologize for that.

CMS is allowing surgery centers to perform more cases in outpatient centers, which is allowing us more complex cases such as total hips, total knees.

And this allows us to do more complex cases to allow patients to go home. We also have decreased the infection rate for our patients and exposure while staying in the hospital.

But to do these more complex cases, it takes more instrumentation. And in the letter where I've written "total joint," especially the knee, it takes 11 surgical trays. And the process that we have now, is just being allowed to process more of -- (indiscernible).

We have three sterilizers that will allow us to do more. And this sterilizer would allow for sterilization. We have three sterilizers, so it allows us to do two per tray. And as you can see, we need 11 trays.

And the AMSCO 600 would definitely allow us to accommodate our surgeons and their patients much better without limitation.

And you can see more in our letter, but I just wanted to reach out to you and thank

you all today for allowing us this opportunity to present that our industry is trying to do patient care along with safety. It is very important to our industry and that our industry is growing and changing, and this instrumentation would help us tremendously.

MS. LaFRANCE: Thanks very much, Kelly. I appreciate your words.

I think what Kelly was saying is, you know, with the explosion in total joint surgeries, you know, we can actually get an entire load of -- a case load of instruments in the AMSCO 600 all at once versus her using three sterilizers to get that same quantity through.

And this helps her to avoid putting on a second shift, so it decreases her costs and decreases all the necessary steps, the indicators that we have to put in on all those loads, the necessary prep time for those additional loads. So it does help in that way as well.

Thank you very much, Kelly, for your help today.

MS. NORMAN (telephonically): Thank you.

CHAIRMAN MORELOCK: On behalf of

the Board, thank you for your presentation.

MS. LaFRANCE: Okay. So we'll proceed with the rest of the presentation. Like I said, we'll go over the design items first.

The first item that was from our meeting was that we needed to improve the generator plate visibility. On the left, you can see a computer model of our generator. The vessel is in the back. The power box is in the front. And that green label that you see on the right there, that is the current location of the generator pressure vessel data plate. The issue was that we needed to make that more visible.

We also have a duplicate plate that's on top of the power box. You can see that on the right-hand side. It has all the same data that the green label has. The green label is required by code to be on the pressure vessel. So that's why it's located there. It was the best place to put it at the time.

But taking your input that it needed to be more visible, what we've done is redesigned the location for the generator plate. You can see that it is going to be welded to the top of the vessel using a bracket.

CHAIRMAN MORELOCK: Can I interrupt?

MS. LaFRANCE: Yes, certainly.

CHAIRMAN MORELOCK: Can the board members ask questions as you go through this?

MS. LaFRANCE: Yes.

CHAIRMAN MORELOCK: Mr. Baughman, did you have a question at the previous slide or this slide?

MR. BAUGHMAN: Well, we'll go through this slide, and then stop for a moment for some questions, if you don't mind.

MS. LaFRANCE: That sounds good.

So, as I said, we've relocated the plate onto the top so that it would be more visible. And I just went into our CSC, our customer solutions center, and took a picture. And what I did was I just placed the tag from the safety valve on top of where that label will be, you know, kind of like a facsimile of where the label will be so you can see it better.

Any questions?

MR. BAUGHMAN: So -- this is Dave Baughman, board member.

So that first slide that we had

back -- that one, so that's presently, data plate current location on the generator pressure vessel.

As I'm looking at the picture on the left and then orienting it to the one on the right where it says "current duplicate plate," I'm showing an electrical control panel on the left picture, but I'm trying to orient to the right picture. Because the one on the right, the sight glass is on the left. I don't quite see the proper orientation, if you'll explain that to me.

MR. AVERELL: Sure. This is where it's on the pressure vessel and it has to be on there by code. It has to be right on the vessel. It can't be somewhere else.

So what you're -- the way this picture is drawn, this cycle that's here is actually over here (indicating). It's just that they did the CAD drawing and they rotated it so we could see where the tag is.

And on this picture, this is the bracket for the door channel for the door to go up and down. So to see it, you would have to look in here.

And we realized it when we made it, we're like, this isn't visible; we have to put it

up here. But we took your feedback and said that's fine. But this is a cover so it could get misplaced, something could happen, damaged, so that's why we're going to put it on that plate that's shown in the next one.

MR. BAUGHMAN: Next question would be -- back to that first slide or even that slide there, either one. But the panel, the electrical panel, where is it located on the boiler itself?

MR. AVERELL: This right here, this box here?

MR. BAUGHMAN: Yes, sir. Where is it located on the picture on the right?

MR. AVERELL: This box.

MS. LaFRANCE: The cover is off.

MR. AVERELL: We took the cover off. The cover is off.

MR. BAUGHMAN: The cover off. So it's actually on the side of the unit, or are we looking at --

MR. AVERELL: No. You're looking at it straight on, front.

MR. BAUGHMAN: We're looking at it straight on.

MR. AVERELL: Yeah.

MS. LaFRANCE: Yes.

MR. AVERELL: The one panel that you would remove with two key locks, the panel comes off, and this has a panel on it, and that's this panel here.

MR. BAUGHMAN: Very good. Thank you.

MS. LaFRANCE: Everything is designed to be accessible from the front.

MR. BAUGHMAN: So this is a design change that we're looking to do. The unit that we looked at the other day at the facility that we went to is not necessarily what it's going to be; is that correct?

MR. AVERELL: Right.

MS. LaFRANCE: Correct.

MR. AVERELL: That's the design cage on the next slide where Marie put the --

MR. BAUGHMAN: Okay. So this is a proposed change.

MR. AVERELL: This is where we're proposing the change.

MS. LaFRANCE: We are in the process of changing this now.

MR. BAUGHMAN: Process of changing

it.

MS. LaFRANCE: Yes.

MR. BAUGHMAN: Who actually manufactures the boiler?

MR. AVERELL: We do.

MR. BAUGHMAN: STERIS does.

MR. CHIFFON: STERIS does.

MR. AVERELL: Uh-huh.

MR. BAUGHMAN: Interesting. We'll address that in another question later to that.

MS. LaFRANCE: Okay.

MR. BAUGHMAN: Same thing with the unfired section, STERIS is the manufacturer?

MR. AVERELL: Yes.

MS. LaFRANCE: Yes.

MR. BAUGHMAN: Very good. Thank you.

MS. LaFRANCE: Yes. We've been making sterilizers 125 years, so...

MR. BAUGHMAN: And I figured that as a package. I wasn't quite sure with the vessel itself, so that's why I asked that.

MS. LaFRANCE: Yeah. This equipment can be -- the sterilizer can run on house steam or it can run with the generator.

There's two different configurations -- two different steam supplies.

MR. BAUGHMAN: Yes, ma'am. Thank you.

MS. LaFRANCE: So moving on to Item 2 and Items 5 and 6, which was on the list that I submitted earlier, the need to be able to clean and drain the sight glass per ASME pressure code 60.1.6. So the solution was to add a valve which will be operable from the front of the sterilizer. You can see that I've labeled where we have that valve on the computer model below.

On Items 5 and 6, we needed to have a generator pressure gauge shutoff per section 60.6.1. And we needed the ability to check the accuracy of the generator pressure gauge.

So if you recall, we used to have the gauge, the generator pressure gauge and the sight glass gauge kind of connected, and the generator pressure gauge was oriented horizontally versus vertically, so we've separated those two out and we have valves on each -- well, a valve and a drain on each one that we can access from the front.

CHAIRMAN MORELOCK: So just a

comment. Your ASME PG 60.1.6, that would be ASME Section I PG .1.6?

MS. LaFRANCE: It's a different section.

CHAIRMAN MORELOCK: That's for a boiler.

MR. CHIFFON: It's Section I.

MR. BAUGHMAN: I would like to make a comment also. So being that STERIS has been manufacturing these for years, they know that it's supposed to be manufactured to ASME Code, but yet it didn't quite meet the code requirements, so we're going back and changing those.

We found this by a site visit, and that's where we made the comment. So in making these changes, we're going to put a drain valve on the bottom of the sight glass to be able to measure it. And that's the present location of where the steam gauge was at.

So we're now taking the steam gauge off of where the drain would go, putting that on. But do we actually have a separate test port to check the accuracy of the pressure gauge? I've got "add valve, isolate the pressure gauge --"

MR. AVERELL: Right here. This is

a T fitting, so we have a calibrated instrument. All the technicians have them and they're calibrated by a third party for us every year. And they can tie it in right here and test it.

MR. BAUGHMAN: So will that be just a plug that they take out and then have to screw a --

MR. AVERELL: Yeah.

MR. BAUGHMAN: -- siphon loop in --

MR. AVERELL: Uh-huh.

MR. BAUGHMAN: -- or will there -- suggested being a valve at that location that they can just put their gauge on without having to take a plug out --

MR. AVERELL: Well, this valve will be here so it'll shut it off so you can -- so if for some reason the gauge was ineffective/broken/ not reading, you're able to shut that off, take the gauge out and replace it. And this is also a test port on the bottom of it.

MR. BAUGHMAN: Very good. Do you have a siphon loop on that? I don't see one on your drawing.

MR. AVERELL: No. It'd be local, carried by the technicians.

MR. BAUGHMAN: But for the operating gauge itself that's on there presently, I don't see a siphon loop to where you're pushing --

MR. AVERELL: Right.

MR. BAUGHMAN: -- water against the gauge instead of --

MR. AVERELL: I understand what you're saying.

MR. BAUGHMAN: So I would suggest that that be added as well.

MR. AVERELL: Okay. That's fine. We'll put that right on there. That's not a problem. I'm sure the first one out in the field, the technician, would have been, where's the siphon loop, so...

MR. BAUGHMAN: Well, it gives --

MR. AVERELL: It helps.

MR. BAUGHMAN: It makes a difference for the accuracy of the gauge --

MR. AVERELL: It saves the gauge from getting the pounding. So yes.

MR. BAUGHMAN: Absolutely. Thank you for that.

MS. LaFRANCE: Any other questions?

MR. BAUGHMAN: Not for this. Thank you.

MS. LaFRANCE: Okay.

MR. BAUGHMAN: I do. I'm sorry.

MS. LaFRANCE: Yes?

MR. BAUGHMAN: If I don't ask it while I'm thinking about it, it will go right out the door.

MS. LaFRANCE: Okay.

MR. BAUGHMAN: The steam header valve coming off of this, what type of valve is that? It looks like a ball valve at the top.

MR. AVERELL: Actually, what you're seeing, that ball valve there, that's the feedwater in.

MR. BAUGHMAN: Okay.

MR. AVERELL: Because it comes -- the feedwater comes into this pump here.

MR. BAUGHMAN: Very good. Where is our steam outlet valve then?

MR. AVERELL: I don't think it's visible on this picture.

MR. BAUGHMAN: Okay. As we come up to a picture, I would like you to identify it.

MR. AVERELL: Sure. Okay.

MR. BAUGHMAN: Thank you.

MS. LaFRANCE: So Items 8 and 9 were that the safety valve discharge piping needs to be longer and needs to be supported. We found this in the NBIC inspection guide, is where we located this requirement.

The solution here is to lengthen the safety valve discharge piping and to secure the piping, both top and bottom, with brackets that are attached to the sterilizers. As you can see, the model is labeled.

On the right you see a different view from the front of the sterilizer, and we made the length of the pipes such that they can be -- that the bottom of them can be seen.

The reason they were being made the length that they originally were is because depending on which state we go into, we either have to just, you know, leave the pipes as they are or we -- sometimes we need to connect them to the drain down underneath the sterilizer, or sometimes it's required that we vent them out upward of the sterilizer.

So that was kind of a middle-ground position for those pipes to be so that we could

meet the requirements of various installations in states.

MR. BAUGHMAN: I would like to address a question, please.

MS. LaFRANCE: Yes.

MR. BAUGHMAN: So ASME, under pressure relief valve piping states, "Pressure relief valve piping within the scope of this code shall be supported to sustain reaction forces and shall conform to the following requirements," and so forth and so on.

"When discharging directly to the atmosphere, discharge shall not impinge on other piping or equipment and shall be directed away from platforms and other areas used by personnel."

So the gist of that is safe point of discharge. And being that this is a high-pressure boiler, would we consider where it's discharging to be a safe point of discharge?

I have my own opinions, being that I've been around relief valves when they have discharged. But I would like to know STERIS's opinion.

MS. LaFRANCE: Would you like to comment?

MR. CHIFFON: Well, these are located within the back of the machine and they're away from where anybody would be operating the unit or using or servicing the unit. So they are directed back and towards the bottom of the system.

MR. BAUGHMAN: I would contradict that answer offhand, respectfully, that the unit that we went and looked at on-site the other day had access from the rear because we've got the air compressor in that room.

The units themselves were into an area that you did have access back into. And I would imagine that that is the case with a lot of these facilities; they still have accessibility in the room behind it for other equipment -- water treatment, the softeners, the RO systems, whatever may be -- can be located in the room behind it where there could be other personnel. And that was the case where we were in particular that one day.

So there is the possibility of that being within the area of other personnel at the time, just through our own observation. And I think that as you guys know where these

installations are at and you know that there's facilities that there is going to be accessibility behind the unit itself, so I would still hold to that statement that that would not be considered a safe point of discharge.

Going up and out to the atmosphere, yes. If it goes up and out, you're required to have a drip pan out or some means to be about to get rid of the condensate and so forth.

But my own opinion is my opinion because it is safe point of discharge, which is somewhat interpretive, but understand the legal implications of if a relief valve discharges by a piece of equipment that you've manufactured, that you assume those liabilities that go along with that.

MR. AVERELL: Understood. Thank you.

MS. LaFRANCE: Any other comments on this?

(No verbal response.)

MS. LaFRANCE: Okay. I just wanted to show what this looks like from photographs. I actually took these photos in our RCSC from the front of the unit.

It took me about 10 seconds to take off the top panel of the sterilizer. And I wanted to show that, you know, it's visible. I actually shot this with my cell phone. I just held my cell phone above, from the front of the machine, and took these photos so you can actually see the entire length of the piping. You can see the bottom of the piping.

