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

QUARTERLY MEETING OF THE
STATE OF TENNESSEE
BOARD OF BOILER RULES

December 11, 2019

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CASSANDRA M. BEILING, LCR# 371
STONE & GEORGE COURT REPORTING
2020 Fieldstone Parkway
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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
· Terry Fox
  Boilermaker Representative
  Chattanooga, Tennessee
· Dr. S. Keith Hargrove
  Mechanical Engineer Representative
  Goodlettsville, Tennessee
· Jeffery Henry (not present)
  Boiler Manufacturer
· Sam Chapman, Chief Boiler Inspector
· Chris O'Guin, Boiler Inspector
· Thomas Herrod
  Assistant Commissioner, State of Tennessee
· Daniel Bailey, Esq.
  Legal Counsel, State of Tennessee
· Carlene Bennett
  Board Secretary, State of Tennessee

INDEX

19-08 Parkwest Medical Center
19-17 Nokian Tyres, U.S. Operations LLC
19-21 Proposed changes to Rule 0800-03-03-.14 Fees
19-22 Valero Memphis Refinery
19-23 Hearthside Food Solutions, LLC
19-24 Steris Instrument Management Services
19-25 Clover Bottom Developmental Center
19-26 Develey Mustard & Condiments Corporation
19-27 Tennova Healthcare Harton
19-28 TAMKO Building Products
BI 19-01 Inquiry 5 - ECS Consulting, LLC
BI 19-02 Interpretation request for CO detector installation requirements
BI 19-03 Interpretation request for submission of requests to appear on meeting agenda

AGENDA

I. Call Meeting to Order
II. Introductions and Announcements
III. Adoption of the Agenda
IV. Approval of the September 18, 2019 Meeting Minutes
V. Chief Boiler Inspector's Report
VI. Variance Report
VII. Old Business
19-08 Parkwest Medical Center
19-17 Nokian Tyres, U.S. Operations LLC
19-21 Proposed changes to Rule 0800-03-03-.14 Fees
VIII. New Business
19-22 Valero Memphis Refinery
19-23 Hearthside Food Solutions LLC
19-24 Steris Instrument Management Services
19-25 Clover Bottom Developmental Center
19-26 Develey Mustard & Condiments Corporation
19-27 Tennova Healthcare Harton
19-28 TAMKO Building Products, LLC
IX. Rule Case & Interpretations
BI 19-01 Inquiry 5
BI 19-02 Installation requirements for CO detectors
BI 19-03 Submission of requests to appear on meeting agenda
X. Open Discussion Items
*Update on the Boiler Computer System and JO #2020
*Tentative Meeting Dates for 2020
Wednesday, March 18th
Wednesday, June 10th
Wednesday, September 16th
Wednesday, December 9th
XI. The next Board of Boiler Rules Meeting is scheduled for 9:00 a.m. (CDT), Wednesday, March 18, 2019, at the Department of Labor & Workforce Development office building located at 220 French Landing Drive, Nashville, Tennessee.
XII. Adjournment.

** Reporter's Note: All names are spelled phonetically unless otherwise provided to the Reporter by the parties.
DR. HARGROVE: Keith Hargrove, board member.
CHAIRMAN MORELOCK: Brian Morelock, board member.
MR. BAUGHMAN: Dave Baughman, board member.
MR. BOWERS: Harold Bowers, board member.
MR. FOX: Terry Fox, board member.
MR. HERROD: Tom Herrod, assistant commissioner, WRC.
MR. BAILEY: Dan Bailey, legal counsel.
MR. BOWEN: Bruce Bowen, Steris IMS.
MR. TOTH: Marty Toth, ECS Consulting and the Boisco Training Group.
MR. NEVILLE: James Neville, President of Neville Engineering.
MR. COTTRELL: Phillip Cottrell, Develey Mustard and Condiments.
MR. GROSS: Jeremy Gross, Valero Memphis Refinery.
MR. TRAUNERO: Matt Traunero, utilities engineer, Nokian Tyres.

MS. RHONE: Deborah Rhone, boiler office supervisor.
MS. BELL: Deonne Bell, boiler staff.
MS. COLLINS: Kyra Collins, boiler staff.
MS. BAKER: Tiffany Baker, boiler staff.
MS. PRESSON: Jamie Presson, executive admin assistant for WRC.
MR. PARHAM: Dave Parham, Travelers.
MR. JONES: Kevin Jones, TAMKO Building Products.
MR. HUDGINS: Ernie Hudgins, Engineering Services Group.
MR. KELLEY: Greg Kelley, Boiler Supply Company.
MR. LARGEN: John Largen, Boiler Supply Company.
MR. VANSTONE: Blair Vanstone, Middle Tennessee Regional Office, Department of Intellectual Developmental Disabilities, boiler operator/supervisor.
MR. ROBINSON: Eugene Robinson, Cincinnati Insurance.
MR. DUNLAP: Derrick Dunlap, Jewell Mechanical.
CHAIRMAN MORELOCK: All right. Again, thank you all for introducing yourselves.
I do have a quick safety item. In the event of an emergency in the building, security personnel would attend to helping us get to a safe place within the building. And if we were to evacuate, we would evacuate on the Rosa Parks side of the building.
I would also ask, now that we are in session, if you have a cell phone, please turn that to silent. And if you need to step out and take a phone call, that's perfectly fine, but we want to make sure our presenters and people asking questions are heard clearly.
And so when you do come up to make a presentation, introduce yourselves and present your item.
Are there any other announcements?
(No verbal response.)
CHAIRMAN MORELOCK: It's come to my attention that somebody is having a birthday today, Mr. Herrod, so happy birthday.

MR. HERROD: Thank you.
(Applause.)
CHAIRMAN MORELOCK: I hope you have a great birthday.
MR. HERROD: Thank you.
CHAIRMAN MORELOCK: All right. Our next item on the agenda is adoption of the agenda.
And, like I said, they are up on the back table. There are a couple of things that we need to address before we vote on the agenda.
So if you will look on page 2, Item 19-23, Hearthside Foods, we will move their item to the March 2020 meeting. They just didn't have everything quite ready for the December meeting, so we will move that to March.
Item 19-27 Tennova Healthcare will also be moved to the March 2020 meeting.
And if you look, you will see that Item 19-26, we have that same item number for Clover Bottom Development as well as Develey Mustard & Condiments. So we are going to renumber Develey to 19-29. We won't bump you in the agenda. We'll keep you in the same spot, but --
MS. BENNETT: Mr. Morelock?
CHAIRMAN MORELOCK: Yes?
MS. BENNETT: Would it be possible to make one 25 and one 26?

CHAIRMAN MORELOCK: Sure. We can do that.

MS. BENNETT: We can make the first one 25, and then --

CHAIRMAN MORELOCK: So make Clover Bottom 25?

MS. BENNETT: Yes.

CHAIRMAN MORELOCK: Okay. All right.

MS. BENNETT: Yes. I think that that's where the error is.

CHAIRMAN MORELOCK: Is that okay.

MS. BENNETT: Yes.

CHAIRMAN MORELOCK: All right. So we'll make Clover Bottom 19-25, leave Develey at 19-26 and we're good, right?

CHAIRMAN MORELOCK: That's 19-01?

MR. TOTH: That's set for high-pressure. And I do not see it on the agenda.

CHAIRMAN MORELOCK: Is that 19-01?

MR. BAILEY: Yes, 19-01.

MR. TOTH: 19-01 is for -- I'm just seeing for high pressure. They're actually two separate agenda discussions. If I'm not mistaken, 19-01 was a conclusion discussion that was tabled from the September meeting.

MR. TOTH: And so there was also a submittal to discuss low-pressure boilers. That was brought up at the September meeting.

MR. BAUGHMAN: And it was actually deleted from that meeting, was it not?

MR. TOTH: It was. It was deleted from 19-01 and, subsequently, was resubmitted as a separate interpretation.

CHAIRMAN MORELOCK: Okay. So do the board members have a copy of the high-pressure item?

MR. TOTH: You do have a -- you have a copy of all -- you have a copy of the high pressure.

CHAIRMAN MORELOCK: Right.

MR. TOTH: Are you referring to the low-pressure? If you do not, then it will definitely have to be tabled.

CHAIRMAN MORELOCK: Hang on. Let me dig down here. So I have a 19-01 Inquiry 5, with Inquiry 5 and a Reply 5. Is that --

MR. TOTH: That would be -- that would be for 19-01.

CHAIRMAN MORELOCK: Okay. And then we have 19-02, which is CO.

MR. TOTH: Which is CO, yes.

CHAIRMAN MORELOCK: And that's all the items that I have. Do the other board members have any other items?

MR. TOTH: Do we have anything on the -- well, 19-03?

CHAIRMAN MORELOCK: That's for submitting items to the board.

MR. TOTH: Variance items?

CHAIRMAN MORELOCK: I don't know that we have a hard copy.

MR. BAUGHMAN: Here is an email where we request the low-pressure, November 21st, to be added --

CHAIRMAN MORELOCK: Okay. So that's low-pressure.

MR. BAUGHMAN: -- to be added to the discussion of high-pressure.

CHAIRMAN MORELOCK: Mr. Toth, I don't know that I have --

MR. TOTH: Okay.

CHAIRMAN MORELOCK: Does the board have a handout for...
MR. TOTH: No. That's absolutely fine. We do show 1903 on the agenda, but it appears that that was not -- that was not submitted to the board members either.

CHAIRMAN MORELOCK: I think the current -- let's see.

MR. BAUGHMAN: What is 19-03?

CHAIRMAN MORELOCK: 19-03 doesn't show on the agenda that's on the back table.

MR. TOTH: On the last page?

CHAIRMAN MORELOCK: Is it on that one?

MR. BAUGHMAN: The one that was emailed to us did not have it.

CHAIRMAN MORELOCK: Yeah. We don't have it on our agenda.

MR. TOTH: Okay. We'll just have to table that. I'll make sure that those are --

CHAIRMAN MORELOCK: Okay. I'll make a note of that.

MR. BAUGHMAN: Great. Thank you.

Mr. Toth, it is shown as a discussion item. My apologies. But it doesn't have an item number tied to it.

Mr. Toth, is it shown as a discussion item. My apologies. But it doesn't have an item number tied to it.

Mr. Toth, it is shown as a discussion item. My apologies. But it doesn't have an item number tied to it.

You do have the documentation for the interpretation request?

CHAIRMAN MORELOCK: I do not.

MR. TOTH: Okay.

CHAIRMAN MORELOCK: I do not. We can talk about it, but we'll just need to resubmit your item for March to vote on it.

MR. TOTH: Okay.

CHAIRMAN MORELOCK: All right. Any other items to clarify or correct the agenda?

(No verbal response.)

CHAIRMAN MORELOCK: Okay. Hearing none, do I have a motion to approve?

(No verbal response.)

CHAIRMAN MORELOCK: The September meeting minutes are approved.

That will take us to Item 5, the Chief Boiler Inspector's Report. And I'll hand that over to Chief Inspector Sam Chapman.

MR. CHAPMAN: Thank you, Chairman.

Deputy inspectors inspected 892 new vessels.

Total number of delinquents out of 71,793 active vessels. State inspectors were

...
1,205 -- that's on the delinquent -- insurance
inspectors is 367, giving us a total of 1,572
vessels.
Number of code violations, violations
found was 51; uncorrected violations is a total of
23.
The report data period is July to
September of 2019. Variance inspections will be
performed by Chris O'Guin, Assistant Chief
Inspector. We have a new inspector named Gregory
Strickland, which is going to be in the Nashville
area. And we have a new inspector that took the
exam December the 4th. He passed the exam, so we
do now have a new inspector for the Memphis area.
That is the chief's report.
CHAIRMAN MORELOCK: Very good.
CHAIRMAN MORELOCK: Any questions, comments?
(No verbal response.)
CHAIRMAN MORELOCK: Okay. That
will take us to Item 6, which is the variance
report. And I'll hand that over to Assistant
Chief Inspector Chris O'Guin.
Mr. O'Guin: Thank you, Chairman.
As of today, we've got 132 known
variances; 8 requiring a follow-up inspection; 69
deactive; 15 require reinspection; and 40 no
longer require it. They are dormant.
This quarter, we have completed
14 variance audit with 9 approved, and 5 failed.
Do you want me to name the ones that
failed the inspection?
CHAIRMAN MORELOCK: Yes.
Mr. O'Guin: Starting off, West
Tennessee Healthcare in Dyersburg failed due to
lack of training; West Tennessee Healthcare in
Jackson failed, lack of training; and Royal Canine
in Lebanon failed, lack of training and the e-stop
at the remote station did not work; and Centennial
in Nashville failed due to lack of training; and
St. Thomas West in Nashville failed due to lack of
training.
CHAIRMAN MORELOCK: Any questions?
(No verbal response.)
CHAIRMAN MORELOCK: The e-stop,
have they corrected that?
Mr. O'Guin: The one at the boiler
room worked properly.
Mr. O'Guin: But the one at the
remote station did not.
CHAIRMAN MORELOCK: Okay.
Mr. O'Guin: So they're still on a
20-minute rule, and they're supposed to be getting
it correct. And then once their training is up to
date and they're good, they'll call for
reinspection.
CHAIRMAN MORELOCK: Okay.
Mr. Baughman: I would be
interested to know, just as a follow-up at some
point in time -- I don't know how we'd do it
either, through yourself or input from them --
what, on that panel with the e-stop was actually
the issue, if it's the e-stop itself, mechanical
wise, I'm just interested in what the failure mode
was.
Mr. Chapman: Good question.
Mr. O'Guin: Because they had the
switch off, reenergized the boiler, and the boiler
came up, and the switch in the remote station was
still in the off position.
Dr. Hargrove: Question: Is it
your responsibility or the board or the assistant
chief to make recommendations regarding the lack
of training for the observations that were made?
Mr. Chapman: What we do is when
there's lack of training, we tell them that they
need to get trained on it. You know, if the
manual says -- do as the manual says and go from
there. So they're not even following the manual
on it, you know.
Some of them are just, okay, Jim
always goes to the boiler. You cannot assume
that. So that's the lack of training that most of
them do. It's follow your manual. If your manual
says step 1, 2, 3, go right down the manual.
Dr. Hargrove: Yes, sir.
Mr. Chapman: And they're not doing
that. They might go 1 and skip down to 5.
Mr. O'Guin: All of these -- just
for a better understanding for you-all -- all the
five that failed were due to remote station
training. All the boiler operators are on the
same page with the manual. But the remote
station, they will either be too busy with other
work or they won't follow their procedure in the
manual and they'll call a boiler alarm over a
two-way radio and that's it. And there's no
follow-up, et cetera. So you've got a boiler down
there in alarm, so...
·1· documentation of that either, right?  
·2· CHAIRMAN MORELOCK: Well, the  
·3· documentation is the implementation of their  
·4· manual.  
·5· MR. CHAPMAN: Yes.  
·6· MR. O'GUIN: Yes.  
·7· CHAIRMAN MORELOCK: And it's a good  
·8· finding, from the standpoint of this is the two  
·9· pieces of a boiler attendant variance. It comes  
·10· to the board to look at all the aspects of the  
·11· manual and make sure all the components are in  
·12· place. And then the field visit by the State of  
·13· Tennessee, are you doing what's written in your  
·14· manual. And that is so critical.  
·15· MR. O'GUIN: Yes, sir.  
·16· CHAIRMAN MORELOCK: And when you  
·17· reported that, I was thinking of Dr. Canonico.  
·18· That was always his big concern, was, well, what  
·19· if the security guard is busy, what if he's in a  
·20· fight somewhere, you know. And so this is proof  
·21· that the system is working. So that's actually a  
·22· very good report.  
·23· And so it's back on the owner now,  
·24· the operators, to do what their manual says.  
·25· MR. O'GUIN: And those five that

1 again. They have to -- when they renew, do they  
2 have to go through a test, when they review?  
3 MR. O'GUIN: Yes, sir.  
4 MR. BOWERS: So they'll do a  
5 follow-up visit three years -- after they pass it  
6 three years from now when they renew it, they  
7 still have to go through a physical test.  
8 MR. CHAPMAN: Yes.  
9 MR. BOWERS: That's very good. So  
10 we're making sure the system is working.  
11 CHAIRMAN MORELOCK: So three years  
12 from now, if they make no technical change to the  
13 manual, it's all on the Boiler Unit --  
14 MR. CHAPMAN: Yes.  
15 CHAIRMAN MORELOCK: -- for the  
16 renewal.  
17 MR. BOWERS: Yes.  
18 CHAIRMAN MORELOCK: If there was a  
19 technical change, then it would come back to the  
20 board.  
21 MR. BOWERS: But they would check  
22 it. They're physically checking it to make sure  
23 that three years from now these people haven't got  
24 lax. And they change personnel, and you're  
25 actually doing a physical test three years from

1 failed, they're on the 20-minute rule until  
2 further inspection.  
3 CHAIRMAN MORELOCK: Yes.  
4 MR. BAUGHMAN: The one thing that  
5 comes to mind with that e-stop that failed on the  
6 remote panel, that then goes to let you know that  
7 the procedure in the manual is not being followed  
8 also. Because if it was, that failure of the  
9 e-stop -- unless it just failed at that particular  
10 point in time, coincidentally, it would have been  
11 picked up during their normal variance procedure.  
12 MR. CHAPMAN: Yes.  
13 MR. BAUGHMAN: Okay. Interesting.  
14 CHAIRMAN MORELOCK: Very good.  
15 MR. O'GUIN: You know, personally,  
16 I think it's very good that you found that. I  
17 mean, it proves that the system is working. You  
18 know, we're very leery about these -- a lot of us  
19 are -- about these variances anyhow. So this is  
20 proof the system is working. So what you'll do,  
21 you'll do a follow-up inspection. You'll go  
22 through the whole system again, correct?  
23 MR. CHAPMAN: That's correct.  
24 MR. BOWERS: And see if they pass.  
25 Then three years from now, you'll go back to do it

1 now, and all of a sudden, three years from now,  
2 they fail the test again. And I was, like, you  
3 haven't retrained your new people to what you did  
4 three years ago. So we're constantly making sure  
5 they're compliant to the rules.  
6 MR. O'GUIN: Yes, sir.  
7 MR. BAUGHMAN: My concern with the  
8 three years gets back to the hardware issue. If  
9 we had a failure of the hardware and they're also  
10 not, at that particular time, keeping up with the  
11 manual, we've got three years' worth of time, or  
12 whatever period of time in between inspections.  
13 So we're not inspecting to the variance except  
14 once every three years; is that correct?  
15 MR. CHAPMAN: That is correct.  
16 MR. BAUGHMAN: Interesting.  
17 CHAIRMAN MORELOCK: Well, but the  
18 boilers themselves go down annually, correct?  
19 MR. CHAPMAN: That's correct.  
20 CHAIRMAN MORELOCK: So you're  
21 inspecting annually, the equipment.  
22 MR. BAUGHMAN: Yes. Unless you're  
23 on an extension of a variance with the inspection.  
24 CHAIRMAN MORELOCK: Well, that's  
25 true.