And to the right, I also took a quick picture of the generator exhaust piping. You can see the generator underneath there. It's wrapped in insulation, in the metal foil.

MR. BAUGHMAN: Again, this is Dave Baughman.

MS. LaFRANCE: Yes.

MR. BAUGHMAN: Going back to that picture, that is not going to be indicative of what you're looking to or to keep manufacturing a status quo, being that that relief valve piping discharge is not supported, you're talking about bracketing it.

MS. LaFRANCE: Correct.

MR. BAUGHMAN: But bracketing it and supporting the weight are two different entities. And that relief valve discharge piping,

the weight of that piping, albeit lowered with copper, the discharge piping itself must be supported, not just bracketed, to keep anything from straining.

So from what I see, those are brackets on the side which are lacking -- as long as those brackets -- to me, a bracket keeps anything from moving laterally, but it doesn't give pipe support.

So if those brackets were from a support standpoint, i.e., attached to that pipe to give support, then that would be one thing. But if it's just there to keep the pipe from moving laterally, then something else would need to be addressed.

And on that next picture, you're showing the discharge piping from above, looking down. And, of course, the brackets aren't there, but the piping is not supported either.

MR. AVERELL: Yeah. And this is in our customer service center. So the -- what we're proposing, I just took a note that it's not just bracket. We should maybe change that to support.

MR. CHIFFON: Well, the brackets will support.

MR. AVERELL: Okay.

MR. CHIFFON: They will be attached to the piping. It won't just stop the piping from moving; it will physically retain.

MR. AVERELL: Okay. great.

MR. BAUGHMAN: Very good. Thank you again.

MS. LaFRANCE: So Item Number 3 was that we needed to have writing on the sight glass to indicate that it's heavy-wall glass.

We did go back to our supply of sight glasses and we noted that it is printed with Duran heavy-wall gauge glass.

We understand that you probably didn't see the writing out in the field. Our engineer kind of rubbed on that printing, and it can come off. We can't etch the glass because it makes it weak, and it's very -- you know, this is the most delicate part of the sterilizer.

So it is provided with the paperwork that you see underneath so that we can tell that it's heavy-gauged -- heavy-wall glass.

MR. BAUGHMAN: Going back one picture, before we get to the glass, I know we just went past the -- or maybe the relief valve is

coming forward. I know we just briefly saw a picture of the relief valve tag and I was interested in looking at that.

MS. LaFRANCE: Oh, okay. Yes.

MR. BAUGHMAN: And it may be past the glass. I don't know.

MS. LaFRANCE: Yeah, it is past it.

MR. BAUGHMAN: Okay. So we'll address the glass. Very good. We'll go back to the glass.

MS. LaFRANCE: Okay.

MR. BAUGHMAN: So when we were at the facility the other day, we looked at the glass. I've got examples of heavy-wall, both what does not have the writing on it, which we witnessed at the site, versus what is on the glass itself. And on a glass, I believe this unit itself has a six-inch glass?

MR. AVERELL: Yes.

MR. BAUGHMAN: Okay. So within that six inches, there's going to be quite a bit of writing that's on there. But it's got Duran. It's got the gauge glass serial number and so forth. We use broad examples. But what was on there was a clear glass.

And when we looked at this particular facility, one item stood out was that with the clear glass, we couldn't tell if the unit was empty or full. I was hoping it was full, which it was, but the sight-glass valves were closed. And that will lead into some other things that we're going to talk about within your checks of the water level and so forth.

Being that you can't see the water level in this boiler without disassembling or taking the front of the unit to have access to the boiler itself -- in other words, it's behind the panel of the sterilizer. So you have no idea.

Somebody physically either closed the sight-glass valves, which also at that time made the steam gauge no longer operable because it was attached to the bottom of the sight-glass valves.

But we noted that, for one, it's a clear glass. Nothing mandates that you've got to have a red line, although the red line gives you a better indication, especially from a distance, to be able to see what the water level is.

But the glass itself -- and I understand that in the paperwork that I saw, the documentation was there as far as what we supply

and what comes with the unit itself.

Those are purchasing documentations. I believe that letter stated that that was back in March or some point that that was produced. But we've seen that before, that what's supplied and bought and what actually gets put on can be two different things. That goes back to quality control and making sure that what goes on the unit is proper.

A sight glass is one item that the pressure inside of that sight glass is the same as what's in the boiler. And so it's critical that all these components match up. And so all I had to go by with this comment through the previous meeting and in the minutes was that the unit itself did not have the writing. Although you can, you know, physically -- but it takes quite a bit to take the writing off of one of these particular sight glass.

So I had multiple issues concerning the sight glass at that particular installation. Where you're moving forward, I think is great. But we definitely had some concerns and that's why the mention was in the previous minutes and how you addressed it there.

But there again, it's one of the things that you don't want to beat it too hard, but that sight glass is one thing that can cause injury, and it's an item that should be checked during the operation of the unit itself. And we don't have the availability to do it the way it's constructed presently, so...

MR. BOWERS: Harold Bowers.

You know, in defense of STERIS, you know, all they do is manufacture it and sell it. As far as the operation of the STERIS unit, that's up to the vendor -- I mean up to the buyer to make sure that the sight glass is right and the valves are open like they're supposed to be. So I just want to make that comment.

But in Dave's defense, yes, the sight glass needs to be where it can be looked at and the gauge checked.

MR. BAUGHMAN: I looked for a code reference under Section 1, Power Boilers, to see what the reference was for being able to look at the water level of the boiler. As it states in the present, I think we're looking at it once every four -- four times a year?

MR. AVERELL: Yes. And whenever

there's a service call, that's part of the inspection. It's not just, oh, this was leaking; I fixed it. It's to run the cycles, do test cycles on the unit to check the overall operation, leaks, all that kind of stuff every time there is a service call on it.

MR. BAUGHMAN: And those service calls are basically, again, four times a year, or there's -- there's specific service that --

MR. AVERELL: That's the preventative maintenance checklist that we have that we go through four times a year. But if there's a service call -- if the customer says, "My door doesn't go up or down," or any other issue that they have with the unit, then the whole unit is checked over.

MR. BAUGHMAN: Got you. But that may not happen, or it may happen once a year. You may have one service call, two service calls, multiples, or you may not have any.

And so my concern is, is that we're operating a high-pressure power boiler without the ability to check the water level in the unit itself without disassembling the front of the unit.

And again, I haven't looked at the code reference. I've got brothers in the industry that have the codes available. But if I'm not mistaken, there's a code reference to being able to verify visually what the water level is in the boiler itself without having to disassemble the unit.

MS. LaFRANCE: Well, you really don't have to disassemble the unit. All you have to do is take off the front panel. It lifts right off. I took it off to take those pictures by myself, and then I put it back on. So it's easy to remove, but the sight glass is right in front where you can see it. We purposefully put it there so that it would be easy to view.

MR. BAUGHMAN: I understand. Thank you.

MS. LaFRANCE: Any other questions on the sight glass?

MR. HENCHERICK: Phil Hencherick, FM Global.

I've seen other small steam generators. Sometimes they cut an access port on the casing so you can see the sight glass. You do see that in the field.

I've seen your units before, stainless steel cabinets, enclosed. And I'm just saying I've seen other applications for steamers where they'll sit there and they'll have a little access port cut so you can see the sight glass.

MS. LaFRANCE: Thank you.

For Item 4, we had, "The safety valve set value and capacity data are difficult to read."

We get the safety valves from the supplier this way. It's my understanding that it's required that the information is embossed on the label. And again, I took these pictures with my cell phone on Monday, so I think, you know, the information is pretty clear in these photos. We have both the sterilizer, the jacket, and the generator valve labels there.

CHIEF O'GUIN: I have a question.

MS. LaFRANCE: Yes?

CHIEF O'GUIN: Chris O'Guin, Chief Inspector.

Were these pictures taken from the front of the unit --

MS. LaFRANCE: Yes.

CHIEF O'GUIN: -- with front

inspection access only?

MS. LaFRANCE: I did it myself. I went in Monday night and I took the panel off the front of the sterilizer and I just shot these with my cell phone. So the visual aids really help.

MR. BAUGHMAN: I've got a question.

MS. LaFRANCE: Yes.

MR. BAUGHMAN: Again, Dave Baughman.

And I know we addressed this and it was talked about in the minutes, but you're showing a cap in the weep discharge, which is not allowed. And so I wanted to make sure that we address this.

And I know that even yourself had said, "Yeah, I've never really seen this before." But I wanted to make sure that it was part of the quality control that that particular cap -- and after our meeting, I went back and looked in our inventory to see if we had any. There weren't.

And so I inquired back to Conbraco, the manufacturer of your relief valves, to ask if they supply any kind of aperture in the weep hole and they said no. So being that, that had to come from somewhere for some reason.

And that's also a point of discharge that when that relief valve should discharge, you can get discharge out of that weep hole. So I wanted to know, moving forward, how you're going to attend to that weep hole in both its piping of it, because it's got to be, also, to a safe point of discharge.

MS. LaFRANCE: Well, I don't think we see these in the field.

MR. AVERELL: Yeah. I'm surprised that there's that red cap in there, because I've put on safety valves a lot and have never had it. If it was there, maybe it's for shipping or something like that, but I don't know.

Maybe we can put something in our instructions to make sure to remove the red cap to have that installed there. Because I don't -- just when I looked up there, I was, like, the ones on the left, I'm like, no, that's part of the safety relief part of it. And I'm like, oh, yeah, I see the red cap now. And I'm like, why is that there. So yeah, I don't -- I don't know. I don't have that answer, and I've just got a -- took a note, "red cap."

MS. LaFRANCE: This is a proto-type

machine, too. This is the very first one. And we often use these machines in our visitor center because, you know, quite frankly, the customer doesn't really care about the piping the way --

MR. BAUGHMAN: Well, the customer doesn't know what they don't know.

MS. LaFRANCE: Right.

MR. BAUGHMAN: We're here charged with safety.

MS. LaFRANCE: Yes.

MR. BAUGHMAN: And that's why this is before the Board. We're looking at pictures of a prototype --

MS. LaFRANCE: Right.

MR. BAUGHMAN: -- and being asked to give a blanket exemption on prototype pictures and --

MS. LaFRANCE: Right.

MR. BAUGHMAN: -- things that we're looking at changing and having develop. And that's why we're going through this process. But I still need to know how that would be attended to, where that safe point of discharge is at, what's the test procedure.

In the manual, in going through the

maintenance manual, I was looking for the test procedure of how you test the relief valves.

MR. AVERELL: We don't. We replace them every year.

MR. BAUGHMAN: You replace them every year?

MR. AVERELL: Because we have found that sometimes if you test them, they don't properly reseat. Rather than get into that situation, it's just in our maintenance procedure to replace them every single year.

MR. BAUGHMAN: Very good. So you have the serial numbers recorded to know when that date of manufacture or date -- it's within your --

MR. AVERELL: Yeah. It's part of the sterilizer. When the sterilizer is due for the inspection, every year it comes up there are certain steps that have to be taken, and one of them is to replace the safety valve.

So we have the issue, especially with the ones on the little mini generator that we have underneath the units. It's like if you pull this and it releases, then I'm going to replace it. So we just said we're just going to replace them every year.

MR. BAUGHMAN: Well, that's great. We found that most people don't know how to test the relief valve. And it's lack of training and education within the marketplace as far as to know the proper procedure and what pressure you can relieve them at and so forth.

MR. AVERELL: Okay. So yeah, we were, like -- we don't want to get into that, so part of it, when we're doing the boiler inspections every year with the technicians, it's just we have the unit shut off either the night before so it's cool, then we do our inspection and our work on it, and then we just replace the safety valve and fire everything back up and then run test cycles.

MR. BAUGHMAN: Very good. The safety valve on the very right-hand side, there at about the, oh, 8:00 to 9:00 position maybe, at the bottom. Right on down a little bit on the valve itself, right up to your -- up, over to the left. Right there. Nope. Right there. That little scarring.

MR. AVERELL: Casting mark?

MR. BAUGHMAN: Casting mark. Okay. Well, and so --

MR. AVERELL: Without actually seeing the actual valve itself, that's what I would say.

MR. BAUGHMAN: Okay. So that leads to my question on the training for service personnel and so forth is, are they trained to know where they can put a wrench on a relief valve? Because there is one place and one place only that they're allowed to put a wrench.

MR. AVERELL: On the landing.

MR. BAUGHMAN: Yes, sir, on the flat surfaces. So if, in fact, that was a wrench mark, pipe valve and so forth --

MR. AVERELL: We have other questions for our technicians to ask, why are you using the improper tool on them?

MR. BAUGHMAN: Yes. Very good. Thank you.

MR. AVERELL: Thank you.

CHAIRMAN MORELOCK: Yeah. That was a question I had that you've answered, is I agree we can see the nameplate just fine, but I don't see the tag where it was either pressure-tested or repaired and sealed. And so you answered that question by if you're going to replace the valve

and not --

MR. AVERELL: Or even if they're out there for a regular inspection or just even a service call or something else and they see it weeping out of the weep hole, replace it. We don't even -- we don't want to mess around. You know, because invariably it will happen on a Saturday when no one is around, so we just replace it.

MR. BAUGHMAN: Being that this is on the front of the unit and you said you pulled the front off and you got in with your cell phone, was this unit in operation or was it static when you looked at it?

MS. LaFRANCE: It's static.

MR. BAUGHMAN: Static. So my question being is that these units would go through possible inspection during operation.

What kind of temperatures, what -- in other words what I'm looking at is the burn factor. If somebody has got to stick their arm in to take a cell phone picture and it comes out blurry, they come back, delete it, put it back in, comes back --

This whole process of going back and

forth, and I'm thinking of brother Harold and our new inspector coming in with FM, of being able to have accessibility to reading this without having to take an aperture such as a cell phone camera and taking a picture of it, does that meet the letter of the code of what we're looking at?