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MR. BAUGHMAN: So there's variables in that.

MR. CHAPMAN: Yes, it is.

MR. BOWERS: But actually, as an inspector -- as a matter of fact, I was at that location, one of them that failed, and they did the test that day. They thought I was the state inspector inspecting it.

I said, "Well, I'm going to do an operational inspection."

They said, "Well, do it." And they said, "You're not from the State, are you?"

And I said, "No. So you have to go through this process again when the state inspector comes out, to get it approved."

Apparently, they -- this was three weeks ago. So has it failed again within three years? Did they reinspect in the last three weeks?

MR. O'GUIN: I'm not sure who you're talking about.

MR. BOWERS: This is the St. Thomas location, St. Thomas West. You said they failed.

MR. O'GUIN: We have not reinspected that location.

Okay. So the regular inspectors are checking this. No, we don't get into the variances near as much as they get into the variance, but we do do an operational inspection on a high-pressure boiler.

(Indicating.)

CHAIRMAN MORELOCK: Yes?

MR. TOTH: Marty Toth, ECS.

Question: When they do fail, it's the user's responsibility to contact you when they're ready for a reinspection, correct?

MR. CHAPMAN: That's correct.

MR. TOTH: Okay. Thank you.

CHAIRMAN MORELOCK: Any other questions or comments?

No verbal response.

CHAIRMAN MORELOCK: All right. Good conversation.

MR. ROBINSON: Chairman?

CHAIRMAN MORELOCK: Yes.

MR. BAILEY: State your name, please.

MR. ROBINSON: Eugene Robinson, Cincinnati Insurance.

From a quality standpoint, at some point, if you can continue to see a trend of the training issues reoccurring, you may want to put a corrective action in place where you demand the user to submit to you in writing their corrective action and what they intend to do. And then you have the right to deny or accept that corrective action to eliminate the problem.

CHAIRMAN MORELOCK: Okay. Any other questions or comments?

No verbal response.

CHAIRMAN MORELOCK: Okay. Moving on to Item Number 7, which is Old Business. And our first item is 19-8, Parkwest Medical Center, acceptance of revisions to a newly issued variance.

And so if you'll come forward, introduce yourselves, and present the item.

And are there any board conflicts for this item?

(No verbal response.)

CHAIRMAN MORELOCK: All right.

MR. TOTH: Good morning again.

Marty Toth, ECS Consulting, here to -- I am the representative for Parkwest Medical. As you alluded to, Mr. Chairman, we submitted this, the manual, initially, on the four existing boilers that are located at Parkwest with the understanding that we were going through the process of adding a fifth boiler and, also, just for the board's understanding, a new deaerator that was much needed. Even though that is not technically part of the variance, it will be listed.

So as you mentioned, this is, I would say, simply, a revision to the existing manual.

There are no process changes to the manual, same individuals are involved in the manual, in the remote variance itself. All we've done is added in the fifth boiler. If you look at the illustration showing the remote panel from the old manual, it was actually shaded in showing future expansion. Now that is gone. There were some revision editorials once I sat with the client and we reviewed the manual. At this time, I'll be happy to mention those to you.

If you'll notice, page iii will list all of the changes that are added into the manual since the presentation in March.

On page 15, which is in the appendices, the information -- there was some information that
CHAIRMAN MORELOCK: Please.

MR. TOTH: Tennessee Number T125793 was issued to Boiler Number 5.

MR. BAUGHMAN: What was that number again? I'm sorry.

MR. TOTH: I'm sorry. T125793.

MR. BAUGHMAN: Thank you.

MR. TOTH: The boiler also has a maximum fuel input of 12,247,000 BTUs with an output of 10,350, which equates to that 300 horsepower. You'll also notice that there is a photograph that illustrates Boiler Number 5, a nice-looking boiler there.

The DA information on the next page, I will give you that information as well. So that National Board number is 18326, with a Tennessee number of T125794. Cleaver-Brooks boiler is the manufacturer with a model number of SD-70-1400/1800, and the serial number of O15296-1-1. And it was built in 2019.

Again, this is just in addition to it. I was very happy to see the client take the suggestions that I gave them in regards to adding additional local e-stops to their boiler room. As you can see from the site plan itself, if you'll take a look, initially, the only local e-stops -- I'm sorry, that's on page 13, if you would like to look. Initially, the only local e-stops that they had were located exiting the boiler room to the outside, near Boiler Number 5. Upon my request, they also included e-stops above Boiler Number 1 and Number 2, an e-stop panel there. And, also, an e-stop panel at the exit going downstairs, that would also exit at a lower level of the building itself.

I would be welcome to any questions you might have concerning this addition to Boiler Number 5, and any other questions.

CHAIRMAN MORELOCK: Okay. Do I have a motion to discuss?

MR. BAUGHMAN: So moved.

CHAIRMAN MORELOCK: Second?

MR. BOWERS: Second.

CHAIRMAN MORELOCK: Any questions or comments?

DR. HARGROVE: Quick question. What's the total distance -- I'm trying to look for some dimensions on the site plan.

MR. TOTH: Okay. Approximately 200 feet. If you'll see from the remote station...

DR. HARGROVE: Boiler 2 in front of --

MR. TOTH: Are you talking from the remote station to the boiler room or between the boilers?

DR. HARGROVE: First floor.

MR. TOTH: Okay. First floor.

DR. HARGROVE: What are the dimensions, let's just say, from the e-stop for Boiler 1 and 2 to the e-stop of Boiler 3, 4, and 5.

MR. TOTH: Okay. Just to be very clear, Dr. Hargrove, the e-stop that's above Boiler Number 1 and Number 2 also includes e-stops for 3, 4, and 5 as well.

DR. HARGROVE: Okay.

MR. TOTH: So what we did was we included a fifth e-stop over by the exiting behind Boiler Number 5 to include Boiler Number 5 in that bundle. Then we also added a whole new panel for above Boiler Number 1 and 2, for all five boilers, and a remote panel at the bottom of the steps, going down to the lower level.

Just so you can get a visual, the back road behind the hospital is actually is at a grade, going down, so they both exit out to that same road but just on different levels. And so those stairs, at the bottom of those stairs, is another e-stop panel with all five boilers.

So if you were to want to know the distance between that e-stop and that rear wall, I would say that is approximately 50 to 60 feet.

DR. HARGROVE: Okay.

MR. TOTH: It's all located in the same room. The illustration may appear that there is a wall there, but it's actually an opening.

That's just an overhead arched opening.

DR. HARGROVE: All right. Thank you, sir.

MR. TOTH: You're welcome.

MR. BAUGHMAN: Mr. Toth?

MR. TOTH: Yes?

MR. BAUGHMAN: So e-stops are required at each point of pedestrian egress. And being that Boiler Number 1 and Number 2 would require two means of exit out the boiler room for...
the size of the boilers, I see the e-stop at one location, but being that it's a requirement to have two means of exit out of the boiler room, the only other means of exit out of boiler room that houses Number 1 and 2 looks to be over in the mechanical room at that exit; is that correct?

MR. TOTH: No, it's not.

MR. BAUGHMAN: Okay.

MR. TOTH: As I mentioned to Dr. Hargrove, it appears in the illustration that that is a wall. But if you'll notice, that is a one-line versus a two-line illustration. For a solid wall, you would see a double line. That is a pass-through.

MR. BAUGHMAN: Okay. Yeah, just hard to tell. But thank you for that explanation.

MR. BOWERS: I was wondering the same thing.

MR. TOTH: Yes. I would say to take that illustration from their drawings and remove that line probably would be a good idea. Just for architectural sake, the double line represents a wall, be it a load-bearing or pedestrian. A single line represents a pass-through.

MR. BAUGHMAN: So being a pass-through, what does that exactly mean, just to --

MR. TOTH: It's just open.

MR. BAUGHMAN: Just open?

MR. TOTH: It's open. In the middle, if you look to the left of where it reads boiler room, that's a column. And it's just a simple pass-through step-up that goes into that space.

MR. BAUGHMAN: So actually, where Boiler Number 1 and Number 2 is, there's a pass-through there with a column and a door there also?

MR. TOTH: No.

MR. BAUGHMAN: Okay. So there is no --

MR. TOTH: No. Just a pass-through.

MR. BAUGHMAN: Just a pass-through.

Okay.

MR. TOTH: If there were a door, there would be a door illustration, as you see, a swing-in or a swing-out, and there's not.

MR. BAUGHMAN: Very good. And that pass-through opens up into the -- and I'm sorry. I just don't have my stronger glasses on. Actually, I do have some in my briefcase. But that's just an open area right there into the --

MR. TOTH: It's just one large boiler room.

MR. BAUGHMAN: One large boiler room. I'm just kind of curious where we're pulling our combustion air from, just from a mechanical standpoint.

MR. TOTH: You're pulling it from a number of different locations that were inspected and passed by the inspector.

MR. BAUGHMAN: Okay.

MR. TOTH: So yeah, there are a number of locations where we are pulling combustion air from.

MR. BAUGHMAN: Interesting. Thank you.

MR. BOWERS: A question on the e-stops.

MR. TOTH: Sure.

MR. BOWERS: You've got two e-stops. Either e-stop will shut down all five boilers, correct?

MR. TOTH: No. You have individual e-stops for each boiler. There's no requirement set forth by the boiler at this time that requires all boilers to be shut off by one e-stop.

MR. BOWERS: Now, according to the NBIC, but I thought we had talked about --

MR. TOTH: According to the NBIC what?

MR. BOWERS: You could have multiple e-stops.

CHAIRMAN MORELOCK: Yes.

MR. BOWERS: But I thought that somewhere in the state that we had talked about -- or we have discussed it.

MR. BAUGHMAN: We're going to.

CHAIRMAN MORELOCK: We've discussed it.

MR. BOWERS: Okay.

MR. TOTH: Again, this is a -- this was a choice that was made by Parkwest for that purpose, that they felt that for their operations, it was safer to be able to test those e-stops individually without disturbing all their boiler operations. And that does follow the requirements
at this time for the NBIC in the state of
Tennessee.

CHAIRMAN MORELOCK: Other
questions? Comments?

MR. BAUGHMAN: Yes.
CHAIRMAN MORELOCK: Okay.

MR. BAUGHMAN: Under Appendix J, page 41, Item 36 (b), "Does the Manual include a
test of: (a), (b), (c), (d), but in particular, (b), water column, and it identifies for that --
is that Section 4, Part 3, page 10?

MR. TOTH: That's what it reads.
MR. BAUGHMAN: Okay. Could you
identify where in Section 4, Part 3, page 10
that's addressed?

MR. TOTH: What we are referring
to, when we talk -- do we include all of the
system requirements? That is in normal
operations. Now, if you are -- when you talk
about normal duties, normal operations, we're also
referring to how we're going to test the system
when we test the communications. How we do that
is by performing either a test of the boiler
limits or by manual means at the control. So that
is where we are actually testing those limits or
the water column.

So when we say -- if we want to say
are we testing the boiler water column, is that a
part or requirement to spell that out in the code
book -- or in the manual? I don't see where
that's necessarily a requirement to actually spell
out what we are going to test. We're saying we
are going to test the limits.

The operations of that boiler on a
daily basis, per their operation logs, calls for
them to do a low-water test of each boiler and
operation.

To spell that out in our code, we are
spelling it out by saying we are testing those
limits.

MR. BAUGHMAN: Okay. Well, I'll
come back to that. In our manual, in specific,
does the manual include a test of (a), (b), (c),
and (d), and (b) being the water column --

MR. TOTH: I would be more than
happy to change that to "N/A" if you would like.

MR. BAUGHMAN: Sure. Because you
do put a reference to it in the manual, going back
to that -- Section 4, page 10, Part 3 -- but
there's nothing that's there. So we're saying

it's not -- so what I'm saying is it's part of the
manual and you're saying...

MR. TOTH: I'm saying it is because
I'm using the terminology "testing limits."
MR. BAUGHMAN: Okay.

MR. TOTH: Which includes above and
beyond testing the water column.

MR. BAUGHMAN: Okay. Right. But
in our manual, of course, it doesn't say does the
manual include a test of the limits. It's
specific to boiler water column. So that's my
point in there, as far as to the manual.

MR. TOTH: And so my explanation is
not satisfactory. Would you like me to change
that?

MR. BAUGHMAN: I'll leave that up
for discussion of others, but...

MR. TOTH: I'll be more than happy
to put that in there if "testing the limits" is
not satisfactory; whereas, testing the limits
includes water columns, gas streams, things of
that nature.

CHAIRMAN MORELOCK: If I can
interject, what we do is we tell owner-users that
they need to test their boiler, but we don't
necessarily tell them how to do it. Because then
we shift liability to ourselves if we tell them
how to do it. We just tell them they need to test
their boilers. Just like the ASME code will tell
you what you need to do, but it's not going to
tell you how to do that.

MR. TOTH: Mr. Chairman, if I may
interject. I agree with what Mr. Baughman is
saying, is that the checklist does ask if we
include a test of the boiler water column.

CHAIRMAN MORELOCK: It does.
MR. TOTH: If the board feels more
comfortable for the manual to spell out water
column, we can say limits and water column, if
that makes us feel like we're answering the
question.

The question, to me, is being
answered in "testing limits." But if the board
feels like we need to add that because it's one of
the check-offs, I'll be more than happy to.

DR. HARGROVE: Mr. Chairman, the
point made by Mr. Toth is relevant; however, it
can complicate matters when Item 36(d) says
"Other." We may have to list what those items
are.
CHAIRMAN MORELOCK: Exactly.
MR. TOTH: I'm sorry, 36(d)?
CHAIRMAN MORELOCK: And you're going to -- I mean, our previous manuals have not required that level of detail.
MR. TOTH: All right. But again --
CHAIRMAN MORELOCK: So it'll be a retroactive change for everybody.
MR. TOTH: Right. The one thing that I would like for us all to recognize is just as you had mentioned, Mr. Chairman, is that the testing is the responsibility of the owner-user and how they test.
NFPA 85 CSD-1 are going to require tests. They're going to require that the owner-user provide a checklist of those tests that are being performed. What this manual and what these manuals are going to look for is the communication. What is that communication? That hardwired communication that's going from that particular boiler to the remote station and how that's performed. It does not stipulate nor does it read anywhere that you have to do a limit check to test that communication. Is it best practice? Absolutely. Absolutely, to perform those tests.
I can assure you my clients are not only documentation of those particular tasks; they're also trained, specifically, on those tests and those requirements.
But, again, I go back to whatever this board would like to see in this manual, I'll be more than happy to spell it out. That does not necessarily mean that every one of those checks are going to be made at every opportunity at the beginning of every shift.
CHAIRMAN MORELOCK: So in the future manuals, as we get to looking at some others, you do specifically address water column.
MR. TOTH: Oh, I do.
MR. BAUGHMAN: Yeah. And so it's -- but if we're going to change --
MR. TOTH: Well, I --
MR. BAILEY: One at a time.
MR. BAUGHMAN: So --
MR. TOTH: If I may interject.
MR. BAUGHMAN: Interject.
MR. TOTH: I specifically addressed low-water cutoff checks. I do not specifically address water columns.
Sorry about that.
MR. BAILEY: No problem.
MR. BAUGHMAN: And so to further that, we go through tests of the limits, but in Section 4, page 10, Item (b), -- let's see. Section 4, page 10, Item (b), the question I had was there's an alarm test feature -- in other words, on some of these boilers, Cleaver-Brooks and others, they don't actually test the limit. It's a shunt that checks the alarm. So all it's doing is it puts 120 volts over on the alarm circuit, sends the alarm out, and it goes to the remote panel and so forth on it. But it's not actually testing the limit. In other words, it's not shutting the boiler down; it's just testing the alarm.
And so from a boiler operator standpoint, I don't feel that that's a proper test of the limits. And under the training, we would want to make sure that through the proper training and through CSD-1's requirements and on through the inspector's checks, that the limits are actually checked for their functionality and their alarm capabilities.
MR. TOTH: If I --
MR. BOWERS: The problem I have --
MR. TOTH: Can I respond to that?
MR. BOWERS: Well, the problem I have, we don't want to -- as a board, we don't want to overreach, and we don't want to tell people how to do their jobs. We have the NBIC. We have the ASME. We've got all these codes to tell them how to do stuff. As a board, we don't want to overreach and tell people what to do day-to-day.
MR. TOTH: If I may respond to that. Absolutely, Mr. Baughman. Here's the thing to recognize. The actual controls that we have on these boilers are Honeywell 7800 burner controls. Those particular burner controls do have the opportunity for us to press and hold the reset button for a three-second period. That will cycle the boiler down. That will take that alarm and send that signal to the remote station. Again, that's what we're achieving through the communications of the alarm. That is the test we're looking for.
So in this manual, particularly, you're going to see that that operator can either do a limit check to send an alarm because they could check the low water or low gas or anything.
of that -- flame failure or anything of that
that's going to signal an alarm to the remote
station, or they can do a communication check, as
I spell out here.
As to your suggestion, absolutely,
boiler training, we agree with that. As a matter
of fact, this particular location, I went by -- I
was there yesterday and preparing to create their
boiler training program, taking video of the
individual training, them going through the
processes, taking photographs. We went through
the gamut of every one of those tests, including
flame failure, gas pressure, combustion air
pressure, low water, so on and so forth. So that
is something that, as you know very well, is
required in a boiler operator. But we're talking
about the communications here, and that's what
we're doing.

MR. BAUGHMAN: Thank you very much
for going through and answering these questions,
Mr. Toth.

MR. TOTH: No problem.

MR. BAUGHMAN: So in Section 4,
page 8, Item (a), I believe -- I hope that's
right -- there's a statement that at the end of
the shift, the personnel should meet to discuss --
"At the end of their shift, the boiler attendant
should meet at the boiler to discuss the boiler's
status, any operational information or alarms,
previous -- and it gets down to the changing of
the word "should" to "shall." I don't know if --
what your thoughts are, but it leaves -- and I
agree, they should meet. And I don't know, we
really don't have a requirement that says "shall."
And that can be for a future discussion, but it
leaves to where nobody is being required to
communicate.

It's kind of almost like the old Bugs
Bunny cartoon where the guy that's overlooking the
sheep and they're swapping and going by and saying
how is your day and what have you. But there's no
need for communication or no mandate for
communication. And I just think that what we're
dealing with, potential catastrophic-event
equipment, that communication is paramount.

But I want to get your thoughts on
the "should" and "shall."

MR. TOTH: Absolutely. Well, I can
give them to you in two different ways.
Number one, let's get an understanding of code
terminology. We'll call it code lingo, where when
you look in the code book and see the word
"shall," it's a requirement. "Should" is only a
recommendation unless the jurisdictional authority
or whoever is over that makes it a shall. And the
"may" is just purely recommendation.
And you'll see that in forwards of
code books all around the world. My personal
belief in how I advise my clients and train my
clients is, absolutely, we do a swap over. I'm an
old Navy guy, and it was taking over the watch.
And in taking over the watches, you have a
discussion of what's on line, what the operations
is, has there been any adverse conditions. I
agree 100 percent with that.

Now, what you're going to run into is
the companies have shifts that they operate. Now
you're going to start putting yourself in a
position where you're telling a company that they
have to overlap manpower. I have some companies
that do. I have a lot of companies that do. And
a lot of companies I request them to do. Which
means you have somebody coming in 30 minutes prior
to the person going outbound 30 minutes later.
That's fine. But that's not something that is
going to be easily regulated or required.

So our personal beliefs are one
thing, but, again, you're starting to get into how
they should be operating. The way that we tie
those two together is by a boiler log. That
boiler log is the communication piece. When
somebody takes on a shift -- when we're talking
about a boiler attendant/boiler operator takes on
a shift, their responsibility is to report to
boiler room and take readings. Those readings are
going to also show the readings from the previous
individual.

That's where that communication is
held fast. If they have an overlap and they can
do it in person, that's great. But the mandate
and the requirement is that boiler log.

MR. BAUGHMAN: Thank you, Mr. Toth.

How many personnel are at the
security dispatch station?

MR. TOTH: There are three.

MR. BAUGHMAN: On all three shifts?

MR. TOTH: Yes.

Mr. Chairman and Mr. Baughman, if I
may, I know that when we reapply, reenter, that
opens the manual up for opportunity for this, for
scrutiny. Nothing has changed in this manual that was not spoke upon in March, including the questions that are being asked now. I'll be more than happy to reiterate what I did back in March, which is there are three individuals in that room; it is manned 24/7.

MR. BAUGHMAN: And I appreciate that, Mr. Toth. And yes, there's questions that do come up over reevaluation and going in. I know we did pass it, but upon reading in more detail, questions do come up, whether myself or others.

The other question I have is there's a description that describes non-engineering department personnel of the engineering department. And I don't -- this is, I believe it's under Section 5 -- let's see. Well, I wrote down 5(a), but that, I believe, is under Section 4, page 11, under Restart Procedure. There's a note that says "Non-Engineering Department Boiler Attendants shall not attempt to restart a boiler."

My only clarification was there's no identification. We make an assumption of who is engineering and non-engineering, senior lead tech, maintenance lead techs and so forth. But there's no specific identification. I've got, under the emergency call list, an engineering department boiler attendant. But then I've also got team leader, facility service manager; and I don't know what's actually classified under engineering department or non-engineering department.

MR. TOTH: Well, if you would, Mr. Baughman, if you'll take a look on page 21, you'll see an organizational chart. The organizational chart shows the corporate director of engineering and the hierarchy of the individuals that fall under engineering. And then there's a communication line that goes over to the safety director and the safety dispatchers that are located in the PBX. Those would be classified as your "non."

CHAIRMAN MORELOCK: Well, and while we're looking at the organization chart, we did ask, in March, to delineate on your org chart who's the remote attendant and who's the boiler attendant for clarity, that we're actually discussing right now. So if you'll add that, I think that will help your org chart.

MR. TOTH: Sorry for omitting that.

MR. BAUGHMAN: One other note that I made was under the senior facility service tech job description. It shows him interfacing with elevator inspectors and elevator maintenance personnel, but it does not -- that will be on page 29, Number 2 -- interfaces with elevator maintenance contractor and elevator inspector to assure elevators operate, but it left out boilers, so --

MR. TOTH: Maybe they don't.

MR. BAUGHMAN: Okay.

MR. TOTH: I mean, it's maybe somebody else that does that.

MR. BAUGHMAN: Okay. Well, being the senior facility service technician, I would've assumed he did. But there again, that's an assumption, so...

I was just interested to why he didn't have that listed.

CHAIRMAN MORELOCK: Well, in Appendix G is all that job requirement, not just the boilers.

MR. BAUGHMAN: Thanks, Marty.

MR. TOTH: No. problem.

MR. BAUGHMAN: One other question I just was curious on: Who builds the remote panels -- or who built the remote panel for this project?

MR. TOTH: Boiler Supply Company.

MR. BAUGHMAN: Boiler Supply.

Thank you.

CHAIRMAN MORELOCK: Any other questions or comments?

(NO verbal response.)

CHAIRMAN MORELOCK: The only question I have is has the State made a site visit for the March variance of four boilers, or were you going to wait until the fifth one was put into operation?

MR. O'GUIN: I think we're waiting till the fifth one was put into operation.

CHAIRMAN MORELOCK: Is that correct?

MR. TOTH: That is correct. And if I may add, the reason for the timeline was when we came in March, didn't really know the extent of how far out the new installation would be, and so they took that approach. Whenever the new installation would be able to get on track and before schedule, it was, okay, well, let's hold off. Let's get the fifth one. Let's reapply it.
with the revisions, and then we'll go through the process.

CHAIRMAN MORELOCK: Okay. And they've been good running the 20-minute rule on that?

MR. TOOTH: They have, yes.

CHAIRMAN MORELOCK: Okay. All right. Thank you.

CHAIRMAN MORELOCK: If not, do I have a motion to approve this revision to an existing variance to add this fifth boiler contingent on a successful site visit by the Boiler Unit, and any comments made during this review by the Tennessee Board?

DR. HARGROVE: Motion to approve.

CHAIRMAN MORELOCK: Okay. Do I have a second?

MR. BOWERS: Second.

CHAIRMAN MORELOCK: Any other questions or comments?

CHAIRMAN MORELOCK: Hearing none, 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: Mr. Toth, you have five boilers in your variance now.

MR. TOOTH: Great. So if I may ask, the only editorial change was...

CHAIRMAN MORELOCK: To delineate who is considered a boiler attendant and a remote station on your org chart. Because when people go out and look at it, they're, like, you know --

MR. TOOTH: Okay.

CHAIRMAN MORELOCK: So that's where you get the questions.

MR. TOOTH: And then the editorial changes that I mentioned, adding the new information.

CHAIRMAN MORELOCK: Yes. But about Mr. Baughman's question, if you do look on page 29, Appendix G, it tells you that that person does serve as a certified boiler attendant while the boiler attendant variance is in place. So it's in there. All right. Thank you very much.

MR. BAUGHMAN: And that was approval upon inspection.

CHAIRMAN MORELOCK: Yes. It's always contingent on inspection, yes. So it's always a contingent approval.

Okay. Moving on to our next old business item, which is 19-17. Nokian Tyres is requesting a variance for two high-pressure boilers.

Mr. Chairman and members of the board, thank you again. I'm very happy to be able to present this manual for Nokian Tyres. As you will see, Nokian Tyre has a very unique operation, which is really exciting. Nokian Tyres' operation has its own utility building. The utility building is manned by two utility operators that are responsible for that utility building. They are -- at this current time, they are operating two high-pressure boilers.

Before we get deeper into that, we did have a couple editorial changes I would like to bring to the board's attention, if you would. One of which is, prior to writing, we did not have the boiler Tennessee numbers. Let's go ahead and, if we would, take a look at page 11.

MS. BENNETT: Excuse me.

MR. TOOTH: Marty Toth with ECS Consulting.

Mr. Chairman and members of the board, thank you again. I'm very happy to be able to present this manual for Nokian Tyres. As you will see, Nokian Tyre has a very unique operation, which is really exciting.
ends in 5. But he'll be okay.

And the set pressures for these boilers are 292 psi. So as you can see, Nokian Tyres, you can imagine what they do. They make a very nice product. I will let Matt kind of take you through their operations, give you a little bit of oversight on that, and then I'll get back into the equipment.

MR. TRAUNERO: Nokian Tyres is a Finnish-based tire manufacturer. This facility is their first U.S. factory with hopes for expansion in the future. We consider ourselves to have a very safe culture, a culture very focused on quality and on environmental and sustainability concerns. We have a plant atmosphere that is very safety oriented, and a very close-knit group.

MR. TOTH: Okay. So if we go to page 12, the deaerator, we have the Tennessee number that's placed on that is T127463.

We'll look over on page 15. There was, obviously, a printing error that came from the printer that way when these were sent out. That will be revised.

And then, also, if you look on page 22, the title is utilities operator. It's actually utility. And then that carries over to page 27 under boiler attendant, utility operator.

And we will make sure that that is searched through completely before we get a final copy for inspection.

CHAIRMAN MORELOCK: So -- excuse me, Mr. Toth. So on page 22, the title is utilities operator?

MR. TOTH: Utility operator.

CHAIRMAN MORELOCK: Utility operator. And you also have a typo in operator.

MR. TOTH: Thanks. I will make sure and correct that as well.

CHAIRMAN MORELOCK: Thank you.

MR. TOTH: So if we take a look, just to kind of touch on, back on page 12, looking at these boilers, a beautiful boiler operations setup here, we have two boilers that have an MAWP, maximum allowable working pressure, of 325 psi. We also are utilizing Hawk 4000 systems on these boilers with a master panel. As I mentioned in the letter, the request letter, the thought is to expand as we go. There's plenty of room in the boiler room itself for two more boilers of this type. I was very happy I was able to go by and meet with Matt at the plant again just to verify that we are ready, which we are. So once we get through this process, we would be requesting for an inspection in the very near future.

One of the things that you will also see is that we do have a very large deaerator. Again, it's not technically part of the process, but it is -- it has been inspected and has been registered.

If you will flip back over to page 10, there is another editorial, just for your understanding. If you'll see, we have -- this whole schematic here shows the utility room itself or utility building itself. There is an e-stop, local e-stop, so we have three currently showing on the diagram for e-stops. These are all going external to the building itself. So they're pedestrian exits going outside of the building.

There was also -- the installer also put a fourth e-stop going into the electrical room. That electrical room itself is a locked electrical room that is not classified as a point of egress. That will and has been trained to the individuals, the operators at the location, but just wanted to make note that we will include that as well.

As you can see, though this is a very large building that houses a lot of equipment, the e-stop panels, we actually have four separate e-stop panels outside of the boiler room just in case the utility operator is in any of these zones. And we're giving the distance from the boiler room to each of these panels.

And as you can see, I went through and did a decibel reading throughout the entire building to verify that the e-stops that we are putting in are sufficient enough to hear over any equipment operations. I would also like to add that there is communications between these two utility operators by way of a radio system. At no time during the shift will there not be a utility operator in the boiler room -- or excuse me -- in the utility building. So they will be in vicinity of all the remote panels or personally in the boiler room itself. If for some reason there is a situation that occurs outside of the utility building that requires one of the utility operators to leave it, there will be a communication from that utility operator to the
second operator informing them that they will be out of the utility building and the expected return.

If at any time during that period there is an alarm on the boilers, the procedure that's taught to the attendant is to activate a remote panel on the affected boiler, communicate to the second utility operator. At that time, that second utility operator is to report immediately to the utility building. The utility operators do not leave the campus of the plant at any time during their shifts.

I'm open to any questions you may have.

CHAIRMAN MORELOCK: Do I have a motion to discuss?

MR. BOWERS: I make a motion to discuss.

MR. BAUGHMAN: Second.

CHAIRMAN MORELOCK: Okay. What questions/comments do you have?

MR. BOWERS: From the diagram where the operator -- I guess it's an operator room? Is that --

MR. TOTH: Are we saying the site plan?

MR. BOWERS: Yes, the site plan on page 10. He has to go through a locked door to get to the boilers? Is that...

MR. TOTH: He would have to come outside. There's a pedestrian door there. That pedestrian door then follows over to the boiler room. And the reason for that is because the level of safety that this company has. They do not want individuals -- they do not want to utilize their electrical panel room as a pass-through. So in the design, it is -- those doors remain locked. To access the boiler room, it's simply just a walk-through from one door into the next.

MR. BOWERS: So if he's in that room, he would have to go outside to come in to look at the boilers.

MR. TOTH: Yes. And that's their normal operation of going through, all the way over to the pump room at the far end of building, checking the fire pumps to checking the chillers, and checking the compressor systems. And that's what I really like about the way Nokian did this and set this up, is they have a dedicated building just for that so they're able to be efficient and to be able to cover that space very well throughout the day.

MR. BOWERS: And just for my own curiosity, since they do have full-time operators, why are they going after a variance?

MR. TOTH: Well, the reason is, is because they do have other duties within that utility building. If they were on the compressor end of that building, which is one of the furthest ends, every 20 minutes they would, in essence, be required to go into the boiler room, would they not? So therefore, this allows them to be able to monitor the operations, be able to monitor any alarms, but then also take the readings on a four-hour cycle.