And I don't know. I ask the question because presently -- and I don't know how our code is worded. And so I defer that, but my question being is I know that if I was somebody, even a serviceman going in and wanting to see the data and I've left my cell phone in the car -- there's certain places that we don't bring our cell phones into -- I don't want to have to rely on my cell phone to go in and try to take a picture to give you that information personally.

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

I've probably got more burns on sterilizers in the last 20 years than anything else. But we do use mirrors and we use selfie-sticks, you know, to get to those hard-to-get-to places. That's part of the trade. You just learn how to do it. And you get burned, you know.

But the sterilizers, you're in a close, confined space and you're around a lot of hot pipes and you get burned a few times and you learn. You know, it's like, oh, you go a little easier next time and say, hey, I'm going to buy that selfie-stick. That selfie-stick works a lot better. It's just part of the trade as to how you do it.

MR. AVERELL: And we also have our -- our technicians all have burn sleeves that they go from the middle of the hand up and over the elbow. So invariably you'll get burned right where the shirt is and the sleeve stops. But that's -- you do have -- we do have burn sleeves. All the technicians have them and they're full length, so they can reach in and -- just that momentary right there and take the picture of it. So that's part of their basic PPE equipment, is to have burn sleeves with the gloves and safety glasses.

MR. BAUGHMAN: So would, therefore, then the inspector, just to keep the inspectors from being burned -- you know, we all don't like to say things that we shouldn't when we get burned or shocked. But would it be appropriate, then, at

the time that we need this looked at, to alleviate any possibility of burns, of being able to ask any personnel on site to look at it for us?

MR. AVERELL: Yeah. I mean, in many different states, some states, the inspector will say, "Hey, I'm showing up Tuesday to look at this account," and we make our technicians -- and they show up and work together.

In some states, I've had people just say, "Oh, yeah. We looked at the boiler for you."

I'm like, "When were you there?" So yeah. And if you want to use some of our burn equipment, I've given burn sleeves to some of our installers and said, "Here. Use these. Do not get burnt."

MR. BAUGHMAN: Very good. That makes sense. Thank you.

CHIEF O'GUIN: Chris O'Guin, Chief Inspector.

We do not schedule an external inspection on high-pressure boilers. We go in unannounced. That way we can do all the control checks. With that, you know, if there's an issue, you know, we're going to find it instead of somebody getting there before us and fixing these

issues. We can tell how they're being attended to on a normal basis that way.

And I had one question. The relief piping on this, can I see it from a front-only access? Not from a side picture. I mean, front access only.

MS. LaFRANCE: Yes. I took a picture of it from the front.

MR. CHIFFON: All these were from front access.

CHIEF O'GUIN: Okay. That's what I was wondering. Thank you.

MS. LaFRANCE: Yes. And I want to add, too, that I actually zoomed in. I didn't get too close to these. So I zoomed in and then inserted these photos. So I didn't get too close, to take the pictures.

MR. BAUGHMAN: Do you have a photo that's back, not up close but actually back from the unit that would show the panel off and where the location of those valves are?

MS. LaFRANCE: Not in this particular presentation, but I can supply you with one.

MR. BAUGHMAN: I would be

interested in that.

MS. LaFRANCE: Okay.

MR. BOWERS: You actually showed one from your front view.

MR. AVERELL: Beginning with the generator panel?

MR. BOWERS: Yes.

MR. AVERELL: That would at least show that.

MS. LaFRANCE: Shall I go back?

MR. BOWERS: Yes. It showed where the safety valves are at. It's on the right side and -- I noticed when me and Chris had gone out there, it was pretty tight to get the cell phone in there. It was a little tight. But it's on the right side, and you can --

MR. AVERELL: There's a picture. So as you can see, this is the actual sterilizer, and this is the access they would have. So this panel is the one that would come off. It's got two little locks. It pulls off here.

So the control box, the sight glass, the safety valve is back there. As you can see, we have the access here. But this is for the relief valve for the generator.

MR. BAUGHMAN: Where is the relief valve for the unfired vessel?

MR. AVERELL: Up top. It's another panel up top.

MR. BAUGHMAN: Very good.

MR. AVERELL: I don't know that we have a picture of that.

MS. LaFRANCE: You can kind of see it in this computer model where the relief valves are attached to the exhaust piping. We can provide a photo of that as well.

So moving on to Item 7, that we need to match the units on safety valves to the pressure vessel capacity units. Currently, the sterilizer vessel is kilopascals, and the safety valve is in psig.

We researched this question and it has quite an interesting story behind it and a logical explanation. We actually are a worldwide supplier of sterilizers, and we have a factory in Europe, in Finland, that builds the AMSCO 600 for that market.

We initially released this chamber and door design in Europe. And in Europe, they like kilopascals. They did all the analysis in

kilopascals. And then when we designed -- when we did the design transfer to our North American plant, all those calculations came over in kilopascals, and our authorized inspector in our North American plant said, "You must have the label match what the calculations are done in," and that was kilopascals.

In Europe, they favor steam to steam generators. And in the U.S., electric generators. So we actually developed an electric generator over here in North America. And, of course, we like psig in North America, so the generator was labeled in psig.

So there is a logical explanation for why it is the way it is, but we realized that it's not convenient to do the conversion in the field from kilopascals to psig, and we're going to actually change the way our calculations are reported so we can label everything in psig.

MR. BAUGHMAN: So presently, is your manufacturer's data report showing both present day, the design of the vessel itself in kilopascals and any of your externals under your P-7 or on your addendum for the relief valve showing in psig? And is there ever a time when

it's kilopascals on the relief valve and -- and what I'm getting at is I just don't know where the inconsistencies are at.

I like the direction that you're heading where it will all be in U.S. designations instead of the metrics. But when is that going to take place?

MS. LaFRANCE: As we speak, it is being changed.

MR. CHIFFON: They're updating the analysis right now, so...

The analysis of the unfired vessel will now be done in psig, and then the data plate for that will be in psig. And then that will align with the relief valves on the chamber that are in psig. And they will remain in psig.

MR. BAUGHMAN: Does all of your manufacturing of these vessels come from the States, North America -- I say "the States," but you mentioned North America.

MS. LaFRANCE: Yes.

MR. BAUGHMAN: We don't bring anything in from overseas?

MS. LaFRANCE: We do not. Everything is done in North America.

MR. BAUGHMAN: Very good. Where in North America?

MS. LaFRANCE: In Monterey.

MR. BAUGHMAN: Very good. Thank you.

CHAIRMAN MORELOCK: So the email we received, it made a statement that there wasn't clear code guidance on unit of measure. And so just for the record, it's in the NBIC. It's also in Part HG102 for Section 1. It's also on PG-4 on Section 4. And it's U-4 for ASME Section VIII Division 1.

And all of them basically say a single system unit shall be used for all aspects of the design. And, of course, there's always an exception, but what you're doing here will satisfy that.

MS. LaFRANCE: Right.

CHAIRMAN MORELOCK: So thank you very much for clarifying that.

MS. LaFRANCE: Well, thanks for bringing it to our attention.

Any other questions on this item?

(No verbal response.)

MS. LaFRANCE: For Item Number 10,

the inspection interval for steam gauge and water level in the operator manual is one time per year. Our reference to the code showed, from NBIC 370, that power boilers and high-pressure/ high-temperature water boilers, one annual internal and external inspection.

And Dean already alluded to some of these facts, that we actually check the generator four times a year and more if we happen to be in the account. And that's what's currently stated in our interval-based checklist, four times per year for all the items that you see listed on the page here.

Any questions?

MR. BAUGHMAN: Yes. The unit that we looked at, Mr. O'Guin and Mr. Bowers, do you remember what the age of that unit was, how long it had been there?

CHIEF O'GUIN: It was newly installed, within a 60-day time frame.

MR. BAUGHMAN: Newly installed. So it would have gone through a start-up by STERIS, I would assume, at that time.

So I still come back to the water level being that those gauge valves were in the

closed position. And so that's somewhat of my concern. Not to hammer on the water level, but it's so critical to this process that I think it's worthy of further review and investigation by STERIS to come up with a protocol on how to check water level.

MS. LaFRANCE: Right.

MR. BAUGHMAN: Our brother from FM made note of a hole in the panel to be able to view the water level and whatever the situation may be. But as it stands now, one time a year for service intervals or what have you, I think we all concur that that's lacking.

MS. LaFRANCE: Correct.

MR. BAUGHMAN: At any rate, that was just a comment.

MS. LaFRANCE: Yeah. And we also have the float within the generator, the float sensor. It's a stainless generator and it has a sensor which, you know, transmits a signal to the control which will tell us --

MR. AVERELL: If it gets over-filled, it shuts off the pump. Because if it didn't shut off the pump, it would just keep filling with water and then there would be water

off the safety valves.

MR. BAUGHMAN: I'm a little confused because you mentioned float.

MR. AVERELL: There is a -- inside the generator -- well, you've seen the sight glass, and this is part of -- when we started building our own generators, we used to get them from PROPYLUX. And the way they had their floats and probes for water level and heater turn on and off and overflow and under -- under water -- or I'm sorry -- a low-water level. But they had those different -- their sight glass would show it at half full; whereas, when we put ours in, the way we position the float, the sight glass is a lot fuller. So you would have that unit -- it has a shutoff that tells us when to turn the heater on, and if there is a condition where the water level is too high, it will also shut off.

MR. BAUGHMAN: Is this an internal float?

MR. AVERELL: It's a float that you can replace. It's replaceable.

MR. BAUGHMAN: But my question being, is it an internal float?

MR. AVERELL: Yes. Inside the

chamber of the -- the steam chamber of the generator, yes.

MR. BAUGHMAN: Interesting.

MS. LaFRANCE: My point is it's redundant. It's another method of measuring the level of the water.

MR. BAUGHMAN: Okay. So redundant being you've got a float and you've got -- what's the other?

MS. LaFRANCE: A sight glass.

MR. AVERELL: The visual sight glass and then the float is the electronic control or the electric control of turning on the feedwater pump or turning off -- turning on the heaters. Or if there's a low-water situation, it shuts off the heaters and the pump, or it will turn off the pump also when it's overfilled.

MR. BAUGHMAN: So the sight glass is not a means of controlling the water.

MR. AVERELL: No.

MS. LaFRANCE: No.

MR. BAUGHMAN: It's a means of looking at it.

MR. AVERELL: It's a visual --

MR. BAUGHMAN: You said it's a

redundant means of control, but it's not. It's just a visual representation of what's in the boiler itself. So all we've got is a float that's internal to the unit itself.

MR. AVERELL: And then if any of the conditions that aren't met, then the unit alarms and shuts off the power.

MR. BAUGHMAN: Thank you.

MR. BOWERS: This is Harold Bowers. I have a question.

MS. LaFRANCE: Yes?

MR. BOWERS: Is there any level indicater or pressure indicater on the controls on the front of the boiler as far as if you have a low-water condition, it shuts the boiler off?

MR. AVERELL: Are you looking for like if there's a light?

MR. BOWERS: If there's a light --

MR. AVERELL: No. The control -- it has a water level control board in there, so when the float senses the water is too low, say the water supply, whatever, there's an interruption of water supply, when it's too low, the pump would run for a certain amount of time and then shut off.

MR. BOWERS: But there would be an alarm?

MR. AVERELL: Yeah. It would be an alarm on the actual control of the sterilizer. The basic alarm that would show up is too long to charge a jacket. So that's the indication that your steam supply, there's an issue with it.

MR. BOWERS: So it wouldn't tell you exactly; it's just a low-water indicator.

MR. AVERELL: There is an alarm. We have a series of alarms for the generator, too. It's a big list of alarms that the generator will go and give off, too, that we use for --

MR. BOWERS: Would that be an indicator for high pressure on the panel?

MR. AVERELL: No.

MR. BOWERS: Okay.

MR. AVERELL: But just the alarm would be, like, you know, low water or -- then you would have the visual indication. As soon as you get the alarm of anything like that that's a safety issue, then you would stop. You can't use it anymore. The end user could not use it.

Even if they cleared the alarm, they could not use it. Or if they were somehow able to

get into our supervisor mode or something like that, the alarm would reoccur and stop it again.

MR. BOWERS: Thank you.

MS. LaFRANCE: Okay. So moving on to Item 11: No manufacturer's data report for the particular vessel itself was available.

I think we kind of addressed this at the last meeting in that we said that all the documents get shipped with the sterilizer in a binder and they're given to the customer. So if we need to have that documentation, all we have to normally do is ask the supervisor of the department for it, and they should have it on hand.

CHAIRMAN MORELOCK: So quick question: Are these units registered with the National Board?

MR. AVERELL: They all have National -- the generators have National Board numbers.

CHAIRMAN MORELOCK: Okay. So if they've got National Board numbers, then the National Board has that documentation.

MR. AVERELL: Yeah. Occasionally, we'll have people who buy from the facility

closest down if they don't have it. They bought this generator and they're, like, can you give us the paperwork.

CHAIRMAN MORELOCK: So your response on that would be if all your units are registered with the National Board, then the owner/user, inspection agency, repair agency should contact the National Board and get that data report.

MR. AVERELL: Generally, they contact us because our name is on the front of the unit. But yeah, we get -- we've taken many requests to find that information for people.

CHAIRMAN MORELOCK: Okay. Thank you.

MR. AVERELL: Absolutely.

MR. BAUGHMAN: I'll comment to that, because on page 28 of the minutes from the -- excuse me. It's referred to on page 28, the reference in this meeting, but it's actually on page 29. It was addressed through Mr. Andrusky.

"Those documents are shipped with the equipment and given to the customer. I don't know in that case whether we inquired from the customer

of whether they're available or not. STERIS doesn't keep them."

And so even though STERIS is the manufacturer of the units, as you state, you're not keeping the manufacturer's data reports?

MR. CHIFFON: That doesn't sound right.

MS. LaFRANCE: I think what he was saying is we don't keep the documents that are sent with the sterilizer. We give them to the customer. That's what Roger was referring to.

CHAIRMAN MORELOCK: You do have records --

MR. CHIFFON: We would have records of that.

MS. LaFRANCE: We have a device history record in the factory that has everything about every device that we've ever shipped.

MR. BAUGHMAN: And I appreciate that, because that's -- that's why I was going back through and --

MS. LaFRANCE: No. We definitely have records but we give the customer a copy.

MR. BAUGHMAN: Very good. Well, in the way the minutes read through the court

reporting, which does a fantastic job, "STERIS doesn't keep them" was highlighted in my notes, so --

MR. AVERELL: Oh yeah, we have them.

MR. BAUGHMAN: -- I wanted to clarify that.

MR. AVERELL: Yeah.

MR. BAUGHMAN: So for the record, STERIS does keep them.

MR. AVERELL: We do keep the records and we do provide a copy of the record to the customer.

MR. BAUGHMAN: Very good. And being National Board, they registered there with the National Board also, both not only on the generator but the unfired vessel is also National Board registered?

MR. CHIFFON: Yes.

MR. BAUGHMAN: Very good. Thank you.

MS. LaFRANCE: Any other questions on Number 11?

(No verbal response.)

MS. LaFRANCE: Okay. For Item 12

we had the right side of the generator vessel is not visible for inspection for leaks.

This is a stainless vessel. This is kind of new for us in the United States. We've seen increased demand for clean steam versus -- which uses RODI water as the feedwater.

Clean steam helps customers keep their chambers cleaner. You know, we see degradation of water quality all over the United States, so we're seeing an increased demand for our clean steam in Europe. They use clean steam almost exclusively.

So we are now beginning to supply sterilizers with stainless generators versus the carbon steel that we used to. You know, those would corrode. The stainless generator is not going to corrode like the carbon steel would.

And as you can see from the right, we can see the right side of the generator. It is covered with insulation as is our chamber itself. It's covered with insulation.

So I think that any indication for leaks, I don't -- Dean, maybe you can comment on how we find leaks in our system in the field.

MR. AVERELL: Generally, if there's

a leak, I would have to say most of the time, it's coming from the sight glass. It's the sight glass or it's some of the piping that's almost exclusively on the left-hand side in the center where that tape-measure technician person is there.

On the right side, the only thing there is the safety valve. It's discharged and you only should be able to see -- it's kind of hard because it's dark in this picture. But the only other things are all visible on the top of the generator like the feedwater line. There's nothing purposefully -- we don't put anything over here because of that.

Now, if there was a leak discovered and the technician could not figure out where it was from, yes, then we're pulling the generator.

And that's what we ended up doing on the ones that you guys went out and the sight valves were shut off and everything like that; we said, you know, let's not even mess around with this. Let's replace these generators. And that's what we did. We replaced those generators on those units. We're just, like, not even going to screw around. Let's just replace them. Whether

they were leaking or not, it doesn't matter. Let's replace them.

MR. BAUGHMAN: So you replaced the sight glass valve, not the generator itself.

MR. AVERELL: No. The whole generator.

MR. BAUGHMAN: You replaced the whole generator?

MR. AVERELL: Yes. Everything that is with the generator, the piping, the electrical, sight glasses, the vacuum pump -- or, I mean, the feedwater pump, everything, just pulled it out.

MR. BAUGHMAN: On that new one that we went out and looked at?

MR. AVERELL: Yes. That's the one. Yep. That was the resolution, because we --

MR. BAUGHMAN: Interesting.

MR. AVERELL: We just decided that it's -- it would be better because it's a new customer. You guys had pointed out these things. There was some discussion about where the leak was or wasn't, so we're like, let's not even screw around. And that's the way STERIS does things. We just take it out.

MR. BAUGHMAN: Would that not have

to -- and I defer this to Mr. O'Guin. Would that not then need an application for installation to be approved?

CHIEF O'GUIN: Yes, sir.

MR. BAUGHMAN: Okay. And just for the protocol of that within the State of Tennessee, when you're replacing the unit, I understand that that was the easiest and most -- and really, from a customer satisfaction standpoint of saying hey, we're taking care of this for you, but the protocol is there to go --

MR. AVERELL: And I don't know that we do that, honestly. I don't know that we needed to ask -- you know, say hey, we're replacing this generator, what's the steps. Because we deal with 15 different states, and sometimes we've been caught off guard as to what all the rules are.

So that's why we're here, is because we want to make this right for you guys so that we can have experience when we talk to people elsewhere as to what it can be.

And we're -- we've actually had -- started to have people now that their job is, like, if you're going to make this, you better check all the codes in all the states.

MR. BAUGHMAN: Well, and that's what we should do as manufacturer/suppliers. We're charged with doing that. It's our responsibility not to do it on the back end but on the front end.

MR. AVERELL: Yep.

MR. BAUGHMAN: So one of the things with clean steam, and I've seen this on sterilizer units, is that the unit can be stainless and then it's piped in in carbon steel. And then you have the issues of still not having clean steam because of the acid that's formed and the degradation of the piping and the iron and so forth, getting back to the unit itself, as far as the -- where the utensils are being sterilized at. I see that in a lot of installations.

MR. AVERELL: And we're finding now that a lot of these surgery centers are not used to providing this clean water. So we're also helping them understand that you don't just put in the water system and hey, we're all done. You have to have somebody service it and take care of it. So we're working to educate our customers to help them help us so the equipment will last. If you're using good quality water and stainless on

the unit, it's going to last a lot longer and be more reliable.

MR. BAUGHMAN: Well, the unit does. The piping external of the unit is where there's issues that come up if that is carbon steel going from the sterilizer out, because you're not treating to offset the acid that's formed, and you still have issues along the way external of the sterilizer itself. So we just find a lot of issues within the industry.

But, I guess, part of what I look at is when there's a leak, of being able to identify a leak -- and I know I'm speaking with some of my colleagues -- there's been some conflict in, is this condensation, is this a leak, being able to take the insulation off to identify if there's a leak in the pressure vessel itself and so forth.

And so that's something just as we move forward, is looking at the accessibility to identify where a leak is at.

I know we've mentioned sight glass is the most prevalent area of a leak. And those have unit end washers typically that come with them which have a rating of about 185 F.

So that's a constant tightening

process on the sight glass valves. But that's kind of minor compared to if we've got a vessel leak itself.

Where these electrodes go within the unit itself, is there a flange gasket? I take it there's a flange. So that's an area that's a possible leakage also.

MR. AVERELL: And that's why we inspect them four times a year. To do it once a year is good, but, I mean, we want to be safe. We want the equipment to be up and useable for the customer. That's why four times a year, to us, is where we set our inspection standard.

Now, if we notice that somebody -- and this is just outside of these units. If someone has a carbon steel generator and they have really horrible water, then maybe we do inspections six times a year, that kind of thing. It does get site specific at times.

CHAIRMAN MORELOCK: Let me break in here for just a minute. It's basically 10 after 11:00. We've been going for over two hours. The court reporter needs a break. I know everybody else needs a break.

I need to talk to STERIS and

A.O. Smith because we will have to adjourn this meeting no later than 1:30, and I want to make sure I give everybody a fair time to present their items. And I will do everything possible to make that happen between now and 1:30.

But let's take a ten-minute break and we'll reconvene at 11:20, and we'll see what our path forward is.

(Recess observed.)

CHAIRMAN MORELOCK: We'll give the floor back to STERIS so they can wrap up their presentation.

MS. LaFRANCE: Okay. Thank you very much. Our last item is Item Number 13: How is the unit blown down and how are the operating pressure, high-pressure limit, and the back-up for it and any low-water cutoff apertures, how are they accomplished?

And I'm going to let Dean speak to this because he's much more familiar with this aspect.

MR. AVERELL: So, of course, code is you can't put anything over 140 down the drain, so they're not done at high pressure. To do any of the work on the unit, the unit is shut off,

it's cooled down, and then they're able to do work on it.

Now, if the customer wants to do a flush on it, we do have built into the unit an automatic flush-and-drain system. There's temperature and pressure devices on the generator so that in the control, the unit shuts off, and when it reaches below 140 and below 5 pounds of pressure in the generator, it will flush. Usually, that's done overnight.

It's more for those accounts that have carbon steel generators. They are -- we are putting them on the stainless steel generators because, as we know, clean water isn't always clean. So there's always going to be some bit of particulars in there. So those are --

At this point, the new units that are coming out, the customer has to actually deselect the flush-and-drain option. It's not even a choice anymore. And we're working with other customers to retrofit the other ones so that they have flush-and-drain kits.

As far as test procedures, we are developing -- most of it is the high and low pressure switches. The technician will put an

electronic meter on the switch, watch the gauge as it goes up. When it trips, they'll be able to visually tell and also with the calibrated instrument to see what pressure it's tripping out at or set at so they can adjust it.

A lot of it is done just by operation of the sterilizer or the generator. You can see when it -- on the gauge when it comes up to 70 pounds, the two heaters cut out and the residual latent heat drifts it up to 80.

Now, there's a high-pressure switch on it also that will cut it out if for some reason the generator just started to overheat or there was something wrong and it reached a pressure of 100 pounds. Not only would the safety relief valve blow off and scare the hell out of everyone, it would also cut the power off to the generator.

MR. BAUGHMAN: Yes. I would like to address a question or two.

MR. AVERELL: Sure. I would expect nothing less, sir.

MR. BAUGHMAN: Is the -- when the high limit -- if the high limit is actuated, if the operator doesn't shut it off, I take it it's got the back-up high limit. If the high limit

trips, does that go into a manual reset mode, or is that automatically reset?

MR. AVERELL: Manual reset.

MR. BAUGHMAN: And where is that, on the switch itself or is that --

MR. AVERELL: On that switch itself, it says "manual reset" and it has a white button. You would have to pull the panel off. The unit would go into an alarm. You couldn't use the unit anymore.

In addition, with that safety relief valve going off, we would get a call. There's no doubt about that.

MR. BAUGHMAN: Sure. So the high limit should be set at least below where the relief valve set point would be.

MR. AVERELL: Yes. It's set at -- I believe it's set at 90.

MR. BAUGHMAN: Very good. The low-water cutoff, does it actuate a manual reset?

MR. AVERELL: If the low water -- if the water level drops below, what happens is that it will look for a certain time, in the software, of how long, because maybe there's just a slight -- there's not just a pressure but a flow

of water that's not being met.

And if it doesn't reach it in a certain fill time for the generator to fill, then it will cut off and there would be an alarm.

MR. BAUGHMAN: Okay. But --

MR. AVERELL: It will say too long to fill generator or something along that line.

MR. BAUGHMAN: Sure. But there is no actual -- other than the alarm, there is no manual reset of a low-water relay or aperture itself.

MR. AVERELL: No. No.

MR. BAUGHMAN: Okay. You mentioned the -- on the flush and drain, that there's an option that you can disable that; is that correct? Did I hear that right? You can deselect the flush and drain --

MR. AVERELL: Oh, that's when the customer orders the equipment. When they have an order for it, we used to have a point where you can select flush and drain. Now we say no, you have to deselect it. Otherwise, you're getting it.

MR. BAUGHMAN: Okay.

MR. AVERELL: Because we realized

that if it's important enough for this -- if it's clean water or regular water, these generators have to be flushed so that it's an actual option when they're buying the generator --

MR. BAUGHMAN: So -- and I'm sorry. I didn't mean to step on you there. So we do have the option, though, of deselecting that to where they won't necessarily get the automatic flush-and-drain feature, correct?

MR. AVERELL: That's correct. That's a customer's choice. But we've had several and I was just out in Massachusetts -- that chose not to get the flush-and-drain, and their DI system was not set up properly so that we actually over -- the amount of water that was being used was not correct. They hadn't accounted for the flow of it, and we found lots of silica in the bottom of the generators, so now they're getting a flush-and-drain kit.

MR. BAUGHMAN: I understand that from an operational standpoint, but when we're supplying the units, we can -- with that being deselected, we can then blow the boiler down to sanitary without any kind of blow-down separator or after-cooler or what have you. So this device

has the ability to blow down -- without that flush-and-drain being supplied, blow down to sanitary at above 140 degrees, correct?

MR. AVERELL: It's a manual valve and you would have to turn -- reach into the back and turn this manual valve to drain it that way, yes.

MR. BAUGHMAN: Yes. Okay. And then the other comment was you mentioned that the unit has to be below 5 psi in the generator before it blows down.

MR. AVERELL: It also has to meet below 140 on the temperature -- so it has to meet two of those criteria.

MR. BAUGHMAN: Okay. Well, and -- because as we know, we're at 5 psi or even below or from the atmospheric to in between 5, we're above 212. So the criteria being going down to sanitary is going to be that 140 and below.

MR. AVERELL: That's correct.

MR. BAUGHMAN: Okay. Very good. Thank you.

MS. LaFRANCE: I'm not going to spend terribly much time on the marketing data but I do want to mention that the number one

consideration when we did voice of customer for this product was space.

You heard from Kelly this morning that space is so important. She's essentially land-locked. She can't put more equipment in her space. She has to have equipment that fits in the existing space but has greater capacity. And that was the most important thing that we considered when we developed this product, was the space.

If we have a new facility, the impact is great on, you know, the cost of adding additional space because new facilities is $250 a square foot.

We're not likely to see SPD departments getting more space either because they're a cost center. So all of the space in the facility generally goes to the OR and the patient care side because that's the revenue side. So we're not likely to get more space even if we're trying to demand it, because it is a cost center.

By leaving, you know, the clearance, the 36-inch clearance, we're increasing the footprint by two to three times of, you know, what we designed the sterilizer to be. And so there's really, you know, no advantage to the customer to

purchasing the unit because they can't fit it in their department.

There is some clinical impact. You can see on the left here -- we do layouts for customers for their equipment washing and sterilizer equipment alike. And on the left you can see we have a sterile storage room for all the processed goods to be placed in. Once we process goods, we want to make sure that they're isolated from areas of contamination in the facility.