CHAIRMAN MORELOCK: Any other questions?

DR. HARGROVE: Thank you, Mr. Toth, on making those editorial changes initially.

My question is to the employee of the company. On Section 4, page 9, regarding the boiler alarm, Item 3, "Notify production over a two-way radio that a boiler(s) is down on alarm," what, specifically is the production person who's contacted?

MR. TRAUNERO: They will reach out to the production supervisor or lead personnel on -- excuse me -- within the curing department to inform them that there is a steam interruption going on for any potential production impact.

DR. HARGROVE: So the contact person is the production supervisor.

MR. TRAUNERO: Yes.

DR. HARGROVE: Okay. Is that for that particular region or for the plant itself?

MR. TRAUNERO: For that particular region, we only -- we have one department that is a large consumer steam where the interruption will impact production.

DR. HARGROVE: Okay. I would like to request to notify the production supervisor or that individual rather than just the general statement, "notify production" of this alarm situation.

MR. TOTH: Is that a correct statement, that it's a supervisor or lead?

MR. TRAUNERO: Yes.

MR. TOTH: So they are going to have a radio as well.
MR. TRAUNERO: There's a supervisor on first shift that will have a radio, and then each shift will have a lead.

DR. HARGROVE: Okay.

MR. TOTH: So would it be satisfactory to you, Dr. Hargrove, if we not just put supervisor, but supervisor, slash, lead, because as Mr. Traunero alluded to, the supervisor for that production is on the first shift with leads that have that responsibility for shift 2 and 3.

DR. HARGROVE: Well, I think that the answer to that is who is notified regarding to production?

MR. TOTH: And I agree. And I think that's probably why we went with "production," because the actual title of the individual changes from shift 1 to shift 2 and 3. So shift 1 is the supervisor that's over all of production.

DR. HARGROVE: Okay.

MR. TOTH: And they have almost like assistant supervisors that they call leads that serve in that role during the second shift and the third shift. And that's why I think we went with a generic term that said "production." But we'll be more than happy to specify that.

DR. HARGROVE: Yeah. Let's put them both in there. Thank you.

CHAIRMAN MORELOCK: Any other questions and comments?

MR. BOMERS: On steam interruption, how long before it would start affecting the product?

MR. TRAUNERO: It's a matter of how many curing presses are running at a time. If there's not many presses running, it could take 20 minutes. If we have a full line of presses going, it could be very few minutes to convert the steam header and get that one to the point that it's affecting production.

MR. TOTH: And as you will -- different than the previous variance with Parkwest, Nokian Tyres has gone the route of one e-stop kills all boilers locally, which, as we would agree, is -- can be construed as a safer way of doing it. But instead of going with separate e-stops, they go with one e-stop.

So if we do have a situation that one of the boilers of the two existing boilers right now goes down, they hit an e-stop, they're going to lose production, which is fine by them, absolutely, because, again, their concentration is heavily on safety.

CHAIRMAN MORELOCK: Other questions?

MR. BAUGHMAN: Yes. Mr. Toth, it's just part of my age or what have you, but I have a hard time looking at the site plans and what's a single line, double line, and so forth on it. So I would love to have bigger items to be able to look at. But the question comes back down to the boiler room. And just identify for me where Boiler 1 and 2 is, and, further, going into the future boilers, because I don't know if that's a wall that's separating the boiler room.

MR. TOTH: Oh, okay. That is not. MR. BAUGHMAN: Okay. So that'll all be --

MR. TOTH: That's a very good question. A very good question. This, the boiler room itself, is one large enclosure. Okay? There is no walls that separate the two. You'll see the illustration showing where the future boiler installation will be, down the road. It could be one boiler at a time or it could be both. And so that's just one very large good-looking boiler room.

MR. BAUGHMAN: Very good. And with that, can you identify for me where the points of egress are at within the boiler room?

MR. TOTH: Sure. If you'll see, Mr. Baughman, from the legend at the bottom of the page, it indicates where the emergency stop buttons are. That is exactly where your points of egress are in the boiler room, and then, also, where we included an extra e-stop that goes into the electrical room. But the points of egress are those three existing locations.

MR. BAUGHMAN: Very good. Now, the electrical room, there again, that one door is locked. How is the locking mechanism -- can it be opened from both sides? In other words --

MR. TOTH: It's mechanical.

MR. TRAUNERO: Coming from the electrical room, there is a push bar. Going from the boiler room into there, it's a key card. It's a scanning key card access to get within that room, and there's a door handle.

MR. BAUGHMAN: Are both those doors
locked in the electrical room?

MR. TRAUNERO: Yes.

MR. BAUGHMAN: Okay. Going to your feedwater system -- nice system, by the way -- is this system all up and operational?

MR. TRAUNERO: Yes, it is.

MR. BAUGHMAN: Okay. So everything is installed, ready to go.

MR. TRAUNERO: Yes, it is.

MR. BAUGHMAN: What a blessing. On your feedwater system in this large DA, as steam goes out through the system and is going through your equipment, how is it returning back as condensate to the DA?

MR. TRAUNERO: The condensate being returned to the DA is -- we actually have a three-bar flash steam system to generate three-bar steam, and then we're using Sarco pressure-powered pumps to pump back to the generator.

MR. BAUGHMAN: Got you. So the condensate is actually going back to the condensate receiver being pumped over to the feedwater --

MR. TRAUNERO: Yes.

MR. BAUGHMAN: -- or to the DA.

understand that those guys have two badges. They can flip it over to be a remote monitor or they can flip it over and be a boiler attendant.

MR. TOTH: Absolutely. Absolutely. And that is -- and that's why it's the remote panel --

CHAIRMAN MORELOCK: Yes.

MR. TOTH: -- is because when they're serving that role as we look at -- in a normal operation, you have the two individuals in the building. One individual on one side gets the alarm and he hits it. He's going to be able to communicate. The second individual goes to the boiler room. If that's not the case, that individual, obviously, is serving both roles.

CHAIRMAN MORELOCK: Right.

MR. TOTH: And so we go -- but the communication is still there. So how would you like for me to --

CHAIRMAN MORELOCK: No. I mean, the process is fine. It's just when you read "remote station personnel," we don't really say clearly that the utility operator serves both roles.

MR. TOTH: Can you point that out for me, where you read that?

CHAIRMAN MORELOCK: On page 3, Item E. It just says "remote station personnel."

MR. TOTH: Perfect. Right.

CHAIRMAN MORELOCK: So you know...

MR. TOTH: I will take care of that.

CHAIRMAN MORELOCK: Yeah. And so you can just -- and then on page 19, you say utility operator, and you've got, parenthetical, boiler attendant, but you also need, parenthetical, remote station as well.

MR. TOTH: Okay. Sure.

CHAIRMAN MORELOCK: Just to help folks like me figure it out.

MR. TOTH: Okay.

CHAIRMAN MORELOCK: And so you have two per shift, correct?

MR. TOTH: Yes.

CHAIRMAN MORELOCK: Okay. That answers that. And that's all the comments I have. Are there any other comments?

MR. BAUGHMAN: There was. And thank you again.

So the alarm panel gives off an
audible alarm.

MR. TRAUNERO: Uh-huh.

MR. BAUGHMAN: My question is, in a production area, do you know what the noise level is?

MR. TOTH: Again, this is separate than the production area.

MR. BAUGHMAN: Got you.

This is a separate building. The production area is a complete -- there's actually a pass-through, if you will, an outdoor pass-through that goes from utility building to the second location.

CHAIRMAN MORELOCK: Indulge me one more, too, Mr. Toth. On page 23 of Appendix G, you do state that the utility operator is a boiler attendant, but there's no verbiage in there that they serve as a remote monitor.

MR. TOTH: And with that, the reason is, is a definition that we've put in the manual as what a boiler attendant is and what their responsibility is.

CHAIRMAN MORELOCK: Okay.

Clarification. Absolutely. I do not have a problem doing that.

CHAIRMAN MORELOCK: Okay. That's fine. Thank you. Other questions or comments?

MR. BAILEY: Have you had a chance to make all the editorial changes?

MR. TOTH: That they're mentioning?

MR. BAILEY: Yeah. Because they were mentioning them, and I saw you were trying to...

MR. TOTH: Well, there was the one Mr. Chairman had mentioned on page -- it said page 13, but page 13 is actually --

CHAIRMAN MORELOCK: It's page 3, I believe.

MR. TOTH: -- equipment. It was 3.

And then you also mentioned on the -- I believe you mentioned on the org chart, if I'm not mistaken.

CHAIRMAN MORELOCK: Yes, that's correct.

MR. TOTH: And so you said on the org chart you wanted this to also -- I think Matthew and I will discuss, but I think it -- simply enough for clarification's sake, calling them a remote boiler attendant throughout the manual will probably suffice for any type of -- because we are used to seeing, especially in my manuals, come across as a boiler attendant and no remote attendant. So if we put those together, I think that will solve any confusion.

CHAIRMAN MORELOCK: Okay. Thank you.

Any other questions or comments? (No verbal response.)

CHAIRMAN MORELOCK: Hearing none, do I have a motion to contingently approve this variance based on revisions to the manual based on comments from the Tennessee Board, as well as a successful site visit by the Boiler Unit?

MR. FOX: I'll make that motion.

MR. BOWERS: I second.

CHAIRMAN MORELOCK: Any more discussion?

(No verbal response.)

CHAIRMAN MORELOCK: Hearing none, I'll 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: You have a contingently approved variance.
MR. TOOTH: Thank you.
MR. TRAUNERO: Thank you.
CHAIRMAN MORELOCK: It is 10:30, so let's take a ten-minute break, and we'll reconvene at 10:40.
(Recess observed.)
CHAIRMAN MORELOCK: Thank you-all.
Moving on to our next item of old business, the next item is 19-21. And that is proposed changes to Rule 0800-03-03.14, fees.
MR. HERROD: Mr. Chairman?
CHAIRMAN MORELOCK: Yes?
MR. HERROD: I'll bring you up to speed on this.
CHAIRMAN MORELOCK: All right.
Thank you very much.
MR. HERROD: One of the things that became evident as I became assistant commissioner was the fact of some of the delinquency rates that we had of both boilers and elevators and how do we combat that and how do we attack it.
So what we have decided to do is to, with the Governor's approval, ask for fee increases that will provide salary increases that will attract new inspectors and to -- we're doing this, both, for elevators and boilers.
CHAIRMAN MORELOCK: Okay.
MR. HERROD: So the rule changes have to do with, obviously, the boilers at this time. And what you have before you are the fee increases that we have proposed to the Governor, the Governor's office, and which we've gotten that approval. And the next step is to bring it before the board and to let you know that what we would like to do is, at the next board meeting, is to have an open hearing with these changes, open to the public so they can be in attendance.
So these fee increases, if you look right past that, you'll see a spreadsheet that has revenue.
MS. BENNETT: It's in your notebook, gentlemen.
MR. HERROD: Yes, sorry. Just past the agenda.
MR. BOWERS: It's right after the minutes.
MR. HERROD: So on the rules as presented here, the red is the proposed fee increases for virtually every fee that we have for boilers. And the page after that is the revenue, projected revenue as a result.
So bottom line, if you go to the bottom of here, you'll see that if we can get these fee increases, that we will increase revenue by 21 percent, which will help us increase our salaries to our inspectors and to hire new inspectors so that we can at least get competitive with private industry as much as we possibly can.
So the overall revenue increase based on these fee increases is a half a million dollars, a little over $525,000, based on current number of vessels that we inspect. So the bulk of that comes from the certificates, 375,000, which is every vessel in the state of Tennessee that's registered. And then the state inspection fees add another $150,000.
So what we want to do today is to give you -- communicate to you what these fee increases are and what we process going forward, what we want to do with respect to the next board meeting. And Mr. Bailey can tell you a little bit more about that, what the process is.
MR. BAILEY: Well, because it involves a fee increase, you almost have to go through the rulemaking hearing process instead of the proposed rule process. And either tomorrow or the next day, I'll be filing what's called a notice of rulemaking hearing. It's a form that I have to fill out and file with the Secretary of State's office. And then within seven days, they have to post that on the state register as a public notice.
But, now, we also have an obligation to try to notify people that we know that might be impacted by it so that they know. It's going to be on the March agenda. And we'll be doing that through our website and whatever the unit does.
But instead of having a separate meeting just for the rulemaking hearing, we can add it as an agenda item to your next board meeting. And there's enough time for me to file that notice with the Secretary of State's office, because it has to be posted for at least 45 days. We've got plenty of time so that can be on the March agenda. But one section of that meeting, we would have to
basically open it up for public comments on the proposed fee increases. And then whatever comments we get -- and, also, even before the meeting, members of the public can submit written comments to us even prior to that. Once all that is done, I would suggest, at that time, the board vote on whether to approve the fee increases. We're required to respond in writing to any of the comments, and we can group them. If there's, like, several similar comments, we can group them and then respond to that.

But anyway, if it gets through that part of the hearing -- once we get through that hearing, then I would submit it to the Attorney General's office. Once they approve it, I would submit it to the Secretary of State's office. And because it's a fee increase, depending on when the -- there's a possibility that it could go into effect this July 1, depending on how things fall out. If it isn't approved by this July 1 -- say it's approved July 15th, then we have to wait until the following July 1 before those fee increases would go into effect. That's the way the law is. So anyway, that's the process. If you've got any questions, I'll be glad to answer them.

MR. BOWERS: So if it's approved, it might go into effect for 2020, where if it doesn't, it will have to go in 2021.

MR. BAILEY: Correct. It would depend when the final submission to the Secretary of State's office gets done. Because it will be 90 days after that. If we can get it submitted -- if we can go through the whole process and get it submitted where there's still more than 90 days, then it'll go in effect this July 1. But that's going to be close. That's going to be a close call. So we may have to wait another year.

MR. BOWERS: This March meeting coming up, a lot of people might attend. So is this room going to be big enough to accommodate -- since it's going to be a different type of --

CHAIRMAN MORELOCK: Well, I mean, that's an excellent question. I guess it really depends on the State letting us know how much response they get from the notice. And just for information, we had this fee increase included in our revision to 800-03-03 in 2016, and we pulled the fee portion out to get the rules updated. So this is really finishing something we started several years ago. So it's good for the -- I don't know if we can put it in the public notice, but it would be good to let the public know that fees have not increased for several years.


CHAIRMAN MORELOCK: So it would be good, as a public notice, to let people realize that the fee increases have fallen far behind even just the annual rate of inflation.

MR. BAILEY: Right. And statute caps what some of those fees can be. And we were under the caps on, I guess, all of them, right?

MR. HERROD: Right.

MR. BAILEY: So now we're moving more up to the caps. So to go beyond that, the legislature would have to raise the caps.

CHAIRMAN MORELOCK: So, Mr. Bowers, I guess, to answer your question, if those responses have to be in 45 days before the March meeting, that will give us ample time to see what size room we need.

MS. BENNETT: Yes. And I was going to say we also have access to the Pearl room, which is a much larger room.

CHAIRMAN MORELOCK: Yes. That's a good idea.

MS. BENNETT: So if it's available, then we could reserve that for the March meeting to accommodate everyone.

MR. BAILEY: I would suggest, if it is available, to go ahead and reserve it for the elevator and this one, just in case. I mean, because you never -- you're not going to get a good idea -- I mean, nobody has to submit anything prior to the meeting. They can just show up. And you just don't know.

CHAIRMAN MORELOCK: That's good.

That's very good.

MR. BAILEY: I would rather have more room than not enough.

DR. HARGROVE: Question, is there any particular reason why every other fee is increased with the exception of the exam fee?

MR. BAILEY: I defer to Mr. Herrod on that one.

MR. HERROD: I think that examination fee was for the private inspectors, insurance inspectors?
MR. CHAPMAN: The examine fee is for when somebody, like, takes the exam. We proctor the exam, and the only thing is just proctoring it.

MR. HERRROD: How many do we typically have?

MR. CHAPMAN: Well, we haven't had any in a while now, because we have AMP stations that most people are going to now.

MR. HERRROD: Really, it wouldn't add to our revenue substantially.

CHAIRMAN MORELOCK: It used to be mandatory for the boiler unit and someone from the board to proctor those exams. But now with all of that being automated through the National Board, now, it's a lot more of a streamlined process. You can go to an AMP exam, which is typically tied to an H & R Block office. You can go in there and they've got a camera on you, and you take the exam.

MR. TOTH: Just to answer, that fee is an antiquated fee because of just what was explained, that it's not really -- you would have to pay at the testing location now.

MR. BAILEY: And just to be clear, if the fees are increased, that additional revenue goes into the general fund. It's not necessarily appropriated to the boiler unit. However, if you are able to request a higher appropriation from the legislature for the boiler unit and you are able to show them that we're bringing in more revenue because we just raised our fees, you've got a better chance of getting that higher appropriation approved for additional salaries and inspectors. So that's the thing.