On the right, you see, if we have to leave the clearance, the 36 inches of clearance for a unit with a boiler, we have to eliminate the sterile storage room, and there's a risk to contaminating all those processed items. So it does impact clinical work flow.

Per the AME guidelines, which is the guidelines that -- the standard that our customers follow, they want to see a separate sterile storage area.

CHAIRMAN MORELOCK: So a quick question...

MS. LaFRANCE: Yes?

CHAIRMAN MORELOCK: What would the financials look like with an 18-inch clearance

which the State of Tennessee permits today?

MS. LaFRANCE: This would be just -- this doesn't want to respond. Well, it just doesn't want -- okay. There we go.

CHIEF O'GUIN: Chris O'Guin, Chief Inspector. 18 is actually for the unfired, and the power boiler on the bottom, which is 36.

CHAIRMAN MORELOCK: True.

MS. LaFRANCE: So it increases the area required by two times. And so you're adding, you know, several -- you know, tens of thousands of dollars for a 36-inch; and 18 inches, it's 12,500. But this is only one third of the picture, right, of a new facility.

The other is we're renovating old facilities. Which most ASC's these days are 15 to 20 years old and they're all needing renovation at this point.

The other case is where ambulatory surgery companies purchase existing, like, medical office buildings, and they don't have the space for the SPD's in those buildings either. They're purchasing an existing building.

And in the fight between patient care area and SPD, the patient care area always wins.

They always get the space, so unfortunately, you know, we don't expect that situation to change.

This is another case where when we had to leave 36 inches between the sterilizers, there was no place for the customer to cool their load. They're not supposed to be touching any of the items on the load. It could cause wet pack before they're cool. And we're stuck kind of cooling in between two rather warm sterilizers. If this increases the cooling time, there's the great temptation to remove those instruments while they're warm and potentially causing wet packs.

When a wet pack gets to a surgeon, they immediately reject it. So, you know, if somebody's on the table, they don't have the instruments to, you know, do the surgery with. So it does become an important factor.

We definitely have designed this -- the sterilizer with safety in mind. We have a 15-year chamber warranty. It's all stainless, 316L stainless steel. We have retention bars on the vertical door and the steam generator is designed exactly the same way. We already mentioned that it's supplied with RODI water and is a stainless vessel.

So our conclusion here is that the AMSCO 600 steam sterilizer was designed to provide accessibility to all the components from the front of the sterilizer so we can save that all important space for the customer.

The Tennessee clearances differ from our manufacturer-recommended clearances and we'd really like for you-all to make an exception in our case so that we can install it as it was designed and intended to be installed.

We don't see that the additional side and rear clearances is going to make it safer. We think we've designed a very safe product. We go to great lengths to inspect it periodically to make sure that it stays safe, and we are requesting this blanket exemption from these clearance requirements at this time.

This is going to become critical to the state of Tennessee. We'd kind of like to not delay the decision any further because we have on the books right now about 50 units for the state of Tennessee, which is about 20 different sites.

And, you know, people like Kelly Norman, they're not giving us an order right now until they get an answer from you-all, am I going

to be able to put this equipment in here, because she just has no room for it.

So we kind of would really like to have a decision. So we're just requesting the blanket variance per the statement that I already made at the beginning of the presentation.

And I think we are done unless there are any further questions.

CHAIRMAN MORELOCK: Okay. Any questions from the board members?

MR. BAUGHMAN: No. I'll just make a comment.

You know, as we're going through the discussion, one of the items that was discussed was this is being prompted by the explosive growth.

MS. LaFRANCE: Yes.

MR. BAUGHMAN: And "explosive" being the key word both because of the growth but within the device that we're working with, both boiler and the unfired vessel. So we're both dealing with "explosive" being the key words with it.

And this is all being generated from the standpoint of space. And we all know that.

We've talked about it and that's what's generating this whole discussion. But there again, equipment manufacturers have requirements versus what local jurisdictions do. We, and what we produce at our shop -- we're a UL listed company, and we've got our UL clearances which are different than what the clearance requirements are for different jurisdictions within the company that we work in, let alone internationally.

So I understand what it is we're looking for, but it has to be able to increase or keep status quo on the safety. And that's predominant. That's -- you know, we understand that these are going into facilities that are being renovated. Sometimes that's the cart before the horse; that a lot of times these facilities haven't thought about where my steam is available from. Do I have an opportunity of building a boiler room or do I have an outside place that I can put a containerized boiler in, whatever the application may be.

So what we're looking at is this whole space conversation. And that's where this is being driven at. And we're also asking for a one size fits all for a blanket. And that in

itself is a tough proposition in the marketplace.

So -- and there's ramifications as far as this decision. The blanket exemption that's being asked for here, does that set precedent moving forward for others within the industry that we'd have to analyze.

MS. LaFRANCE: We would only ask for the AMSCO 600. That is the only machine that -- very specifically, that machine.

MR. BAUGHMAN: Sure. And it's still under redevelopment. So we haven't gotten the final product, so to speak, of the unit itself, from what I'm hearing. We're making changes and so forth.

But still, it gets down to the basics of the clearance, so I just -- I just wanted to kind of lay that out there from my perspective on what I'm hearing and making sure that I understand the clarity of what it is that we've discussed.

MS. LaFRANCE: Right. And it's really not a matter of only space either. It's our patients.

CMS, you heard Kelly saying they're moving -- they are wholesaling the big procedures out to ambulatory surgeries because they can do

them for half the cost in ambulatory surgery. But the side effect of this has been that we actually see patients recovering better, quicker. They have better outcomes because they're not in a hospital, getting an infection. They have, you know, a quicker recovery period. They have a better continuum of care.

So in 2018, CMS moved 131 procedures from -- they took them off the list of inpatient-only procedures, that they can only be done in a hospital or a hospital outpatient setting.

And this year -- or by 2024, they're going to be moving all 1,700 procedures that are on that list to be able to perform these procedures in an ambulatory surgery center because it's less cost and patients do better.

So this is a trend that is going to continue out there. It's not going back the other way.

MR. BOWERS: This is Harold Bowers, board member. I wanted to make a comment.

Now, specifically, when asking for a variance on this unit --

MS. LaFRANCE: Yes. Just this unit.

MR. BOWERS: -- a specially designed unit with everything in front, I know we had some issues that we've talked about with sterilizers that really had nothing to do with the clearance. We've talked about the sight glasses and things. We have these miniature boilers all over the state, I mean, hundreds of thousands of them.

So the issue today is the clearance issue with an inspection, which is specially designed for front access.

MS. LaFRANCE: Correct.

MR. BOWERS: Okay.

MS. LaFRANCE: Yes. We want you-all to feel comfortable that we're doing the right thing. And we certainly, as a corporation, always try to do the right thing by all of our constituents. So hopefully, we've made you feel that, you know, you can be comfortable with the unit out in the field.

MR. BAUGHMAN: Another thing that -- I mean, we've talked a lot about the generator. We've talked very little, if any, about the unfired vessel, and the unfired vessel had it's own clearance requirements. And we

haven't looked at any of where the data tag is on that particular unit.

We've really not discussed the unfired end of it, which is an integral part of this AMSCO 600, from what I understand. And so, there again, being that they're kind of one in the same, I didn't know how we even address that, but we've lacked in somewhat of our -- somewhat in our discussion, the unfired vessel side of it.

MS. LaFRANCE: The data tag -- I think we showed in our original submission of the presentation that we gave you in -- for March, the data tag for the sterilizer is right in the front, right on top of where the generator is, right above the generator. So it's highly visible when you take off the front panel.

MR. BAUGHMAN: Is that just for the generator, though?

MR. AVERELL: No.

MS. LaFRANCE: No. That's for the sterilizer.

MR. CHIFFON: No. That's for the unfired vessel.

MR. BAUGHMAN: That's for the generator and the --

MR. AVERELL: It's for the -- it's for the sterilizer chamber of the unfired vessel that has a plate, as does the generator have a separate plate.

And if you were to look at a unit, that power box you saw, the plate for the vessel, is right up here (indicating). It's extremely visible.

MS. LaFRANCE: It's extremely visible.

MR. AVERELL: Because we -- because -- and I can say in 30 years, we never used to have units with minimal back clearance. And then we realized that space -- a foot of space in an SBD or an OR is huge. And I've been in SBDs where I thought it was an afterthought that they actually had to sterilize these instruments that they're doing in these surgery centers.

So I've been in where customers have had to park carts outside but we still had back access. So we came up with and said we're going to work so that our unit can be serviced from the front.

And I know it can, because my big fat ass went inside and turned it off and pulled the

generator out, the very first one we installed in the four corners of New Mexico. We were way out there. I don't know why we picked there, but that's where we went. And I -- we -- I was able to pull the generator out and do all the work from the front side of it.

And since we've gone to this front-access only, we're now seeing more of them where there's not a chance you're getting back access; where the facility has actually had to come and say, hey, we need to hook the water up and have our backflow preventer back here. We need the back access. They've actually gone to the architects and asked for back access more than we have, because we realize how important every square foot is in these surgery centers.

MR. BAUGHMAN: When you mention wet packs, we still have issues with wet packs in the industry regardless of the generator itself because of condensate issues, the steam and so forth.

MS. LaFRANCE: Correct.

MR. BAUGHMAN: I mean, you know, you deal with that within your end of the industry. But I still -- I'm very thankful for

your presentation and all the information you've provided on here to be able to move forward.

CHAIRMAN MORELOCK: Any other questions or comments from board members to boiler unit, anybody in the -- any of the visitors? Any other questions?

CHIEF O'GUIN: Chris O'Guin, Chief Inspector.

Chairman, I just want to let the Board know there has been a couple of instances where they can't get the clearance. So some STERIS engineers, they'll reach out to our office. We work with them on a case-by-case basis to make it work and still keep the safety, as needed, for inspection clearance.

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

MR. HENRY: Mr. Chairman, to follow up on that...

Would you see that as an appropriate way to go forward with this, given some of the concerns that Mr. Baughman has presented?

CHIEF O'GUIN: Personally, I'm not in agreeance with blanket clearance for any vessel in Tennessee. There's a lot that goes into this

vessel.

When you get an unfired pressure vessel on the top, which, in Tennessee, is 18 inches of clearance, you've got a power boiler on the bottom that requires 36 inches of clearance in Tennessee. And if you go by NBIC, there's a lot of different codes that pertain to both vessels that you have to look at that I don't feel you can adequately inspect front-access only from the ones that we have seen in the field.

And I did reach out to Chief Troutt in Texas, since one of the companies supporting STERIS is out of Texas. A STERIS unit was red-tagged a couple weeks ago and had to be moved due to inspection clearance. They couldn't inspect it. This was on our initial inspection, so... And it was supposedly one that was front-access only.

So it's not only our jurisdiction that don't feel like you can properly do an inspection from the front.

MR. BAUGHMAN: So, Mr. O'Guin, what you're saying previously was is that on a case-by-case basis, there's been reengineering --

CHIEF O'GUIN: Yes.

MR. BAUGHMAN: -- on a vessel or device or the enclosure that gave access through the removal of some panels to be able to get into the unit itself?

CHIEF O'GUIN: Yes. The most recent one -- and I don't recall if it's in Nashville or Brentwood -- they're putting one in, an AMSCO 600, I believe it is. They didn't have the clearance on one side. They could only get two inches or four inches. I don't recall the exact number.

What we've come up with is they can put a panel there where the wall is. Instead of it being beside the wall, they can remove the panel, and then we have our side clearance on that one side plus the other side in the rear.

MR. BAUGHMAN: Interesting. Thank you.

CHIEF O'GUIN: So we could still do an adequate inspection.

CHAIRMAN MORELOCK: Anything else?

(No verbal response.)

CHAIRMAN MORELOCK: So my question to the Board is do I have a motion for this item?

MR. BAUGHMAN: So the question is a

motion to approve the exemption?

CHAIRMAN MORELOCK: I mean, that's their question, is they want a specific blanket approval of relaxation of the clearance requirements for the fired and the unfired vessel, specifically for the AMSCO 600 unit.

Correct?

MS. LaFRANCE: Correct.

MR. BOWERS: I guess we have to have a motion to up or down it, right?

CHAIRMAN MORELOCK: That's correct.

MR. BOWERS: I make the motion for an exemption.

CHAIRMAN MORELOCK: So I've got a motion for this. Do I have a second?

DR. HARGROVE: Keith Hargrove. Second.

CHAIRMAN MORELOCK: Okay. So I've got a second. Any other discussion?

(No verbal response.)

CHAIRMAN MORELOCK: Hearing none, how many ayes do I have?

DR. HARGROVE: Aye.

CHAIRMAN MORELOCK: Okay.

MR. BOWERS: Aye.

CHAIRMAN MORELOCK: Okay.

Opposed?

MR. BAUGHMAN: Opposed.

MR. HENRY: Opposed.

CHAIRMAN MORELOCK: Okay. Not voting?

(No verbal response.)

CHAIRMAN MORELOCK: So we have two and two. So as Chairman, I'm going to vote nay.

I think the State of Tennessee needs to work with STERIS. And a step forward would be the State has already agreed to take these on a case-by-case basis. Let the State of Tennessee do that on a case-by-case basis until we can resolve the concerns about the unfired vessel. We've not even discussed those at all today.

And so not to impede you, you can still do this, but you just need to take it to the State of Tennessee, to the boiler unit, and work that out on those installations that you need to do now.

So we're not saying that you can't install an AMSCO 600. You can. You've just got to work with the State of Tennessee on a case-by-case basis to get that done.

MS. LaFRANCE: And how do we proceed from here?

CHAIRMAN MORELOCK: So what we need to do from here is we need to satisfy the Board on the unfired portion of this unit. And then, depending on where we go from there, you could come back and ask for a blanket again.

MS. LaFRANCE: In September?

CHAIRMAN MORELOCK: Yeah.

MR. BAUGHMAN: But from what I understand presently, is you can go case by case back to the boiler unit. If you had an installation that you needed to put in or were looking to put it in, you could work with them at that time to see what needed to be done, as you've already done with a previous installation.

MS. LaFRANCE: Right. But the problem there is that we -- you know, as you saw the layout that we presented, we plan ahead for our installations. And to come down to the point where we're at the installation and we're wondering if we're going to get approval is difficult because the customer is expecting that all to be done up front.

CHAIRMAN MORELOCK: Well, but the

sooner that footprint is given to the State of Tennessee, you'll get that approval. And as you build more and more cases, you're going to build your case to have a blanket.

MS. LaFRANCE: Okay.

CHAIRMAN MORELOCK: From successful installations and successful operation, know, you know, when these folks go in and do inspections on them, if they come out clean and they can inspect everything, all of that is just going to build your case to make it a blanket.

MR. BOWERS: In the state of Tennessee, whenever a boiler is installed, there's a permission to install it. It goes by the Chief. And, you know, it might -- at some point in time, you're going to say, well -- you can get with the architects and get with the Chief and say, "Here, Chief, this is what we plan on doing. What do you think?"

MS. LaFRANCE: Okay.

MR. BOWERS: You're hitting it from the ground up, and the Chief -- because he's got to approve all of the installations anyhow from any kind of boiler. So you're just going through where he -- like you said, case-by-case basis

where he would look at it and say, "Look at the blueprints. What do you think, Chief?" And then he can decide from there.

Does that sound right, Chris?

CHIEF O'GUIN: (Nods head.)

MS. LaFRANCE: Okay. That'll work.

MR. AVERELL: We can do that. We do that in Michigan, so...

MS. LaFRANCE: Yeah. Okay. Thank you very much for your help.

MR. AVERELL: Thank you, everybody.

CHAIRMAN MORELOCK: Okay. Going back to our agenda, that concludes new business. We are going to go on to Agenda Item Number 9, Rule Cases and Interpretations. The first one is BI 21-02, ECS Consulting requesting an interpretation on the requirements for manually operated remote shutdown switches assigned to low-pressure boilers installed and operated in the state of Tennessee.

And Mr. Toth has requested to table that item to the September meeting, so we'll add that to the September agenda.

That leads us to BI 21-03, which is A.O. Smith Corporation requests reconsideration of

a boiler board interpretive ruling regarding the clearance requirements for the installation of gas-fired storage water heaters with energy inputs less than 400,000 BTUs per hour.

So introduce yourself and present your item.

Are there any conflicts of interest from the Board?

(No verbal response.)

CHAIRMAN MORELOCK: No conflicts.

MR. HENCHERICK: We still insure A.O. Smith, correct, FM Global?

I think we still insure you.

MR. GREENE: We have many insurers.

UNIDENTIFIED SPEAKER: Yeah, we do.

MR. GREENE: I don't know if, off the top of my head, you guys still do or not.

MR. HENCHERICK: Okay.

CHAIRMAN MORELOCK: So we do have one conflict of interest.

All right. Gentleman, proceed.

MR. GREENE: Well, thank you, Mr. Chairman, members of the board, and staff for your attention this morning.

My name is Josh Greene. I am

corporate vice-president of global government affairs and industry affairs for the A.O. Smith Corporation at the parent level.

I'm joined today by my colleagues, by Greg Reynolds, who is global director of certification and reliability, to my left, your right.

THE REPORTER: Can you say that name again?

MR. GREENE: Greg Reynolds. Greg is director of global certification and reliability for A.O. Smith.

And to my right, your left, is Jeff Kleiss, who is senior product engineer of certification at Lochinvar.

THE REPORTER: What is his name?

MR. GREENE: Jeff Kleiss, K-L-E-I-S-S.

THE REPORTER: Thank you.

MR. GREENE: Sure thing.

All right. With that, we'll begin.

MR. REYNOLDS: If anyone needs paper copies -- I don't know if anybody on the board needs a paper copy of the presentation. We have those available.

MR. GREENE: Thanks, Greg.

So this is just a brief overview of what we're going to walk through this morning. And we will keep efficient. And certainly, if there are questions as we move along, we will do our best to address those.

So as we do, we want to level set related to A.O. Smith when we are in public and talking to our peers and others. Guiding principles is very important to A.O. Smith. These are how we operate on a daily basis. These are principles that were given to the company by the Smith family when A.O. Smith was incorporated in 1874 in Milwaukee, Wisconsin, where we are still globally headquartered.

Here in Tennessee, we have our largest footprint in North America; just under 4,000 employees at this point. I'm not going to read everything on the slides. But we're always seeking to grow in Tennessee, because we very much enjoy doing business here, the workforce, people, culture. And our investment in Tennessee is very long-lasting.

So what's bringing us together today -- and you have this in your board

materials, so again, I won't read every word on the slide -- is really getting a request and guidance related to the 18-inch clearance for our storage water-heating equipment below 400,000 BTU/H. This is on the commercial side, obviously.

What we've run into is trying to make sure that our customers are still able to spec in and install their choice of equipment in our storage product versus nonstorage product that is beginning to be installed in Tennessee, and being spec'd in with customers that we've done business with for many, many years. And thus, we're losing sales and some capital investment opportunities as well. And we're hoping to get a mutual resolution to this in front of you here today.

So just best practices, and I will be turning over to my colleague Greg Reynolds momentarily, this is nothing new to this Board. Very well versed, obviously on NBIC and the clearances and how it relates, obviously, when you go below three feet. And we see this across the country, and I know that you-all are very well aware of this in terms of manufacturer recommendations and, of course, you know, when the

jurisdictions have to approve when you're going below the 36-inch clearance.

So I'm going to turn this over to Greg, and we can keep on walking through.

MR. REYNOLDS: Okay. Very good. So the first thing we want to talk about is just to level set us, you know, what are we or what are we not talking about; clearly there's multiple types of clearances that we have listed in our instruction manuals.

First is -- we've touched on, in some of the conversations already this morning -- there's a safety requirement, which is just the minimum clearances per testing towards the ANSI standards.

Then there's the serviceability that we put in our manuals that instruct installers on what should be done in the installations, and then, of course, the inspectability guidance that, you know, bodies such as yourself here, the Tennessee State Board, gives advice on.

So just briefly, on the first of those types of clearances, the safety requirements, you know, those could be zero clearances. But again, that doesn't necessarily

afford what needs to be done for inspectability or a, you know, sort of serviceability need.

So let's talk about serviceability. Of course, in our instruction manuals, we have illustrations about where all the critical components are on each of the products and where we need to make allowances for serviceability of those key parts, the T & P valve, for example, control systems, gas valves, cleanout openings, drain valves and vent connections.

Okay. So just as we talk about what's actually in place for Tennessee -- of course you guys are well versed on this, but the current law states the 36-inch clearance. There's been some interpretive rulings, of course.

First, the Case BC 98-03, it allowed for the 18-inch clearances for storage water heaters. So that's definitely helpful in giving a bit of relief on the amount of space that's needed around the products.

Then further, there was a case, the BC 06-23 that gave further guidance on the wall-mount units that allowed for no clearance in the case of mounting, actually, up against the wall, which I'm going to touch on in more detail

on the next slide.

And then just in terms of, you know, full transparency and clarity, there's other laws outside of the state of Tennessee that includes, you know, different levels of clearances that are required. In some cases, you know, water heaters that have less than 400,000 BTUs per hour do not specifically fall under these sort of requirements.

So more specifically, on the Case BC 06-23, the part that I really want to highlight here is the further guidance that was given based on this interpretive ruling.

Point Number 1 here, of the wall side clearance for wall-mounted boilers, at least give some consideration that those types of products are specifically designed to be hung on a wall. And so what that looks like in actual application, of course, is we did some illustrations here of different types of products of water heaters and what the clearance areas would look like by the strict interpretation of the current rules that are in place.

And the bottom illustration, of course, a tankless unit showing that there's no

clearance required on the wall itself.

If you move to the left most upper picture there, then you can see that a different type of water heater, which is basically a tankless-type product that's attached to the tank and the clearances that would be required according to a strict interpretation. Then also, a different product type in the middle there, with, again, a clearance all the way around the outside of the unit. And again, over on the right, just another different type of product that shows also the clearances that would be required.

And keeping in mind, we're trying to be as agnostic as possible in this conversation, so this is not just A.O. Smith products that we're talking about but just general, generic products that are available out there in the market.

So what we would actually like to request for the Board's consideration here is, you know, as you see the tankless model in the bottom, clearly, again, no clearances against the wall. Similarly, going in the same order, if I look at the unit on the top left, like I said, it's a tankless unit attached to a tank. So similarly, not much to inspect on the back half of the actual

tank of the vessel itself.

Likewise, on the unit next to it in the center there, we purposefully designed that product so that, you know, the main connections are away from one particular corner of the product itself so it could be installed into a corner installation. And likewise, the product on the right there was purposefully designed with no, let's say, areas of concern besides a jacket, as we would interpret it, to allow for our corner installation.

So what are we asking for again here? To amend the interpretive rulings to allow for the manufacturer's installation recommendation related to serviceability. To provide proper inspection of the equipment, of course, is what we want to make sure that there's allowances for that, and we also would allow our customers greater choices for a proper installation and, also, being consistent with the safety standards, best practices.

And one of the major points here, too, is making sure that it's neutral in terms of design intent, from the different types of products. Like I mentioned, we purposefully designed some of our products to not have any

inspection points on parts of the product so it could be more flexible in a particular installation.

So summarizing all of that, we did put together a suggested inquiry and a request for reply for the board's consideration. I won't read through all this here, but this is the main part of our presentation and request to the board.

CHAIRMAN MORELOCK: What questions does the board have?

MR. BAUGHMAN: So one question that comes to mind is what is the manufacturer's installation recommendation for clearance that you're looking for, you're requesting reconsideration, but you haven't given us what exactly you're looking for. Are you talking about zero clearance? Are you talking about -- how much clearance are you asking for?

MR. REYNOLDS: Right. So in the case of around the different parts of the water heater that would require inspection, our manual suggests that we have 24 inches, actually, for serviceability. That's what our instructions say in our manual. You know, a consideration that you guys are already allowing less than that, for

18 inches, but we give instructions in our manuals that the 24 inches would be appropriate.

MR. BAUGHMAN: Okay. So I'm a little confused inasmuch as we're asking for --

MR. REYNOLDS: So let me try to restate it to be clear.

MR. BAUGHMAN: Thank you.

MR. REYNOLDS: So if I can go back a slide here, what I'm saying is that on parts of the unit where there's no parts to be inspected, like -- if I may approach the screen here -- this red area, of course, is talking about the areas that we would require for inspection. So on this side of the unit, this quadrant back here, there would be nothing that we would consider that would need to be inspected. So this could be up to zero distance on those sides of the product.

But in the other areas, you know, certainly 18 inches would be preferable. But, like I said, in our manuals itself, we instruct people to -- we recommend the 24 inches.

MR. BAUGHMAN: Thank you. So to clarify, we're actually looking at a possibility of zero clearance. And what you're saying is parts that have to be inspected, i.e., whatever

they may be, you recommend 24 inches or suggest 24 inches.

MR. REYNOLDS: Right.

MR. BAUGHMAN: But what we're getting down to is actually talking about zero clearance on the vessel itself.

MR. REYNOLDS: On the vessel itself.

MR. BAUGHMAN: Okay. And I appreciate that clarification. And we're talking about both water heaters and hot-water supplied boilers, correct, from what I read in the request?

MR. REYNOLDS: Yes.

MR. BAUGHMAN: Okay. So water heaters bring a different aspect than what boilers do. So it's really two different things that we're looking at that you're asking for an exemption or a reconsideration, since we already have what those requirements are. But you're asking us to make a change to both the water heaters and the boilers, just to clarify.

MR. REYNOLDS: Correct.

MR. BAUGHMAN: Okay. Are these units UL listed?

MR. REYNOLDS: So yes. We -- we

sometimes certify with different agencies, whether it be UL or CSA.

MR. BAUGHMAN: Okay.

MR. REYNOLDS: But still certified to the ANSI standards per our agency like UL is.

MR. BAUGHMAN: And I take it because of that and they are listed, if they're UL, that UL has given acceptance because of that to zero clearance.

MR. REYNOLDS: Yes. Absolutely. That's a requirement for all of our products.

MR. BAUGHMAN: Very good. Well, again, I've got some concern in just the delineation of storage-type water heaters which is kind of an animal that's phasing out over time as it is. You've got Lochinvar that makes a stand-alone that goes to a separate storage unit.

MR. REYNOLDS: Sure.

MR. BAUGHMAN: They mount a water heater up on top of the storage unit.

MR. REYNOLDS: They do.

MR. BAUGHMAN: There's all types of different configurations. A.O. Smith makes a storage-type gas-fired water heater, but those are kind of moving out over time through efficiencies

and what have you on what's changing in the industry, just from my perspective, from what I see out there.

The boiler side of it, not so much, because boilers, we're not necessarily working with a domestic type of application. We're utilizing either high rates of heat transfer or a storage type of vessel itself. So I still have a -- somewhat of an issue of us looking at both water heaters and boilers in this request.

MR. REYNOLDS: So if I may respond to that.

MR. BAUGHMAN: Yes, sir.

MR. REYNOLDS: The storage-type water heaters that we manufacture are, you know, under our trade name, Cyclone Products. It is very popular still, particularly in restaurant applications.

MR. BAUGHMAN: Dry cleaners.

MR. REYNOLDS: Right. Right. So we have expectations in the hotel and restaurant industry that we still have quite a bit of runway on that product.