CHAIRMAN MORELOCK: So basically, our support of that would lead to what you're reporting, correct?

MR. BAILEY: Right.

MR. O'GUIN: Mr. Hargrove, I believe the examination fee is already at its max, is the reason it was not increased.

DR. HARGROVE: And they probably don't want to discourage anyone from taking the exam.

CHAIRMAN MORELOCK: No, that's true.

MR. CHAPMAN: It's hard to get somebody in the first place.

MR. GROSS: Mr. Chairman, Jeremy Gross from Valero. Question, Mr. Bailey and Mr. Herrod, on fee increases: How will those be communicated to the owner-users as far as when they do increase? Will they send out communication out via email or how do we understand that so that we can budget appropriately going forward with our inspection fees?

MR. HERRROD: Well, that is a good question. I would say that once we do have approval for it, then we will contact the -- we'll put it up on our website, for one, to make sure it's sent out that way, and then communicated through our inspectors and, also, through the insurance companies that will be doing the inspection. And the companies, they will get a notice, hopefully -- do we not send out -- the -- so that's the way we will have to handle it.

MR. BAILEY: And the email blast, does that have -- it has, like, all permit holders on it or --

MS. BENNETT: No. The ones who have signed up for email communication.

MR. BAILEY: Okay.

MS. BENNETT: And I think there's roughly, I think, 300 boiler people right now that receive the blast.

CHAIRMAN MORELOCK: To answer your question, me being an owner-user as well, is if you sent that notice out to all certificate holders that have certificates of inspection, that's going to be a good way to notify people that are paying those fees now.

MS. RHONE: Deborah Rhone. I think in the past what we've done is we did send out flyers about the fee increase, and then, also, putting it on the website for the methods of notification of fee increases.

MR. ROBINSON: (Indicating.)

CHAIRMAN MORELOCK: Yes?

MR. ROBINSON: Eugene Robinson, Cincinnati Insurance. If possible, also include the insurance companies so they can put their policyholders on notice as well. That way it will be an easy transition.

CHAIRMAN MORELOCK: Okay. Any other questions or comments?
MR. BAUGHMAN: Chief, or assistant, this may be for you, but just from an informational standpoint on how fees are charged. Let's say in a variance, particularly, that the variance may fail and there's a reinspection that would come up. How does that actually get billed out? Is there two separate trips charged for?

MR. CHAPMAN: Yes. Yes, it is. We still have to charge for going there to do the inspection whether they pass or fail.

MR. BAUGHMAN: Right.

MR. CHAPMAN: And then when we go back again, it's the same thing again, pass or fail.

MR. BAUGHMAN: Okay. Sure. So that could actually reflect, you know, the revenues at some point. And it's an intangible, knowing which ones are going to have to be reinspected.

MR. CHAPMAN: Yes.

MR. BAUGHMAN: But this is kind of a very good guideline and bottom-line figure, whereas we could actually have some slight more additional revenues. But that variance is probably the highest cost of that or the highest amount of charges that are in this fee. So anything that's reinspected adds to that. In other words --

MR. CHAPMAN: It adds to it, but I don't think it's the highest or the most under that.

MR. BAUGHMAN: I got you. I was just looking at fees for variances. On here it says proposed fees, $700. I don't see any other fees that have that maximum amount. So that's why I was bringing that up.

MR. CHAPMAN: It falls under special inspection.

MR. BAUGHMAN: Yes. Yes.

MR. CHAPMAN: Okay.

MR. BAUGHMAN: All right. Thank you.

CHAIRMAN MORELOCK: Any other questions or comments?

(No verbal response.)

CHAIRMAN MORELOCK: Okay.

Mr. Herrod, thank you for that report. We will certainly prepare to cover that item in March, and I think when you do get the word out, I think it would be really good to let people know how long it's been since the fees have been increased. It's been a long time. That concludes our old business. Moving on to Agenda Item 8, which is new business. Our first item is 19-22. Valero Memphis Refinery is going to give us an update on their risk-based inspection program. And we will vote for continuance of that program.

MR. GROSS: Good morning, board and guests. Jeremy Gross, I'm the inspection manager for Valero Memphis Refinery. As Chairman mentioned, I'm here to review the risk-based inspection program status for 2019. Our risk-based inspection program continues to be active at the Valero Memphis Refinery. The refinery continues to maintain scheduled damage mechanism-specific inspections planned and executed on-stream during routine maintenance or major maintenance outages.

The key activities related to the program in 2019 are as follows: The refinery executed a million man-hour maintenance outage in the second quarter. There were damage mechanism-specific inspection activities, capital reliability upgrades, and preventive maintenance work scopes conducted in five process units. A catalyst change outage was also completed on one of our Diesel Hydrotreater units. All work scope was assessed using a Risk Based Work Selection process, also known as RBWS. Maintenance and inspection activities executed during that outage are listed in Table A.

The sight also underwent a Property Casualty Insurance Survey in the fourth quarter. This evaluation is completed on a three-year interval. And the survey team consisted of Valero Corporate Risk, insurance agents such as Allrisk, AIG, Starr, and Berkshire-Hathaway personnel. There were no mechanical integrity program findings identified to put in a gap closure plan as a result of that assessment. We do have planning efforts that are ongoing for our scheduled 2020 and 2021 maintenance outages. We're scheduled to remove two process units from service in 2020 and four process units from service in 2021 for planned major maintenance and inspection activities. The site is also preparing for our TOSHA VPP Star program for the next few years.
Program re-validation for 2020. That is currently scheduled for July. We have a May assessment schedule from our own internal VPP team from San Antonio corporate office. And then we will have a TOSHA team come in in July. As you can see in Table A, inspection types, from our internal, external, CUI, jurisdictional, to non-intrusive inspections that were performed in 2019. And then we also have our planned inspections for 2020. As you can see, our jurisdictional numbers are quite large for 2020, so we will be quite busy with our insurance inspectors as well. Our risk data distribution is down below. As you can see, our circuit counts from our 2018 report, and you can see that data change out to the right. Overall, in 2019, we did complete 235 internals, 324 externals, and 13 Corrosion Under Insulation inspections. They were all in accordance with our RBI program. Our jurisdictional inspections are current and up to date with no delinquents. And we also continue to execute insulation and fireproofing repairs based on our CUI programs and our external visual inspection recommendations.

What questions do you have for me?

CHAIRMAN MORELOCK: Do I have a motion to discuss?

MR. BAUGHMAN: So moved.

MR. BOWERS: Second.

CHAIRMAN MORELOCK: Okay.

MR. BAUGHMAN: First, Jeremy, you guys had a busy year.

MR. GROSS: Oh, yeah. Absolutely.

MR. BAUGHMAN: I was looking over the report from last year in comparison, and the plan for this year on internal inspections was 205, and you performed 235, so 30 more internals. The same thing with externals. You planned 302 and performed 324.

MR. GROSS: Yes, sir.

MR. BAUGHMAN: Yes -- and actually had more than what was planned out. But that was a busy year for you guys.

MR. GROSS: Absolutely.

MR. BAILEY: Mr. Chairman, did you ask about conflicts?

CHAIRMAN MORELOCK: I did not.

MR. BAILEY: Okay.

CHAIRMAN MORELOCK: But yes, I will.

MR. BAILEY: Okay.

CHAIRMAN MORELOCK: Any conflicts with this?

(No verbal response.)

CHAIRMAN MORELOCK: With it being a report, I didn't --

MR. BAILEY: Right. I didn't know for sure.

CHAIRMAN MORELOCK: Any comments or questions?

MR. BAUGHMAN: Any issues that came up that would be worthy of note for us from an equipment standpoint?

MR. GROSS: You know, David, we've actually had a pretty good year as far as being predictable with our program by executing a lot of on-stream non-intrusive inspections. We're actually very successful with our major outage with not many at all major significant discovery items. We were on budget, on time. And we did have a few reportable injuries. They were hand injuries, line-of-fire activities early on in the outage. But we had a pretty good stand-down and really found what we call going from the second half of the football game, we really, you know, tightened up there and did an excellent job of finishing strong.

The only area that we had an issue with this year was one of our boilers actually had a tube with a design issue. We had a tube plug and overheat. That was fixed and put back online. So from a fixed equipment standpoint, everything is really -- as you say, we're very predictable, which is really good. So those are the good times you want to have whenever you're looking at forecasting repairs and hitting your marks without having any unplanned loss of containment.

MR. BAUGHMAN: You're definitely ahead of the curve, and a million man-hour outages is big.

MR. GROSS: That is a big one.

CHAIRMAN MORELOCK: Any other questions or comments?

(No verbal response.)

CHAIRMAN MORELOCK: Hearing none, I'm going to call the question to approve Valero's RBI report and approve them to continue this program they have and bring us a report in a year.
MR. FOX: I make that motion to approve.

CHAIRMAN MORELOCK: Second?

MR. BAUGHMAN: Second.

CHAIRMAN MORELOCK: Any other questions or comments?

(No verbal response.)

CHAIRMAN MORELOCK: We could talk a lot about RBI. It’s just an excellent program with aging plants and all and to make the most of our manpower, to keep rotating equipment, pressure equipment, all sorts of infrastructure viable into the future. We just -- we have to have it. So it's a really -- it's an excellent program. So hearing nothing else, 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: Jeremy, thank you for the report.

MR. GROSS: Thank you.

Next item is 19-24, Steris Instrument Management Services is requesting a new variance for two high-pressure boilers. So if you'll come forward, introduce yourselves, and present your item.

MR. BOWEN: Bruce Bowen with Steris IMS.

MR. TOTH: And Marty Toth, ECS Consulting.

Hello again. So we have a nice little operation here at Steris in Chattanooga. I'll let Mr. Bowen go into more detail about the processes of it. Sterilization is pretty much in their name. But what we have is we have two high-pressure steam generators, Steris steam generators that operate. They have a feedwater tank, vented feedwater tank to their system. The process, I'll let -- as I said, I'll let Mr. Bowen kind of tell you about the process of Steris.

MR. BOWEN: Steris IMS is a sterilization company. We've been in business for many years. They build the equipment for sterilizing medical instruments and repairing medical instruments. This is a new breed for Steris as they are doing outsourcing from the hospitals. Generally, they do all their sterilization in the hospitals.

MR. TOTH: And so what we have is a process plant --

MR. BOWEN: It's just a process of bringing medical instruments in, sterilizing them and sending them back to the hospital.

MR. TOTH: Okay. As I mentioned, we do have the two boilers. I do want to make note of some slight editorial changes to the manual that were found during review this past week.

If you will look on page 3, you will notice that we are mentioning the e-stop and the panel. I’m very familiar with what you see.

We have decided to go with just a standard reset button or a standard e-stop button without the key. So that is changed out so we will not have the key to reset it. And one of the main reasons for that is the production area that is going to be manned 24/7 as these boilers are being operated under the variance is a clean room. And so going in and out of the clean room requires a dressing out, so on and so forth. And so the thought was instead of having the boiler attendants actually have to go through the process, just simply go reset with the key. We're having -- a non-key e-stop, is, in essence, what we're doing there. So you'll see that change on page 3, 4, and 7. And that's just a simple editorial.

Also, on page 5, there was -- the systems that we actually use is not radio communication. It's actually telephone communication. So we have a dedicated phone system that has that communication from the process room, which is their remote station, over to the boiler attendant itself. They do not use a radio system. So it's a phone system.

If we will take a quick look over at the site plan -- I do apologize. I kind of don't know what happened with the bluriness there, but it's nice and big, Mr. Baughman.

What we have -- as you can see, we have the sterile processing room. That is a clean room that I had mentioned. That is where your remote panel is located. We have the two steam generators and the feed tank in the boiler room...
itself with e-stops at both pedestrian exits, as you can see, local e-stops.

CHAIRMAN MORELOCK: Mr. Toth, what's the distance between the boiler and the --

MR. TOTH: It's 115 feet.

CHAIRMAN MORELOCK: Thank you, sir.

MR. TOTH: We can't read that very well, can we? It's actually on there, but it's just -- yeah, it's a little blurred. I do apologize for that. That will be corrected.

And if we go to the equipment information, you do see that all of the boilers have received their registration numbers. These are 150 psi steam generators, meaning they do not have a fixed water level. So not having a fixed water level, they do not have your standard low-water cutoffs as you would see on your typical fire-tube boiler or water-tube boiler. They are completely full, and then the generation occurs later on in the header or the steam release in the header. They do have all the required controls.

They utilize the Siemens LME73 controller.

One of the unique things, just as our last client, Steris is very big on their safety and their operation. They're sterilizing. Okay? If they don't keep their boilers up, don't keep them operating properly, they're not running.

One of the things that we've decided to do is actually do a shift over from Boiler 1 to Boiler 2, and vice versa, every eight hours. So every eight hours those boilers are shifted between each other. And during that process is a complete safety check that goes on. So the operator would actually take it through its process of bringing it down, running through his safety checks and ensuring that all the safety checks are operational. And then the other boiler is brought up.

They also, because the steam generators, they don't have very big tubes, if you would, very small. They actually have a very robust water softening system. To combat any hardness in their water, they actually go through twice. It goes through the initial softening system and then carries over to another softening system before it is entered into the deaerator. The deaerator does have a sparse tube system where they do send some steam through there. The steam is just used to help heat the water up. It helps to also release any trapped oxygens that may be in that water, but it's completely vented to the atmosphere, so there's no pressure on that unit at all.

A lot of safety features are in these units that you can see through all the information that I've provided.

CHAIRMAN MORELOCK: A motion to discuss?

MR. BAUGHMAN: So moved.

MR. FOX: Second.

CHAIRMAN MORELOCK: Thank you.

Any conflicts of interest?

(No verbal response.)

CHAIRMAN MORELOCK: All right.

There are none.

What questions do you have?

MR. BAUGHMAN: Bruce, this is directed towards yourself.

MR. BOWEN: All right, sir.

MR. BAUGHMAN: How familiar are you with these pieces of equipment?

MR. BOWEN: I have studied them since they installed them. This is a new type, and I have had training from MRG, the company that installed them.

MR. BAUGHMAN: Very good. Well, they're a German unit. They're very much a different unit, and so henceforth, my questions. And you'll also be, I believe, in charge of the training of personnel?

MR. BOWEN: Yes, I will be in charge of the training for the personnel.

MR. BAUGHMAN: And to that, there was a description in Section 3, page 5, Item 2A, parentheses 1 that describes in the training of personnel -- Section 3, page 5 -- that remote attendants will be given a brief understanding for the equipment being monitored. I wondered how much "brief" actually is. And so part of it was looking at your expertise since you're the one that's going to be in charge of the training of the operator personnel and the monitoring people, was making sure that we felt good with the amount of expertise that you had in these special pieces of equipment, since they are very unique.

MR. BOWEN: Okay. On the "brief" description of the boilers, I will personally take every attendant in there, describe the operation
of the boiler. And they already know the importance of the boiler because we have to go through a stringent training process for them to become sterilizing technicians. So they know the importance of the steam quality and steam level already.

MR. BAUGHMAN: Sure.

MR. BOWEN: So for me to just go and describe to them our process for making the steam and then what their process is for shutting the boiler down if there is a problem.

MR. BAUGHMAN: Very good. I appreciate that.

MR. TOTH: If I may interject on that. Steris is contracting with BTG to create a program for them. It will be a train-the-trainer type of a system. Again, we're referring to remote attendants when we talk about it, as we do with other clients that we have. It's an understanding of what they're looking at. It's not an in-depth, because they are remote attendants. But instead of just teaching them here is a panel, push a button, if you could push this button, what does it affect.

So there will be a program that is custom built for Steris IMS, and it will be very thorough.

MR. BAUGHMAN: Good. And you've had some training already through Maintenance Resource Group.

MR. BOWEN: Yes.

MR. BAUGHMAN: Are these units presently in operation?

MR. BOWEN: Yes. They are under the 20-minute rule.

MR. BAUGHMAN: Very good. They're classified as steam generators. So we hear a term, "steam generator," and we hear a term, "boiler," but they're two different things. And so as we get to looking at this and the boiler itself has the header, the steam portion, external to the boiler itself, correct?

MR. TOTH: (Nods head.)

MR. BAUGHMAN: Okay. So being by that definition --

MR. BAILEY: I need a verbal answer.

MR. TOTH: Yes, it is.

MR. BAUGHMAN: So by definition, does this fall under our requirements --

MR. TOTH: Yes, it does.

MR. BOWEN: Okay. Because I know we've looked at that through vapor units, through Claytons and so forth, so that was where I wanted to go back in and look. Because we talked about this -- there was a project over in Lebanon. I'm sorry.

MR. ROBINSON: Mr. Baughman, you're absolutely correct, Mr. Baughman. There was a code case issued DC92-06. And I'll hand that to Mr. Chairman and let him look it over prior to...