MR. BAUGHMAN: Well, hotels take quite a bit of storage --

MR. REYNOLDS: They do.
MR. BAUGHMAN: -- early in the morning --
MR. REYNOLDS: Yes.
MR. BAUGHMAN: -- and late in the evening. So these storage vessels are limited to where you would have to put multiples in to meet a demand as it is in that type of application.
MR. REYNOLDS: Yes, sir. That's absolutely true and that's part of the considerations, that we would like for you guys to consider here is the space that's associated with, you know, having to put multiples in, to your point.
CHAIRMAN MORELOCK: So my question is, you're citing VCO6-23 and VC98-03, correct?
MR. REYNOLDS: That's right.
CHAIRMAN MORELOCK: So we don't have a proposal from you to vote on. You should have a board case, BC 21-XX with a title, statement of need, background, and then you would spell out what you want your inquiry to read. So we don't have anything to vote on.
MR. GREENE: So the inquiry and the reply that was submitted was insufficient?

CHAIRMAN MORELOCK: Well, let's look at it.

DR. HARGROVE: If I may ask, while we're --

CHAIRMAN MORELOCK: You go ahead, Dr. Hargrove.

DR. HARGROVE: I'm still not clear if the clearance request is from both types of instruments, water heaters versus boilers.

Question: What are the clearance requests by the manuals for the water heaters versus the boilers?

MR. KLEISS: I'll speak to that. So the clearance requirements that are going to be put into the manual are going to be established based on need for access to safety device's inspection as well as the clearances that are determined by the safety testing that's done to the applicable standard, be that ANSI Z21-13 for boilers and hot water supply boilers or ANSI Z21-10.3 for commercial water heaters.

So that goes to the earlier slide where there's the safety clearances, serviceability and then inspection. And so all three of those are factored into what we would put

into the installation instructions. And that will almost always be in the first section, the placement with directions for clearances. That's pretty uniform for, I believe, all manufacturers to do that.

As far as the differences between a water heater and a hot water supply boiler, a water heater will have -- if it has an ASME pressure vessel, it will have an HLW-stamped pressure vessel, which per ASME Section 4, a hot water supply boiler will have an H stamp heat exchanger, also under ASME Section 4.

Beyond that, though, the limit controls and safety devices are going to be consistent between those two devices. And the intended purpose of those devices are ultimately the same.

So there's not a large difference between a water heater and a water boiler other than how some of the jurisdictional authorities might require additional safety controls on a hot water supply boiler over a water heater.

DR. HARGROVE: So your proposal is the same for both or a difference in each?

MR. KLEISS: It calls out water

heater or hot water supply boiler. Yes, sir.

MR. BAUGHMAN: So I would ask, are the relief valves different for a water heater versus the boiler?

MR. KLEISS: So --

MR. BAUGHMAN: Does one not need a T & P versus a pressure --

MR. KLEISS: So a water heater may have a T & P or a pressure relief valve, depending on the design. T & P relief valves are required in storage vessels, that the temperature sensing element, the thermostat, or the -- the temperature sensing device that goes down inside of the tank is there to relieve if the water temperature inside of the vessel exceeds 210 degrees.

MR. BAUGHMAN: I understand, but I am -- because we're talking about storage-type water heaters and you mentioned boilers, so there is the difference. Being that we're specifically talking about a storage-type water heater, then it would be required to have a T & P valve being that it's the storage type.

MR. KLEISS: Correct.

MR. BAUGHMAN: Okay. That was what I was getting at. So there is a difference

between the boiler and the water heater. There's also a difference in that the water heater is limited to 210 degree F versus the boiler can go to 250, correct?

MR. KLEISS: Correct.

MR. BAUGHMAN: Okay. So, to me, there's differences. I know in the past there was differences on the head. Sometimes the boiler heads were constructed differently, bronze versus, say, a cast head or whatever is being used in the industry.

But I just wanted to clarify. To me, there's very specific differences in the operation, the controls, and the relief valves themselves. So to me, they're two separate animals altogether.

MR. KLEISS: If I may, though, for a -- and there's a difference there between a storage water heater and an instantaneous water heater. Because an instantaneous water heater, as well, still HLW, could have just a pressure relief valve and not have to have a --

MR. BAUGHMAN: But for the purpose of this discussion, we're not including instantaneous.

MR. KLEISS: Correct.

MR. BAUGHMAN: And that's why I was bringing it up, because we're specifically talking about storage-type water heaters and/or hot water supply boilers. That's where I was getting my clarification. I didn't want to bring in the --

MR. KLEISS: Fair enough.

MR. BAUGHMAN: -- instantaneous wall-mounted whatevers that were out there.

MR. KLEISS: Okay.

CHAIRMAN MORELOCK: Other comments?

MR. BAUGHMAN: So as our present day code stands -- and I take it in your installation instructions, it also says always consult local jurisdictional requirements that you've got.

MR. KLEISS: Yes, sir.

MR. BAUGHMAN: Sure. And that's where there's a big issue at. Years ago, I know there was questions with CSD-1. It said you've got to specifically tell us what you want because of all the different interpretations of CSD-1.

It's like, well, CSD-1 is pretty black and white, but -- I understand, but in the industry, there's a lot of people that don't know

what it is they're selling. There's a large lack of education within the sales industry for these representatives to know what the code requirements are and so forth.

So we deal with a lot of interesting stuff from a clearance standpoint, let alone on the control side. But as it stands right now, we require, for the hot water heaters, 18 inches. And that's for the storage type, since that's what we're talking about.

CHIEF O'GUIN: It's below 400,000.

MR. BAUGHMAN: Below 400,000. And on the boilers that would be tank-type hot water supplied boilers with heat input below or equal to 400,000, we require what clearance?

CHIEF O'GUIN: If you're talking about an H-stamped boiler, three feet.

MR. BAUGHMAN: Three feet. And so the request is to give a blanket -- or from what I'm interpreting, you want a blanket or a reconsideration of those to go to zero clearance, possibly.

MR. GREENE: Possibly. So long as the inspection of those elements is afforded to the inspector.

MR. BAUGHMAN: Okay.

MR. HENRY: Mr. O'Guin, if I could ask, the clearances that are in place right now, that's for around the entire...

CHIEF O'GUIN: That's for the inspection clearance so we can ensure no illegal welds have been performed, look for leaks on a vessel, pull the covers off, look at the NOs.

I could keep naming, but we see, especially in the industry that they're talking about, they're having an issue with clearance. You know, we see a lot of stuff trying to get by code and trying to make this vessel last another year or two. You know, we'll throw a little weld on them. If it's not a certified weld, it's just not a good way to go about it.

And if we don't have the 18 inches to inspect, we can't truthfully sign off saying we got a truthful inspection, if you can't inspect the whole vessel.

And that's my opinion as Chief Inspector.

MR. HENRY: Thank you.

CHAIRMAN MORELOCK: Other comments?

MR. BAUGHMAN: And I take it there

still is the availability of case-by-case rulings by the boiler unit to say, well, we've only got X amount of clearance, whether that be 30 inches -- I mean, the whole gist of the rule is to be able to have enough room to inspect. And so you may have the same thing.

You may have a wall that has a little partition you can take out and still get to it and what have you. But there's still case-by-case basis, as I would take it, that you've got some variable to work with.

CHIEF O'GUIN: Yes. Some instances -- which I've worked with weekly engineers and architects. You know, they'll come in from, you know, New York or somewhere and have all these plans. Well, the end result they find out they've got to have a permit after my inspector had a drop-in visit.

And now they've got no clearance so, you know, we'll back up and work with them to get the clearance and not burden the builder.

MR. HENRY: If I could ask for further clarification. If in a situation you had access to a particular surface from the opposite side -- I mean, this is the situation: You've got

a unit that's set up. It's dead set against the wall, but you do have access, because of the way the equipment is designed, from the opposite side. Does that satisfy the --

CHIEF O'GUIN: So are you saying, like, you can pull the wall panel off or something like what we've talked about with the unit earlier?

MR. HENRY: Right.

CHIEF O'GUIN: Yeah. But if they could pull the wall panel down, then we'd have access all the way around the vessel, and yes, that would satisfy.

But as currently, I mean, we will do case-by-case basis; especially in historic buildings, it's hard to get the clearance.

MR. GREENE: If I may, Mr. Chairman.

CHAIRMAN MORELOCK: Yes.

MR. GREENE: So on this, the inspectability, seeing the entire vessel -- and Chief Inspector, you had just made a reference to potentially taking the jacket off -- and we're talking about a cylindrical vessel, and our issue really is more so, as we've discussed and as the

Board has discussed earlier today, is the pre is the specification of even having the product spec'd into the job.

Is it -- and this is probably for our edification. Is it the normal course of business even with an 18-inch clearance that you would take the jacket off that product?

CHIEF O'GUIN: If we suspect any kind of welding, et cetera, we will make them pull the jacket off of that product, yes, sir.

Or we can red tag the vessel and they have to take it out of service, which would burden the business. He would be closed until he gets a new vessel installed, if we can't verify.

MR. GREENE: Right. And I guess, Chief, what I'm trying to draw a distinction of is, for us, and what brings us here today is that would all and certainly would be a hundred percent appropriate in our view, a hundred percent.

It's more so when we are competing, our products are competing with other product in the state of Tennessee, at the moment. Our product is not potentially even getting spec'd in -- brand new -- spec'd into the mechanical room because of the 18-inch clearance, right, versus

another product that has the same utility but is just being mounted on the wall that doesn't have the same 18-inch clearance.

CHIEF O'GUIN: I believe A.O. Smith sells instantaneous water heaters, too, don't they?

MR. GREENE: We certainly do, but what we're really talking about here is a storage product that we have a lot of customers that still prefer that particular product because of its longevity, it's efficacy, its thermal efficiencies, what have you.

But you're absolutely right. We have products that would otherwise serve the marketplace. We just have customers that prefer one over the other.

CHIEF O'GUIN: I guess what I'm not following is storage heaters in Tennessee, storage tank type, all require 18 inches; instantaneous type, they all require 18 inches. So I'm not following how you're not being able to meet the same requirements other installers do in Tennessee, or other manufacturers. Everybody has the same clearance.

MR. BOWERS: Your tankless hot

water heaters are 18 inches in Tennessee.

MR. REYNOLDS: You're right. Yeah. We agree with that point. The point -- let me try and speak to that here.

So what we're trying to say is, clearly, with the tankless units, there's not a requirement for 18 inches in the 360 degrees because, clearly, they're mounted to the wall by definition.

And so what we're saying is there's a purposeful point to design this sort of product to allow for it to be mounted against the wall. We put that same -- as an engineer, that same design intent into this to say that it was purposeful that it could be put into a corner.

So we're saying that right now the interpretations don't allow for that product to be used with that utility. Does that make sense?

MR. BOWERS: Yeah. What you're saying, since the tankless unit is flat --

MR. REYNOLDS: Yeah.

MR. BOWERS: -- it's against the wall.

MR. REYNOLDS: Right.

MR. BOWERS: So that you don't have

the 18 inches between the flat side and the wall.

MR. REYNOLDS: Right.

MR. BOWERS: Where on a round hot water heater, you don't have that 18-inch clearance. You can't put it up, that round unit, against the wall --

MR. REYNOLDS: Right.

MR. BOWERS: -- where a tankless, you can put against the wall.

MR. REYNOLDS: Right.

MR. BOWERS: That's what you're saying, correct?

MR. BAUGHMAN: So what we'd be saving is just the 18 inches off the back side. We still have the requirement of 18 inches on the side and the front.

You're just looking to save that 18 inches on the back; is that correct?

MR. REYNOLDS: Right.

MR. GREENE: Correct.

MR. BAUGHMAN: Okay. And you're saying that's a disadvantage in the marketplace at this time because of space?

MR. REYNOLDS: Yes.

MR. BAUGHMAN: Okay. So it's

totally a space issue, cost savings type of -- okay.

MR. REYNOLDS: Yes.

MR. KLEISS: And, Chief O'Guin, related to the inspection of a vessel, particularly if there was service done on it, I appreciate that. I don't want anybody welding on something that came out of our factory.

Many of our vessels -- or most of our tanks are foam insulation. It would be very, very obvious if somebody had gotten into one of those --

CHIEF O'GUIN: It happens.

MR. KLEISS: -- to do the service.

CHIEF O'GUIN: It happens.

MR. KLEISS: It does.

CHIEF O'GUIN: It's horrible, but they will weld them and make them get by. And if it's stuck in the corner, then we can't -- you know, we won't see it. We'll miss it. I don't know how they weld them, but they weld them. It's not a Tennessee -- you know, it's not a good repair.

MR. BAUGHMAN: Interesting.

MR. HENRY: If I may, to make sure

I understand completely, the basis -- I guess the argument that you're making is that you have specifically designed these units to recognize the fact that a portion of the surface will not have access. You've specifically designed them so that they can be fully inspected from the surfaces where you do have access.

MR. REYNOLDS: That's true. Yes, sir.

MR. HENRY: Okay.

CHAIRMAN MORELOCK: Any other questions or comments?

MR. BAUGHMAN: So what we're looking at is the purpose of this was to be able to put it in a corner, correct?

MR. GREENE: Right.

MR. BAUGHMAN: But the other purpose is to be able to butt them up, side by side, and reduce that clearance also, correct?

MR. GREENE: That's another consideration.

MR. BAUGHMAN: Okay. All right. And that's what --

MR. GREENE: It's all installation specific, as you can appreciate.

MR. BAUGHMAN: Sure. Well, and by -- if we approve that, we've got to understand that that, then, is the accepted norm by us voting and saying, well, you know, what we're looking at is being able to put it in a corner, but we now, because of this acceptance, can put them side by side with zero clearance, because that's what we voted on.

So I just wanted to make sure in my mind I was understanding the ramifications of whether we voted to approve or not.

CHAIRMAN MORELOCK: And if you had them side by side by side, that would increase the surface area that you cannot inspect because they're setting side by side, correct, out of that cylinder?

MR. GREENE: Well, certainly, but the other consideration is, depending upon the installation, zero clearance in the rear, because how these products are otherwise designed and engineered, you can still have in the mechanical room an 18-inch --

CHAIRMAN MORELOCK: Exact --

MR. GREENE: -- between the two vessels, not necessarily stacking them with zero

clearance next to one another. And that's how our -- the illustrations would --

We have a 24-inch in the manual. But the 18-inch between two of those or three of those storage products, that 18-inch off the back wall, in our experience and now increasingly is becoming an issue with the engineers and the specifiers in some of these hotel jobs, amongst others, where they're saying, look, we're just going to do something different, which is, of course, a customer's choice.

And we're not here to say the customer shouldn't have choices. They should. But it's still -- we would still be able to do the 18-inch between two or three of these.

MR. BAUGHMAN: But is that what's being asked for?

MR. GREENE: Well, we've talked a lot, and we've gotten clarifications, which have been very, very helpful.

It sounds as if we need to repurpose what is the inquiry and reply, unless we are going to -- I mean, lawyers do it. I don't know if Counsel wants to do it with me, but draft -- draft -- redraft this in front of the Board.

So really looking for guidance on next steps on what would be more appropriate, now that I think we've had a robust discussion and clarification of what it is that we are seeking.

CHAIRMAN MORELOCK: I think that would be the best course of action. But we can't write it for you; you've got to write it.

MR. GREENE: Oh, no. I do plenty of writing every day.

CHAIRMAN MORELOCK: So we can't develop it by commission and then you put it down on paper.

MR. GREENE: No. Understood. We'll want to make sure that, you know, we've drafted it in a manner in which upon our return, right, to this august body, it will be accepted.

CHIEF O'GUIN: (Indicating.)

CHAIRMAN MORELOCK: Mr. O'Guin?

UNIDENTIFIED SPEAKER: Chairman, can I ask a question?

CHAIRMAN MORELOCK: In just one second, yes.

CHIEF O'GUIN: Chairman, what are you suggesting, that he bring it back through as a board interpretation, a board case or -- I know

when we'd spoke before, you know, this was kind of a tough decision trying to figure out what to put it under.

CHAIRMAN MORELOCK: Well, if you're going to focus on this style of heater, a board case would be better because you're going to be more specific about what you want.

That's why I asked my initial question, is what are we doing with this inquiry. And so if that is your concern with your cylindrical heaters that you're kind of getting beat up in the world of trying to sell those and get them installed, then if that's what your focus is, write that inquiry for that.

That's what I was struggling with; what all could fall under this if we approve this. You know, somebody more clever than me could say, hey, look at this. We could put all sorts of stuff in with this.

And so if this is what your focus is, I would write a board case specifically for that to the clearances that you desire.

What do you-all think about that? Does that --

DR. HARGROVE: Absolutely.

MR. BAUGHMAN: I think that's the direction to go in. I think that would be prudent and give better clarification on what exactly it is that we're needing to go for. And I think that's good for both you to know for your own clarification, as the manufacturer, and for those that are within sales on down from manufacturing, especially just to know where we sit in the state of Tennessee.

I know other states are totally different. We've done a little bit of homework on what other state requirements are out there. So, again, in your instructions, it goes by consult with local jurisdiction. But at least we'll be able to know where Tennessee sits within that.

MR. GREENE: Okay. Board -- I appreciate that, Mr. Chairman and members of the board in terms of the board case. Hopefully, we can work with the Chief and staff on the proper structure. We'll draft it. But the proper structure and intent, because I'd heard you say, Mr. Chairman, that -- you had started to say an inquiry. I'm not sure if the board case has the same structure and format of proposing an inquiry and reply. But we can talk about that.

CHAIRMAN MORELOCK: You're going to -- with a board case, you're going to say, "Can I do this?"

And then the answer will be a yes or no.

MR. GREENE: Yes or no works. Sometimes with children it doesn't, but...

CHAIRMAN MORELOCK: And it'll be -- it's the opinion of the Board that you can do these things.

MR. GREENE: Understood. Understood. Okay. Thank you for your time. Thank you, gentlemen.

CHAIRMAN MORELOCK: Thank you.

That takes us to Item 10, which is Open Discussion Items.

And, Mr. Baughman, did you want to discuss Tennessee Code Annotated 68-122-110, inspection of boilers under (a)(2) concerning low pressure heating boilers shall be inspected both internally and externally biennially where construction will permit.

MR. BAUGHMAN: The question being is do I want it discussed? Yes. Do we have the time to discuss? I'll leave it up to you. But

I'd love to give at least another two cents' worth if we've got a handful of minutes.

CHAIRMAN MORELOCK: We've got 21 minutes.

MR. BAUGHMAN: Okay.

CHAIRMAN MORELOCK: And --

MR. BAUGHMAN: And then my next question would be allowing what we want to do on the variance checklist.

CHAIRMAN MORELOCK: Right. We've got the checklist, too, so...

MR. BAUGHMAN: Okay.

CHAIRMAN MORELOCK: Okay?

MR. BAUGHMAN: Well, just briefly, we have up for discussion -- this is nothing we're voting on as it is. It's totally a discussion unit. But Tennessee Code Annotated 68-122-110, under Number (2)(a), each boiler used or proposed to be used within the state shall be thoroughly inspected as to the construction, installation, condition, and operation as follows.

And Item 2, low-pressure heating boilers shall be inspected both internally and externally biennially where construction will permit. And that's straightforward. That says we

inspect the boilers internally and externally; internally one year, externally, so forth, going back and forth.

The discussion came about and, again, under inspection requirements in our own Tennessee codes, 0800-03-03-.05 inspection requirements, frequency of inspections, all boilers and pressure vessels subject to inspection under the act shall be inspected in accordance with the requirements of Tennessee Code Annotated 68-122-110, which I just stated.

So this discussion is centered around a rather long review of what we were seeing in the industry. As we were working, we were finding boilers that were not getting inspected. In other words, what would come about was the boiler looked good, or it's a hot water boiler. It's a boiler that because the code says construction permitting, we couldn't look at it internally. And that's true.

A.O. Smith makes some; Lochinvars, you name it. There's a number of boilers that you cannot look at internally on the pressure vessel side, but you can look at some of these boilers on the fire box side. In other words, we've got a

lot of issues with the burners burning up because they're not properly maintained, and then that causes the heat transfer surfaces to soot. And then the fire has nowhere to go but roll out the sides, and you've got carbon monoxide issues. You've got the boiler issues themselves and so forth.

So what happens in our industry is that a lot of these boilers don't get looked at the way they should. And what it's come down to is inspector discretion. And the code doesn't state at inspector's discretion; it states construction permitting.

And so as we've had these discussions over the years -- and we work with a lot of inspectors in the industry -- I know how much I don't know, but what little I know in the 44 years of being at Allied Boiler is that there is a lot of lack of information in the industry.

The inspectors are looking at anything and everything. And so it's like having to know everything about every car that's made, of all of its nuances and intricacies and what to look at, what I can look at, what I can't.

And so we didn't want it to be at the

inspector's discretion. We wanted to be able to produce more information in the industry to educate the inspections -- the inspectors themselves on how that boiler needs to be inspected, whether it can be looked at internally, whether the burners can be looked at without any kind of issues.

But a big part of this is that the inspectors don't necessarily have all the information they need to know to be able to know what to look at on that boiler. And so because of that, it gets just moved along.

The boiler looks good. Have you had any operating problems? No? Everything's good? That's great. How's the family? Been fishing lately? And so forth. Things move along in this kind of fashion.

So what I wanted to do was to at least get us to the point of saying it's not at an inspector's discretion. It's at the determination of whether that boiler can actually be looked at and inspected properly. And that's just through communication with those in the industry, whether that's back to the boiler unit or that's back to another boiler company to get the information or

what have you.

But we just didn't want to leave it status quo with where we are in the industry. And I've had inspectors that I would have loved to have had it on recording. I didn't ever need to look at this boiler. Well, why? Well, it's a hot water boiler. And we open it up and the low-water cutoff doesn't work or the burners have burned up or we've got some serious issues.

Insurance has worked out this, because what they've had is boilers that had failed and the customer produced a claim back through insurance. And insurance denied it, saying it was erosion corrosion.

My reply back was when was the last time the boiler was inspected, because that boiler is 22 years old and has never been opened up and would have been able to have made corrections to the boiler itself through water treatment, through whatever the situation was, to have eliminated this condition if it had been properly inspected.

Oh, so then they go back through the process, ask the inspector, have you looked at it internally. No. Well, because of that, then, the claim gets paid.

So there's a lot of things that happen because of the boiler not being looked at as it should, if it can be looked at, construction permitting. So that's where this conversation was to come about with saying this is where our code sits; this is how it is. The interpretation is such that it's basically on low pressure on hot water supply boilers.

There's very little that gets passed by on high-pressure steam. We always open up the high-pressure steam boilers, as they should. But the code doesn't differentiate; it says the same thing for low pressure. The only other added verbiage is construction permitting. So henceforth, the discussion item, why I was laying it out there, so that we can then produce this information back along to the state and insurance inspectors to say, hey, here is where we're at. We need to get everybody on the same page.

And my recommendation is to start perpetuating more education in the marketplace, i.e., hands-on training to the different types of boilers that are within the market that we work within.

And we've got a fairly finite number

of manufacturers that are in the industry. And it will take some time, but I think that through communication and increased training, we can get ourselves on track. So there you go. Thank you.

MR. BOWERS: Thank you. Next year, I guess we were going to have a conference, right, but it got canceled? We were going to have a joint conference with insurance inspectors and --

CHIEF O'GUIN: Are you talking about 2021?

MR. BOWERS: Yes, sir.

CHIEF O'GUIN: We're not having it with the insurance inspectors in 2021 since we're going live on our own new system. We are looking, hopefully, forward to 2022.

MR. BOWERS: Well, that would be a good time to bring in some of these -- A.O. Smith and say this is how you prepare our boilers for internal inspections. We're talking about training, bringing these people in here and have, actually, experts talking about the proper way to prepare a boiler for internal inspections and stuff like that.

CHAIRMAN MORELOCK: That's a great idea.

MR. BAUGHMAN: Well, there's boilers that are in the marketplace that are no longer in current manufacture, i.e., let's say AJAX. AJAX is very similar to the Wright boiler in construction. And so there's certain similarities. But the one thing with AJAX is it does have a hand hole, to where the Wright boiler doesn't have a hand hole. So therefore, the only way to inspect is to pull the end plates off, and that gets to be a real pain in the rear, but it can be done.

So all that said and done, ASME puts out recommended rules for the care and operation of heating boilers, and it just lists out the information. Periodic inspection is necessary.

We know that the boilers need to be inspected. That's a given. And it's a pressure vessel. And it has carbon monoxide issues; that's why we're doing carbon monoxide alarms now.

So we've got the fire side of the equation. We've got the pressure vessel side of the equation. We can't just let these things move on because we think that the boiler looks okay. There's no way. You can look at it and it can look beautiful, but you've got to be able to

inspect it construction permitting. And there are boilers that you cannot look at inside of the vessel. You can typically look at the burner and the heat transfer side of the vessel itself, which gives you a lot of indications of what's going on on the water side, too.

But I just wanted to -- for one, I'm thrilled to be able to have this at least brought up because this has been going on for a long time. And we've had a lot of discussions and I've talked to a lot of inspectors. And there's a lot of inspectors that have pushback on this.

No. I don't feel like we have to look at it internally. But when you do have a failure and it comes back on them, yes, there you go.

And so I've gotten a lot of input from a lot of different people within this industry to get to the point of feeling confident, getting past my own opinion, but having the others to back up in the industry of how it needs to be addressed on the inside.

You, as manufacturers, being here, I would make the assumption that you would say yes, on point, the boilers do need to be inspected

where construction is permitting. I don't want to speak for you, but I think it's somewhat of a given that we understand that.

It's just getting all of the people that are involved with this inspection industry on the same page on what needs to be done.

CHAIRMAN MORELOCK: Thank you.

CHIEF O'GUIN: Chairman, Chris, Chief Inspector.

I have polled the Board for information regarding internal inspection of low-pressure boilers. I have not got any results back. So hopefully, before the next meeting, I'll have those results.

CHAIRMAN MORELOCK: That will be good.

CHIEF O'GUIN: And, also, the information for Marty's interpretation, as well, were included in that request.

CHAIRMAN MORELOCK: Very good. That's good. Good update. Thank you.

MR. BAUGHMAN: Is there any other input? I gave, you know -- I jabbered a lot, but I would love to hear some other input on this. I gave my own point of view and opinion, but I would

love to have anybody else's while we've got just a minute.

CHAIRMAN MORELOCK: Anybody want to speak to that?

(No verbal response.)

MR. BAUGHMAN: I hear chirping.

CHAIRMAN MORELOCK: Yes.

MR. BAUGHMAN: Okay.

CHAIRMAN MORELOCK: All right. Okay. Thank you.

So that takes us to the Variance Guideline and Checklist Revisions. And I want to thank the boiler unit and I want to thank Chief O'Guin and Jamie and Carlene and a whole host of people who helped us get this document rebuilt to where we can actually edit it.

And so, honestly, what you have is all of the board comments that have been put into this checklist and variance. It's a clean copy.

In the essence of time and the time of day it is, and I know several other people have got other appointments they've got to meet, I would like for the board members to review this, send me comments. But we will put it on the September agenda as an action item to vote up or

down.

Any questions or comments about that?

(No verbal response.)

CHAIRMAN MORELOCK: Okay. I'm assuming that's good.

All right. So that takes us to Item 11 on our agenda, which is Announcement of the Next Meeting. Unless the Board decides otherwise, the next regularly scheduled meeting of the Board of Boiler Rules will be 9:00 a.m. on September 15, 2021 here at the Department of Labor.

And the last item on the agenda is Item 12, which is adjournment.

I want to thank you-all for coming. It's been great to see everybody, and this meeting is adjourned. Thank you.

END OF THE PROCEEDINGS.

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 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 20th day of June, 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 August, 2021.

Cassandra M. Beiling, LCR# 371
Notary Public State at Large
My commission expires: 3/10/2024

Z