CHAIRMAN MORELOCK: (Reviews document.) That's what Mr. Toth was speaking to.

MR. BAUGHMAN: (Reviews document.)

Very good. That answers my question. Very good.

CHAIRMAN MORELOCK: Thank you,

Mr. Robinson.

MR. BAUGHMAN: So in this terminology -- thank you very much, Mr. Robinson.

I appreciate that -- is making sure that terminology is interchangeable. But in one place, you do identify boiler, and then in parentheses, steam generator. So as long as there's an identification that one is the same as the other...

MR. TOTH: If I may. And that is defined in the Glossary of Terms and in the Rules and Regulations as well. Not under the glossary terms of this. Even though in the industry it's a steam generator, they're all boilers. They're all classified as boilers, even in Section 1 of the ASME code.

MR. BAUGHMAN: A boiler -- and we've talked about this before -- this has no water sight glass.

MR. TOTH: Fixed water level, yes.

MR. BAUGHMAN: And a boiler, by code, has to have a sight glass for water level; whereas a steam generator does not. So there's some differentiation between them.

MR. TOTH: Mr. Baughman, I will agree with you if we're talking Section 1 of the ASME code. But we're referring to Tennessee rules and regulations. Tennessee rules and regulations define these as a boiler.

MR. BAUGHMAN: Very good.

MR. BOWENS: Are these S-stamped?

MR. TOTH: Yes.
CHAIRMAN MORELOCK: Other questions? Comments?

MR. BAUGHMAN: Where is -- so I had a conflict in somewhat of a -- a little bit of a contradiction. And it may be just myself and my own understanding of the wording. But in Appendix J, page 36, Number 12, we talk about the boiler being checked every four hours.

MR. TOTH: I'm sorry, Mr. Baughman. Which one? Page 36, which line?

MR. BAUGHMAN: We talked about the boiler being checked every four hours. But the wording in, I believe it's Section 3(a), page 9 -- it might not be page 9 -- it says normal duties at the beginning of their shift or at the eight-hour manual cycling, whichever is less, the boiler attendant will communicate with the remote attendant.

So I wanted to make sure that that wasn't construed as having that four-hour check, because it speaks of the beginning of the shift or the eight-hour manual cycling, whichever is less, the attendant will communicate with -- the boiler attendant will communicate with the remote attendant their intention to test the alarms. But...

MR. TOTH: No. No, it's not. I know where you're going with that. That is identified on page 8, paragraph 1(a). That shows that we will do readings once every four hours. But as I stipulated with Steris IMS going above and beyond and want to ensure they're safe in operation of their units, they are actually switching them out every eight hours. So when they switch them out, they are also performing checks. So in doing so, those checks will also signify an alarm back to the panel. So again, it's at the beginning of the shift or every eight hours, whichever is least.

MR. BAUGHMAN: Sure. I was just wanting to make sure. And you'll do this through your training, undoubtedly. I just didn't want my misconceptions. Because it's under normal duties and it specifies beginning of the shift or eight hours versus just under boiler attendant and then describing the four hours. But it was a bit of a -- and it may be just my mind, but it was a bit of a contradiction. But I know that will get clarified in your operations.

MR. TOTH: It will.

MR. BAUGHMAN: I don't think it needs to be attended to, actually, in the manual. Another question I have is under Appendix C, the fault code list.

MR. TOTH: Okay.

MR. BAUGHMAN: And I know these boilers are operational already, so I guess I'll point this back to Bruce. On page 16, you've got a list of faults that enunciated and relayed between the boiler burner controllers and the remote alarm panel. How is the low water or low-water condition faulted?

MR. BOWEN: The low-water condition is we've got a temperature limiter and a pressure limiter. So we monitor the temperature and the pressure of the steam generator to determine our water level in the generator.

MR. BAUGHMAN: Got you. So this is a coil type of unit?

MR. BOWEN: Yes, it is.

MR. BAUGHMAN: Okay. And so that monitoring, then, my question is, on the fault list, how is that enunciated?

MR. BOWEN: Well, on this fault list is to do with just the Siemens. Okay? We have a main controller on the face of our unit that will enunciate steam -- pressure limiter or steam temperature limiter on the unit itself on the nameplate -- I mean, on the face, on the display unit.

This display is inside the cabinet, these fault lists right here. So this is only for whenever the display unit we want to investigate, then we go into this to see what our problem was.

MR. BAUGHMAN: I got you. So they both enunciate back to the remote panel.

MR. BOWEN: Yes.

MR. BAUGHMAN: Very good. Well, I guess my confusion was it didn't -- that other controller is not identified --

MR. BOWEN: Yes. The other controller is not identified in this book, but it is in the training program.

MR. BAUGHMAN: Very good.

MR. TOTH: And, Mr. Baughman, if I can allude to that. Because, as we know, a fault list such as this is not a requirement of the
variance manual. It's just an additional add-in, and it's also to assist for purposes of personnel, so they have the manual there, they have a better opportunity to pull up the fault list that comes from the Siemens controller. So as Mr. Bowen had mentioned, there is an additional HMI that the Siemens controller is connected to that has those same communications.

MR. BAUGHMAN: Very good.

CHAIRMAN MORELOCK: Any other questions or comments?

(No verbal response.)

MR. ROBINSON: (Indicating.)

CHAIRMAN MORELOCK: Yes, Mr. Robinson?

MR. ROBINSON: Eugene with Cincinnati. What kind of valves are on this boiler? Are they water valves or steam valves?

MR. TOTH: I'm sorry. What are you referring to? Are you talking about safety valves?

MR. ROBINSON: Yes, sir.

MR. TOTH: They're a -- I don't know which manufacturer it is.

MR. BOWEN: I don't know the name.

Any other questions or comments?

(No verbal response.)

CHAIRMAN MORELOCK: Hearing none, I'm going to call the question to contingently approve this variance based upon revisions to the manual based on comments at the Tennessee Board Meeting and a successful site visit from the Boiler Unit.

MR. BOWERS: I make that motion.

CHAIRMAN MORELOCK: Second.

CHAIRMAN MORELOCK: I have a second. Any other discussion?

(No verbal response.)

CHAIRMAN MORELOCK: Hearing none, 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. TOTH: Thank you.

MR. BAUGHMAN: Mr. Robinson, thank you again for bringing that information. That was very helpful.

CHAIRMAN MORELOCK: Okay. Our next item is 19-25, Clover Bottom Development Center. And they're requesting a new variance for two high-pressure boilers. Oh, I'm sorry. Correct that. It is a modification of a variance for two high-pressure boilers.

So introduce yourselves and present your item.

MR. NEVILLE: James Neville with Neville Engineering.

MR. VANSTONE: Blair Vanstone with the State of Tennessee at Clover Bottom.

MR. NEVILLE: We're here to request a modification to an existing variance. These boilers previously had the Hawk ICS control system. They have upgraded the controls on both of these boilers to the Hawk 5000. We have stated that in our Appendix A, as far as the remarks on that. And in Appendix B, we've listed those new controls with Hawk 5000 there.
As a part of this review, we've also updated our job descriptions for those that will be monitoring the boilers both remotely and in the boiler room, boiler attendants.

On page 5, we list the remote station still as Security Guard 1 and Security Guard 2. They are monitoring those boilers at the Harold Jordan Center. This campus has multiple buildings. I believe it's 23 buildings total. And they are monitoring those boilers from the Harold Jordan Center. And that's approximately 3,000 feet from this boiler room.

As far as the ones that we're listing as boiler attendants, we list those on page 7. And there's a number there, and I'll read off those:

- Boiler Operator Supervisor
- Building Maintenance Worker 2
- Building Maintenance Worker 3
- Maintenance Carpenter 2
- Facilities Manager 3
- Facilities Supervisor
- Security Guard 1
- Security Guard 2

Now, Security Guard 1 and 2 would be under monitoring duties only. They do not operate the boiler.

If there's any questions regarding this variance...

questions/comments do you have? I will say this, before we get into this, if you look on page I-5, you will see a revisions page. And the first block, those first six items are comments that were made during the December 16, 2015 meeting. And this is just showing how those items have been added to the manual. Then where it says "Revisions," those are the revisions that they're presenting here today. That may help you a little bit as you --

MR. BAUGHMAN: Where is that located?

CHAIRMAN MORELOCK: It's in the appendices, I-5, after the checklist.

So what questions/comments do you have?

So I guess I have a question. As far as training, who does your boiler training?

MR. VANSTONE: I do.

CHAIRMAN MORELOCK: Okay. All right. Because I had read that Allied provided boiler training. I wanted to make sure we didn't have another conflict.

MR. VANSTONE: Allied Boiler trains the security guards so that they are familiar with the procedures, but they're not listed as attendants.

CHAIRMAN MORELOCK: Okay. Very good.

MR. BAUGHMAN: And just to clarify, that's been a number of years ago that they came through.

CHAIRMAN MORELOCK: Okay.

MR. VANSTONE: As they get new hires, we're submitting them to go through the training.

CHAIRMAN MORELOCK: Okay. Very good.

I have an editorial correction, if you look on page G-35. If you look at the bottom under "Controlling Machines and Processes," Item 2 says, "Operate remote kill switch for boilers." That's exactly what it is, but we typically call that emergency shut down, an ESD.

MR. NEVILLE: We can change that.

CHAIRMAN MORELOCK: All right.

Thank you.

In reviewing the 2015 minutes, there was a discussion that there was a potential name change to -- that this would eventually become
Middle Tennessee Regional. I guess that's --
MR. VANSTONE: That's its official name now. It's Middle Tennessee Regional Office of the Department of Intellectual and Developmental Disabilities.
CHAIRMAN MORELOCK: Okay.
MR. VANSTONE: Most people know it as Clover Bottom, and when I use the NTRO or DIDD, they don't know what I'm talking about. I say Clover Bottom, they know what I'm talking about.
CHAIRMAN MORELOCK: Okay. All right. Thank you. That's all the questions I have. What questions does the board have?
MR. BAUGHMAN: Where is the -- this question is directed to either one of you. But where are the e-stops located in the boiler room?
MR. VANSTONE: Outside the main door and the side door.
MR. BAUGHMAN: Very good.
MR. VANSTONE: There's one for each boiler.
MR. BAUGHMAN: Both of those being outside?
MR. VANSTONE: Yes.
MR. BAUGHMAN: With the diagram of the -- this will be on -- it's identified as B-3.
For the Boiler 1 and Boiler 2 Hawk systems, is there a reset available on the computer itself?
In other words, do we have a reset available on the computer?
MR. VANSTONE: The reset is on the control panel. We have a computer that just monitors it. That's going to be in the office. But the resets are on the boiler themselves --
MR. BAUGHMAN: Very good.
MR. VANSTONE: -- on the control panel.
MR. BAUGHMAN: Excellent.
CHAIRMAN MORELOCK: Any other questions or comments?
I guess it's just a recommendation -- it doesn't have to be done -- but on your organization chart in Appendix D, it would be helpful just to identify these personnel as either remote monitoring for boiler attendants or even like for the security guards, they're going to be boiler monitors as well.
MR. NEVILLE: Right. Okay. We can add that.
CHAIRMAN MORELOCK: Okay.
All right. Hearing none, I am going to seek a motion to approve this modification, based on the comments from the board to make revisions to the manual and a successful site visit from the boiler unit.
MR. BOWERS: I make that motion.
MR. BAUGHMAN: Second.
CHAIRMAN MORELOCK: Any other discussion?
(No verbal response.)
CHAIRMAN MORELOCK: 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: You have an approved modification to your variance.
MR. NEVILLE: Thank you.
MR. VANSTONE: Thank you.
CHAIRMAN MORELOCK: All right. Our next item, Item 19-26 -- and correct me if I'm pronouncing this wrong -- it's Develey. Is that correct?
MR. COTTRELL: Develey.
CHAIRMAN MORELOCK: Develey. Okay.
So Develey Mustard and Condiments Corporation is requesting a variance for two high-pressure boilers. So introduce yourself and present your item.
Are there any conflicts on this item?
(No verbal response.)
CHAIRMAN MORELOCK: Develey. Okay.
MR. NEVILLE: James Neville with Neville Engineering.
MR. COTTRELL: Phillip Cottrell with Develey Mustard and Condiments.
MR. NEVILLE: Phillip, if you want to fill them in on what they produce at this point?
MR. COTTRELL: Develey is the first manufacturer in the United States for the Develey Corporation, which has been operating since 1842. We're the 19th facility for the company which is private owned. We produce all types of condiments, mustard, ketchup, ranch dressings, all kinds of dressings, mostly for larger corporations and
larger retailers.
So that's basically it in a nutshell.
We produce lots and lots of ketchup.
CHAIRMAN MORELOCK: Well, and just so you all know, the most important line in his introduction in the book is the fact that now we know where Big Macs get their special sauce.
MR. COTTRELL: That's right.
MR. NEVILLE: That's right.
CHAIRMAN MORELOCK: Okay. So continue.
MR. NEVILLE: Well, if I can direct your attention to page 2, we show the site plan and the location of the remote station. It's approximately 285 feet from the boiler room. The remote station will be continuously staffed by machine operators. They are operating the line that we show on Site 1.
As far as the boiler attendants, the boiler attendants is -- a multi-craft maintenance technician is the title for the trained boiler attendant.
The two boilers that we show are operated at what, 5 to 7 or something?
MR. BAUGHMAN: Right.
MR. NEVILLE: Right. Operating at 7. We can list the safety valve, would be the next thing, under 15 psi.
MR. BAUGHMAN: That was my question.
MR. NEVILLE: So we can list that as well.
MR. BAUGHMAN: Yes. We have no Tennessee number and no NB number, which would be a requirement, if I'm not mistaken, being the design pressure is 50 even though it's operating below 15 psi. The build itself is above 15 psi. Am I correct?
CHAIRMAN MORELOCK: Yes. But if you operate it and relieve it at less than 15, it does not have to be -- you're operating it below the requirements of the State of Tennessee.
MR. BAUGHMAN: Yes. But it's still through the build, is what I'm saying, as we have no NP number.
CHAIRMAN MORELOCK: Oh, yes, yes, yes. As far as --
MR. BAUGHMAN: And we have no Sellers boilers. Those are fire tube and they have the Hawk 4000 control system. In Appendix B we list the Hawk 4000 equipment that will be monitoring that boiler. And also, in Appendix B, we show the emergency stops, and there's also an access control for the boiler room that you have to have a card key to access that boiler room. Appendix C we list the fault codes.
And if there's any questions we can answer...
CHAIRMAN MORELOCK: Do I have a motion to discuss?
MR. FOX: So moved.
CHAIRMAN MORELOCK: Do I have a second?
MR. BOWERS: Second.
CHAIRMAN MORELOCK: What questions do you have?
MR. BAUGHMAN: Mr. Neville, on the DA sheet, this is a pressurized DA?
MR. NEVILLE: Low pressure, yes.
MR. BAUGHMAN: Low pressure. The design pressure is 50.
MR. NEVILLE: Yes.
CHAIRMAN MORELOCK: Yeah, but it's operated at what, 5 to 7 or something?
MR. BAUGHMAN: Right.
MR. NEVILLE: Right. Operating at 7. We can list the safety valve, would be the next thing, under 15 psi.
MR. BAUGHMAN: That was my question.
MR. NEVILLE: So we can list that as well.
MR. BAUGHMAN: Yes. We have no Tennessee number and no NB number, which would be a requirement, if I'm not mistaken, being the design pressure is 50 even though it's operating below 15 psi. The build itself is above 15 psi. Am I correct?
CHAIRMAN MORELOCK: Yes. But if you operate it and relieve it at less than 15, it does not have to be -- you're operating it below the requirements of the State of Tennessee.
MR. BAUGHMAN: Yes. But it's still through the build, is what I'm saying, as we have no NP number.
CHAIRMAN MORELOCK: Oh, yes, yes, yes. As far as --
MR. BAUGHMAN: And we have no Tennessee number, so...
CHAIRMAN MORELOCK: Yeah. Whoever stamped it, yes, you're correct.
MR. BAUGHMAN: So I would like to just have that for the record. And it does still need to have a Tennessee number assigned to it, even if it's low pressure; is that correct?
MR. TOTH: Marty Toth, ECS. It actually does, because if not, no deaerator operated in the state of Tennessee would have a registration, because no deaerator operates above 15 psi. So it does require it to be registered and inspected.
MR. BAUGHMAN: Yeah. No different than if a high-pressure boiler was operating down in a low-pressure range. We still have to -- so we need both a Tennessee number and an NB number for the manual.
MR. TOTH: Mr. Chairman, may I interject?
CHAIRMAN MORELOCK: Yes.
MR. TOTH: Just to be perfectly clear, I know it's a request, but is deaerator information actually a requirement within the variance?
CHAIRMAN MORELOCK: It is not.

MR. TOTH: Okay. I just wanted to make sure. Thank you.

CHAIRMAN MORELOCK: Any questions or comments?

MR. FOX: Yeah, I've got one.

CHAIRMAN MORELOCK: Okay.

MR. FOX: Mr. Neville, in your manual, I'm not seeing a written description nor a picture of the remote shut-off panel or how it actually operates. I mean, is it...

MR. NEVILLE: We can take a picture of it and add that to the manual.

MR. FOX: Okay. I was just curious if the stop button was a mushroom-type switch or what.

MR. NEVILLE: It is. We list -- on B-2 we talk about the hardwired circuit for each boiler, but we don't give any details on that. But we can add a picture of the e-stop button.

MR. BAUGHMAN: What type of water-level controls do you have on the boiler?

MR. COTTRELL: It's got a float water level --

MR. BAUGHMAN: The standard McDonnell & Miller?

MR. COTTRELL: Yes.

MR. BAUGHMAN: Well, I knew it had been -- the controls have been upgraded --

MR. COTTRELL: The controls were upgraded to the Hawk. All the safeties were left the same and integrated into the Hawk system with the exception of the fire. And they had to add a new sensor to it because the Hawk wouldn't recognize those Sellers. So we had to go through Sellers. That was one of the reasons it took us so long to get it incorporated in, is we had to get approval from Sellers to do that.

MR. BAUGHMAN: Sure. Because their UL listing --

MR. COTTRELL: So we got all that done.

MR. BAUGHMAN: Correct. There's actually an issue with the Sellers. And the Hawk probably took care of this, but one of the things they do -- and we've worked on quite a few of these interesting single-pass boilers -- it's got that big explosion relief door on the back of it, which is kind of an interesting nomenclature.

The change to the Hawk, I don't believe they can do that. I don't believe they can --

MR. COTTRELL: No, they can't do that. That was one of the issues that we ran into, is that they wanted to keep the Flame, and the Hawk didn't want to see -- it was -- it took us about the month, month and a half, to get it approved through Sellers to make all those changes and put the new sensors in. So yeah, it took a little convincing to get it all done.

MR. BAUGHMAN: Absolutely.

That's all the questions I've got.

Everything else is just operational, but it doesn't apply to the variance.

DR. HARGROVE: Question on B-3, just for clarification. And I commend Neville

Engineering for sharing one of the very few photos in the report that shows there actually is an e-stop button there.

The photo on the left, is that a card reader to the left?

MR. NEVILLE: It is. It's an access control, so they have to have a card to gain access into the boiler room. That's outside the boiler room.

If you look on E-2, it may show you where that switch is, that emergency boiler stop switch. At the top of the sheet is where the --

MR. NEVILLE: It is. That's the first picture. And the second picture is down at the bottom.

MR. COTTRELL: Being a foods fit facility, just about all our doors in the plant are key access. And your key only gets you into certain parts of the plant, according to what you're about to get into. And so food safety aspect and safety overall aspect.

DR. HARGROVE: That's a good safety factor. Thank you.

MR. BAUGHMAN: Well, and that brings up, though, that should there be a failure of the hardware of the key reader, the one e-stop
is outside of the door, and the other one is on itself. And if there should be a failure, there's no way to get into that door to activate the e-stop from that side. And not that that's part of our variance by any stretch. I'm just -- MR. COTTRELL: The door is also keyed with a master key. Management can get into them. So myself and all the other managers and plant manager can get into those doors, along with my planner. And all the doors are keyed individually so that you can only get into certain doors of the plant, like myself and my maintenance planner can get into the maintenance side of everything, the electrical room, in case of power failure or any kind of a glitch. But anybody else wouldn't have access to it. My rounds men and my technicians will have access to the boiler room.

MR. BAUGHMAN: Very good. Thank you.

CHAIRMAN MORELOCK: Any other questions or commitments?

(MR. RUSH): Very good. Thank you.

MR. JONES: Kevin Jones, TAMKO Building Products.

CHAIRMAN MORELOCK: Are there any conflicts on this item?

MR. HUGDINS: TAMKO Building Products is located in Knoxville. They're been in business since about 1944 making building/roofing products. Currently, the plant is operating two high-pressure boilers. Their boilers operate 24/7. Typically, the plant only operates one boiler at a time, but they can operate two of them.

Boiler 1 was their original, primary boiler. It was installed -- well, upgraded in 2002. In, I think, 2012, 2013, we applied for a variance for Boiler 1 and it was granted. It's gone through one renewal process.

Recently, the plant installed a second high-pressure boiler. The addition started in about 2018, and it is has recently been online.

It's been approved by the City of Knoxville, the Tennessee Boiler and the air pollution. The original boiler still has its Honeywell 7800. The new boiler that was recently installed is a Honeywell slate system.

If you look on SK-1, that's the site plan. That distance from the boiler plant to the remote station is about 500 feet. If you would like, I can put a scale or write on that.

CHAIRMAN MORELOCK: If you could just note that's 500 feet, that would be very good.

MR. HUGDINS: SK-2 shows just a schematic of the boiler plant itself. The old original TAMKO plant was a coal-fired plant. All of that equipment has been decommissioned. The boilers are still in place.

Originally, when -- Boiler 1 is on the left -- I'll add that to it, Boiler 1 and Boiler 2 -- the controls and burner were interior to the building. The back of the boiler was exposed to the elements.

As part of the addition to the boiler, installation of Boiler 2, the -- both boilers were enclosed by -- according to the City of Knoxville, the shed is what they gave them a
permit to build there.
SK-2 shows the emergency shutdown stations that are existing. When Boiler 2 was added, the shutdown buttons were added to the existing shutdown stations. The one on the emergency shutdown station in front of the boiler addition is shown there by the door. Kevin brought it to my attention, it's actually on the corner of the building.

MR. JONES: Actually, the door has moved and the station moved with it.

MR. HUDGINS: So we'll fix that on there.

SK-3 is a schematic panel layout for the remote panel that's in the control room. And then the SK-4, just a schematic of the steam and deaerator system. I had intended to get a data sheet for the deaerator in the variance along with the boilers, but it fell through the cracks.

A. I had tried to get it -- a photograph of the name plate to present to you today, but the photograph did not come out. It was not readable, so we'll have to do a little more additional work on getting that. The data sheets for the boiler are included, Appendix A. Boiler 1 is a Murray. Boiler 2 is a Cleaver-Brooks. 1969 and 1976 vintages.

As mentioned earlier, Boiler 1 is natural duel fuel; Boiler Number 2 is natural gas only.

As part of the addition of Boiler 2, the relief valves on Boiler 1 will change to 300 psi so both boilers, the relief valves are the same settings.

As far as plant personnel, nothing has changed since the request of the variance in 2012. All the boiler attendants are maintenance personnel. There's no janitorial staff nor security guards being used to monitor the boiler.

The plant runs a 12-hour shift and logs are to be taken at four-hour intervals on our boiler log. We have an individual log for each boiler since it's possible that Boiler 1 would be off and Boiler 2 would be running and vice versa.

On there, there is a column to indicate that the water column has been checked.

Employee descriptions are included in the back. They're basically the shift supervisor, who is the remote station monitor, and a mechanic, Kevin is the plant engineer. He's responsible for the training as stated in the manual.

CHAIRMAN MORELOCK: Do I have a motion to discuss?

MR. BOWERS: Motion to discuss.

CHAIRMAN MORELOCK: Second?

MR. FOX: Second.

CHAIRMAN MORELOCK: What questions do you have?

MR. BOWERS: One question I have is on Appendix A -- and maybe I'm looking at this wrong -- but you talked about on these -- the Cleaver-Brooks boiler, the MAWP is 260, and the safety valve is 300. So we have a discrepancy there; either you've got the wrong MAWP or we've got the wrong safety valve on the boiler.

MR. HUDGINS: I would say we've got the wrong MAWP. It's a typo.

MR. BOWERS: Okay. Can you double-check that?

MR. HUDGINS: We will double-check that. Like I said --

MR. BOWERS: Yeah, what concerned me with these boilers and a variance of boilers this old, there's so much that can go wrong with these things. You know, it's like you've got a lot of thinning shell and things like that, over the years, and you're only looking at them every four hours.

But you said on Boiler Number 1, that you actually went through that boiler some years ago?

MR. HUDGINS: Yes.

MR. BOWERS: Was the shell ever checked, the thickness of the shell looked at?

MR. JONES: In -- I forget the exact year -- '94, '95, it was completely retubed and completely reshelled at that time. We have had various NDT testing from the boiler tubes periodically from them -- or from that point.

CHAIRMAN MORELOCK: Any other questions or comments?

MR. BAUGHMAN: Well, I'm looking at -- I see under the equipment description the 7800, being on the Coen burner, has been -- the Coen had a 7800 programmer put on it. But I don't see any information on the PLC base control system. So I've got the programmer info, but I'm
not seeing a lot of delineation on the control system itself. So, there again, I take it it's the Coen burner, a great burner and the programmer, but just lacking in a little bit of information on that end of it. The Honeywell Slate has been added, but -- 

MR. HUDGINS: To Boiler 2.  
MR. BAUGHMAN: I'm sorry.  
MR. HUDGINS: Just to Boiler 2.  
MR. BAUGHMAN: Yes. Honeywell Slate has been added to Boiler 2. But just so you know, there's real issues within Honeywell in the industry right now that we're all encountering. Honeywell control links has been taken off the market and Slate has been introduced. But Honeywell is kind of in a precarious position right now as far as their controls division is concerned. It is what you've got, and you've put it on there, but there may be an equipment revision coming up if they go a different route. Again, it doesn't apply to the variance, but the drawing of the feedwater system, the DA, I don't know what it's rated for. And it shows that we've got 15 psi coming into it. I take it there's got to be another regulator up ahead of that because we're going 15 psi through another regulator. I'm anticipating dropping down to a lower pressure. But it's got a full bypass around the regulator, which means when the regulator fails, you can run full pressure to it. And I'm interested to know where that 15 psi steam comes from. The four-inch vent through the roof shows a valve on it. I'm taking it that's an orificed valve, a shut-off valve. But it shows an overflow coming off the top of the DA with a shut-off valve, and there has to be, by code, an overflow going to a dump valve, but there's not typically a shut-off valve in that either. But can be. The overflow comes off the top of that DA. So I'm just -- again, it doesn't pertain to the variance. I'm just interested from an equipment standpoint, making sure that everything is proper. And that goes back to the inspectors looking at the stuff also. 

CHAIRMAN MORELOCK: So just to add to that comment, on SK-2, next to the DA, you've got three feedwater pumps, correct?

MR. JONES: That's correct. 
CHAIRMAN MORELOCK: So are they FWP 1, 2, and 3? Because they're all shown at the same number. 
MR. JONES: Yes, they are. 
CHAIRMAN MORELOCK: Okay. And the labeling that Mr. Hudgins already alluded to to update that sketch a little bit.

What other questions? 
I've got a basic one. As far as the rule that is referenced -- it's just a typo -- but it needs to be -08(11) instead of -04(11). And you'll need to fix that on the cover letter, the cover page, page 8 and page 10 to get your correct rule number for the 20-minute rule. So on page 5, we state that the remote monitors is from plant operators, correct? 
MR. HUDGINS: That's correct. 
CHAIRMAN MORELOCK: I could not find a job description for them in Appendix G. I found the boiler attendant. But the only job description is for the shift supervisor, a mechanics tech, but there's nothing for a plant operator. 
MR. HUDGINS: It should be shift supervisor. 
CHAIRMAN MORELOCK: It should be shift supervisor? Okay. So you can revise page 5 to make that shift supervisor? 
MR. HUDGINS: Yes. 
MR. JONES: Yes. 
CHAIRMAN MORELOCK: Okay. That's all I had. 
What other questions/comments do you have? 
(No verbal response.) 
CHAIRMAN MORELOCK: Hearing none, do I have a motion to contingently approve this variance based on revisions to the manual from board member comments and a successful site visit by the Boiler Unit. 
MR. BONES: I motion. 
CHAIRMAN MORELOCK: Okay. Do I have a second? 
MR. FOX: Second. 
CHAIRMAN MORELOCK: I've got a second. Any more discussion? 
(No verbal response.) 
CHAIRMAN MORELOCK: Okay. 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. HUDGINS: And thank you for adding us to the agenda this month. Even though we were last, it sounds like it's going to be better being here in December than in March when everybody is here mad about fee increases.

(Laughter.)

CHAIRMAN MORELOCK: You may be right about that.

Okay. That completes new business.

Let's take a five-minute break and come back and we'll work on Section 9.

(Recess observed.)

CHAIRMAN MORELOCK: We're at Item Number 9, Rule Case and Interpretations. Our first one is BI 19-01, Inquiry 5. And Mr. Toth is going to present that.

MR. TOOTH: Thank you, Mr. Chairman and members of the board. Again, this is just a follow-up to what was discussed or started at the September meeting. As you may recall, there was one inquiry that was tabled and one inquiry that was removed. All the board members should have a revised copy with the changes to the other inquiries, the other seven inquiries. And I would ask if the board has any questions for inquiries and replies 1, 2, 3, 4, 6, and 7 before we move forward.

CHAIRMAN MORELOCK: Mr. Toth, all I have is 19-01, Inquiry 5.

MS. BENNETT: It's in your book.

MR. BOWERS: Is that the one dated November 18?


MR. BAUGHMAN: That November 20, 2019, it says Subject: Low Pressure. Is that correct?

MR. TOOTH: No. There was a number of them. This one, you should have received the letter --

CHAIRMAN MORELOCK: Okay. I've got it. Yeah, I've got it.

MR. TOOTH: -- the letter that was originally dated for August 2nd. And then it has a revised date next to it.

CHAIRMAN MORELOCK: Yes. All right. I do have it.

MR. TOOTH: On those inquiries and replies that I mentioned in that letter, I did not indicate the changes. I went by the changes that were highlighted in the minutes and revised accordingly. Those, I may add, were voted on and approved by this body at the September meeting.

But complete approval of the interpretation was to wait until after additional discussions.

MR. BOWERS: Let's go back through those again, which ones we're talking about now. We have one that's a letter dated November 15. I have an old one that I had the last time dated November 19. And this is -- and the first question was -- okay. So that's on the CO2 monitors there. That's another question.

MS. BENNETT: It should be in your book, Mr. Bowers.

MR. TOOTH: If I may, I can just come up and show you. I don't have a hard copy.

I've got the computer. If you'll notice, you'll see it has the revision. It's the August 2nd with the revision date. Does everybody see that?

MR. BOWERS: You said August 2nd date got revised?

MR. TOOTH: Uh-huh. Does everyone have it?

CHAIRMAN MORELOCK: Yes.

MR. TOOTH: So I'll reiterate. The replies for 1, 2, 3, 4, 6, 7, and 8 have all been revised per the request of the board and voted and passed on at the last meeting. There was also discussion that removed Inquiry Number 9. That was added into interpretation requests for low-pressure boilers. That apparently will be brought up at the March meeting, since it was not put on this agenda. And so the discussion we have today to finalize this is Inquiry Number 5 and its reply. And when the board is ready, I'll be happy to read that with the suggested reply, and we can go from there.

MR. BOWERS: Number 5. I'm waiting on the direction of the Chair. What would you like me to do, sir?

CHAIRMAN MORELOCK: Proceed.
MR. TOTH: Thank you. So as we look at Inquiry Number 5, as read, it is required for all high-pressure boilers installed in a location -- example, boiler room, mechanical room, facility location, et cetera -- to be electrically connected to a single manually operated remote shut-down switch, that is an e-stop, installed at the point/points of egress where the activation of the switch shall actuate the master fuel trip relays on all boilers within the location.

The suggested reply is no. However, this does not restrict the owner-user from doing so if they choose. And I will add, this follows the requirements within CSD-1, NFP85, and also NBIC.

MR. BOWERS: The discussion was on one e-stop were all the boilers, which is going beyond what the NBIC required. And I can say -- and I think in probably 95 percent -- in talking to the chief and assistant chief, 95 percent of the times, that would be adequate. But there's certain manufacturing plants that, probably, that would not be -- work very well to do that.

So I guess that's the thing we have to decide, if one fits all, or if there's a way to say yes -- a way to say, well, we're going to do that. There's probably certain situations, certain plants that are a lot more sophisticated that would need to, like Eastman, have to be separated, where you don't have to go to that degree. You need to have it where you can individually shut down -- because you could talk about -- I mean, we're talking about safety, but we're talking about the clients, talking about the locations, shutting down five big call units or something like that in certain places, costs millions and millions of dollars of damage to the equipment if it's not shut individually.

MR. BAUGHMAN: So that was one of the things that we had in our previous discussion, was it's not a one-size-fits-all proposition. You mentioned it in your discussion earlier that you agreed it was a safer way to do it.

MR. TOTH: Well, I think it's -- Mr. Baughman, if I can interject, before you go on, I agree 100 percent with Mr. Fox on this. If I were to suggest to a client about e-stops, I'm helping them as their consultant on two fronts. Number one, they're still being safe because they're following the rules and regulations and the codes. But then, also, for a cost, they're running less wire, less e-stops, less opportunities. Absolutely.

The issue that I run into, as being somebody that's served on codes for years, is that concern of setting the requirements, such as the NBIC has done, which Mr. Morelock and I are going to be a part of next month. Where they're setting requirements that are using words like "shall," that it's a one fits all, but in reality, that's not realistic.

So I think, you know, there is an opportunity here. There is an opportunity to either address this as the exception or the rule. The exception may be the Eastman Chemical companies, the Parkwest Medical Centers. Those companies that need or want to have the ability to have multiple e-stops, and train accordingly, and address that, how do we address that? The good thing about it, the State of Tennessee does have a permitting requirement where all state inspectors are doing the first inspection. So they're able to look at those things, such as e-stops, that we talked about in September, that were hard to enforce prior to the permitting requirements.

If this body chooses to use that as...
an avenue for a variance, if you say you have to
have one that controls all boilers but the
individual location, if they choose to have
multiple e-stops, that's their purview, because
they are following the nationally recognized codes
when it comes to e-stop requirements.
But I do agree with Mr. Fox and
Mr. Baughman and everyone else, that one e-stop is
the best way to go, but that's not the only way to
go.
CHAIRMAN MORELOCK: Well, and this
inquiry, the way it's written, would allow you to
have that one e-stop. I mean it's not prohibiting
you from doing it, because, like you said, there
is a cost savings from installation, maintenance,
use, and all that. But then for folks like
Eastman, it doesn't tie our hands to have to --
there's no way we could put a -- you know, it
would cripple us if we had to do that.
MR. FOX: Oh, yeah.
MR. BAUGHMAN: Well, the other side
of the coin -- I'm sorry. Go ahead, Terry.
MR. FOX: I mean, there could be
some stuff done with the e-stop itself, the
push-button-type switch. Simply, if you had --

I'm trying to figure this out -- if you had an
alarm-type system with that boiler that would
indicate five light, or whatever, at the e-stop
itself, we might -- do you see what I'm saying?
MR. BOWERS: Which boiler?
MR. FOX: It would indicate which
e-stop you would want to hit.
CHAIRMAN MORELOCK: Right.
MR. FOX: You know, because I know
myself, if I've got something that's blowing up
inside a plant or, you know, an explosion or
something like that, if I open the door, if
there's five estops, I'm hitting all five of them.
MR. TOTH: And that's good.
MR. FOX: You know, that's what I'm
going to do.
MR. TOTH: Sure.
MR. BAUGHMAN: Well, again, we've
had e-stops fail. Eugene, you're on that project
itself where the e-stop was wired in and did not
shut the boiler off. But I'm thinking about it
just the opposite way, is that we make it a
jurisdictional requirement that one e-stop kills
everything, and it's a variance to come back and
get that approved. Instead of having it at the
customer's discretion, we make it part of our
jurisdictional requirement, and then put it in as
a variance that you're able to come before or
submit it to whoever the body would be that needs
to make a decision on it. But there's fewer of
those than there are the majority. And one of the
things we wanted to do in putting this to this
month's discussion was give enough time for us.
And I was on the fence with it
myself, because I did not have enough information.
I've done the homework, and by a vast majority,
those that are both in the service industry, the
inspection industry and the operators, those that
are operating the equipment, all voice the same
thing. There will be exceptions. And that's
where I think that for us to make it a
jurisdictional requirement and then come back as a
variance makes more sense than it does to leave it
up to the discretion of the industry itself.
MR. BOWERS: It's easier for the
state inspectors to control it. We know
95 percent of the time it's going to be a certain
way. But it doesn't always have to be that way.
Say, like, Vanderbilt, they have five huge
boilers. You don't want to shut down the whole
campus at one time. You can say you can do it a
different way, but if you do it a different way,
you've got to have training; you've got to have it
a certain way. It may be the same way with
Eastman. You can say we want it our way, but as
long as you've got it laid out that for the board
it has to come before the board to do that. That
way it's only going to happen in a very small
percentage of the situations. 95 percent of the
time, one e-stop will work fine.
MR. BAUGHMAN: Well, is it even an
issue that comes before the board, or is it a
matter of the inspectors, the chief assistant
being disseminated down. I don't know.
MR. TOTH: Well, let me kind of
elaborate on that, being that I've sat on all
sides of the table. Okay? When we put it to a
requirement for an inspector, what's to say that
inspector says no, you've got to have one, when
the customer wants to have individual. So now
we're getting back to the issue that we have, is
why, back under my tenure as chief, we started
BC's and BI's, board cases and board
interpretations. Because it was going to a point
where you have one individual making a
determination and somebody else over here making a different one along the same lines.

I agree with if this body chooses to go the route of saying, okay, when we go to do a permit, what does that entail? What are the guidelines that says Company A can have five e-stops and Company B cannot? Because I'm going to tell you, I know where the enforcement is going to go. The enforcement is going to tell that person they have to have one e-stop. Ain't that right, Chris?

MR. O'GUIN: You are correct.

MR. TOTH: See? So what you're doing is, is you're taking it and you're saying we can say all the words we want right here, but the enforcement is going to tell other inspectors you've got to have one e-stop. And so that goes for Eastman; that goes for Parkwest. They have five e-stops. And you're talking about leaving the room -- Mr. Fox, what did you say you're going to do if you have a situation?

MR. FOX: I'm going to hit all five of them.

MR. TOTH: You're going to hit all five. And I don't want to get into a disagreement about this. But I do not want somebody to tell me that people aren't going to be trained to do that. I've been there. I've been in the situation under emergency environments. When you're trained properly, can you do it all. It's a problem when you're not trained properly. And what Mr. Bowers alluded to is come before the board or whoever and prove that you've been trained. Well, I challenge back and say prove to that inspector that an operator has been trained, period. It doesn't matter how many e-stops they have.

MR. BOWERS: But it's same as the 20-minute rule and having a variance.

MR. TOTH: Absolutely. And so when we look at that, we say how many we have and how we handle it. I agree 100 percent. If you want to go through the issue of saying you want to have individual e-stops that you have to come back and request that to the board, I think that's a little overkill. But if you say inside of the permit that you request it to the State, if the response from the State is I'm going to deny them all just because that's the way I want to enforce it, that's not kosher. There needs to be a system in place that says why do you need to have an individual e-stop for each boiler.

MR. ROBINSON: Eugene Robinson, Cincinnati Insurance. And that's the whole purpose of the variance. In other words, if you give -- let me finish. If you give a manufacturing entity carte blanche to install 12 e-stops, like at the gas pumps, when you go to the gas station, you turn left and you turn right, you will see a mushroom button. You don't see 12 mushroom buttons for each gas pump. You just see one.

Now, let me finish. First of all, I wanted to apologize for being so passionate about this to the board and as well as to you, Mr. Toth. And the exception is this -- as you said, the exception is a matter of giving a red carpet to any installer who wanted to put as many e-stops as they could possibly fit.

Now, the variance, if you have them bring up a manual before the board to make a conscious decision as to if they can approve an installation of this type, you're still maintaining the integrity of the State.

Now, going a little further down, you could take that code question and you could word it to do such. That's it.
thought that too, and they probably do, they would put it in the code.

CHAIRMAN MORELOCK: I would agree with that. And if I take my engineer hat off and I put a business hat on representing Eastman, Eastman is going to say we need to make a data-driven decision on why we need to do this. Show me the case studies where multiple e-stops has created personal injury, property damage, boiler failure. And I just don't know that you're going to see a lot of that data. There might be some isolated cases.

MR. BOWERS: And I agree with Marty. When you go beyond the code, more restrictive than what the code is, you're kind of sticking your neck out.

MR. BAUGHMAN: So I'll put my two cents' worth in. We have variances already in place, not just for the operator, but we've got code clearance requirements. Those are set in writing. But who do those approvals go back to to get that done? It doesn't go before the board. MR. TOTH: No, it doesn't.

MR. BAUGHMAN: So you've got those clearance requirements, and there's differences modular boilers that were brought together. We had a catch-all that said that you had to have three foot of clearance between all boilers. We had a catch-all that said you had to have five foot of clearance above.

The issue -- the hardship that happened out in the public was constructions of certain types of units such as instantaneous water heaters that are hung on the wall, modular units that are slid together, that's the issues. When we talk about e-stops, e-stops is a one size fits all, is it not?

CHAIRMAN MORELOCK: Well --

MR. TOTH: No. When we're talking about high-pressure boilers, it really is. Because if you have a high-pressure boiler, you're going to have an e-stop. To even better go beyond that, if you have a low-pressure boiler, you're going to have an e-stop.

So -- but I agree with you. I do. The thing that I'm concerned with is -- and I think there's a resolution to it. And that resolution goes back to the permit, goes back to the question about the e-stops. Are e-stops installed? Yes or no. How many stops per boiler will be installed? Now, that's when the question can come up. Well, why do you want to have -- why do you need to have multiple e-stops? Do you need to have it because of a process issue? Yes or no. Again, taking ourselves out of the what's my personal belief in this. What does the code tell you? It's like if I have a situation at Eastman Chemical Company, that by having one e-stop could compromise the operations; if I have a hospital environment that doesn't feel comfortable with all their boilers going down at one particular time. If the question that goes back is yes, how you're trained, how do we understand that -- I kind of like the idea that Mr. Fox alluded to with the e-stops, that there is an indicator, that we not only run a line that -- a circuit that disconnects, but we could also -- you, as a board, could also mandate that those e-stops are lit to show indication. That's a possibility.

But again, this opens up the dialogue. When you hammer it down and you say no, only one, you're putting everybody in the same basket.

CHAIRMAN MORELOCK: Have you got a
question?

MR. DUNLAP: Derrick Dunlap, with Jewell Mechanical. What about they have to have one e-stop that will shut them all down. But you could also, like, if they had five boilers, you'd have Boiler 1, 2, 3, 4, 5, and then a universal on top that would kill them all. You just open a contact, right? So, I mean, you run it through the first switch, it would kill the individual boiler, come out of it, run up the second switch where they all run through, and you kill them all right there. So no matter what, they have to have one switch, but then if they wanted the option, then they have the option underneath.

MR. TOTH: I mean, those are all -- you know, those are options there, too. Again, it allows for us to say one e-stop and be as safe as possible, and then say, however, if you want this -- when you apply, you have to indicate that. And then we can go from there.

CHAIRMAN MORELOCK: So part of the permitting process, if it's one e-stop, it's pretty straightforward, but if somebody has a complex system, as long as they present a plan to the State that's acceptable, then that will be approved on a permit, right?

MR. TOTH: I would say that that would be a way to resolve that issue. Again, it goes back to an understanding of we're not just going to turn it down because that's a personal preference. It's not my personal preference to have four e-stops at Nokian Tyre.

MR. BOWERS: So what would keep -- is there a fallback? You talk about Eastman. Eastman goes there and they said we're putting in this new boiler room and we want -- we've got a new boiler room and we want multiple e-stops. If they go to their inspectors, Jesse Smith, or whoever it is out in that area, and says, I want this, and he says, no, Sam says only one, well, we'd agree with that. Is there a forum that they could bring it to the board --

MR. TOTH: Well, yeah. They can always bring anything they want to the board.

MR. BAILEY: Yeah. I was going to mention that, that in the statute and in the rules, any action taken by the boiler unit, they can appeal that within 15 days and come before the board to state their case and to either see if the board will reverse it or whatever. So there is an avenue to protest something that the boiler unit does, or if they don't permit them or say, hey, you have to have one e-stop and they are real adamant that they need multiple ones, but Sam and Chris won't approve it, they can appeal it and come here.

CHAIRMAN MORELOCK: And what are other jurisdictions doing about this? Do they have the same problem?

MR. CHAPMAN: They haven't said anything at the moment.

CHAIRMAN MORELOCK: I mean, I agree with Mr. Toth in the fact that we've got national and international standards that say you can, and they've vetted it probably a lot longer than we've vetted it.

Yes, the jurisdiction can make requirements more restrictive if they choose. And that's fine. But it's -- I don't want anybody to feel like we're compromising safety, because we don't. But our boilers, you know, we've got DCS control rooms with people sitting in the powerhouse watching those things 24/7. So it's not like a boiler sitting out there that's only seen, at best, every four hours. And so my request is just consider that in your decision-making.

MR. BAUGHMAN: But I feel that you're in the minority in operations.

CHAIRMAN MORELOCK: Oh, I agree.

MR. BAUGHMAN: And so what we're looking at is -- and we don't know the percentage, but we're talking about high 90s. So we're trying to mold this to carry the majority and then attend to the minority. And I think that by what we're discussing here, which is great discussion, that we'll be able to look at that and then be able to come up with a conscientious decision based on safety. Because that's what this whole board is about, is safety.

CHAIRMAN MORELOCK: I agree.

MR. BAUGHMAN: And so one of my questions that comes up in this is that we're talking about the permitting and what have you, what do we do retroactively, which is also part of a discussion. So we're looking at moving it here forward, but then what do we look at for those that are behind, retroactive, that don't have e-stops presently or do have e-stops. But either way, that's part of the further discussion that I
wanted to put out there.  

MR. TOTH: If I can interject, you guys, this board has already addressed that and you've done a great job with that. And that's on the latter inquiry that says preexisting locations are required to have e-stops. So when you do go in, based on the requirements leaving today, be it one, be it one for each boiler, whatever it is, the understanding is you don't have an e-stop. No different than what I did with Parkwest Medical when they became my client, and I said, "Look, guys, you don't have e-stops at every point of egress. Let's get them there."

Now, at that particular time, their choice was to piggyback on what they already had, which was four e-stops, one for each boiler, and then they added the fifth. And then they had panels at the other two points of egress. But I think it's done a great job in handling that.

Moving forward now, what my concern would be is for an inspector to go in and see five e-stops or four e-stops and start requiring, no, you've got to put these all on one circuit. See, that would be a concern that I would have. But, again, that's the responsibility of this body. This body sets the rule, tells that body how to enforce it. And so whichever way, I'm fine with. I'm just playing almost devil's advocate here and saying, you know, let's be careful about it. But, again, if you go with one e-stop, I'm walking out of here happy as a lark saying this is easy now. Any client I have, you've got one e-stop.

MR. NEVILLE: (Indicating.)

CHAIRMAN MORELOCK: Mr. Neville, do you have a comment?

MR. NEVILLE: Is it possible for the board to have a preference for the 95 percent? So the preference may be to have one e-stop which allows the 5 percent that have a valid cases to, you know, not have just one e-stop that would kill the process. And maybe that could take care of the 95 percent of the ones that -- I mean, one e-stop is convenient for a designer to say, "Hey, we're going to have one e-stop for that boiler room. But there's other places where they're not in a boiler room. They're, you know, in a -- on a campus, you know, multiple places.

So I was just curious if preference -- you know, if we could state in the checklist that, hey, the preference is to have one e-stop per egress in the boiler room. And to do it that way, to get most of them to comply with that.

MR. BAUGHMAN: Instead of a jurisdictional rule?

MR. NEVILLE: Right.  

MR. BAUGHMAN: Well, there again, that's food for thought.

MR. TOTH: If I may, are you referring to, like, on the permit for installation when you say checklist? Because you're not talking about variances. Variances are different.

MR. NEVILLE: Right.

MR. TOTH: Are you talking about a permit?

MR. NEVILLE: Right.

MR. TOTH: So on a permit, say, you know, one is recommended for, you know, for installations. Now, if others want to go beyond that or have a case to say that one won't work for this application.

MR. BAUGHMAN: I think that still leaves us where we're at --

MR. TOTH: Well, you know --

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MR. BAUGHMAN: If I'm not mistaken.

MR. TOTH: I'm sorry I'm talking over you. Go ahead.

MR. BAUGHMAN: No. Just my thoughts with that -- and it's good thought and I appreciate the input -- but that kind of leaves us where we're at now on preferential. It doesn't define. What we're looking for and why this case has even been brought up is to give delineation on one or the other, and having a variance approach to it back through the boiler unit. So I think if we leave it open, as far as a preference goes, it's just -- there again, I don't know whose preference it goes to.

MR. TOTH: And if I can add onto that. Would the chief -- would you be willing to say, okay, we have to have an e-stop that kills all boilers in the boiler room on the permit, but then also have the opportunity for them to apply for a variance from that rule in writing that a accompanies the permit explaining their reasoning behind having multiple?

And so then it gets to that. Yes, we all agree one e-stop is the safest way to go. It
handles the problem. It kills the boiler. But then if you have somebody that says, oh, well, this tells me I have to have one, but I can also apply with the permit, in writing, an explanation of why I choose to have individual e-stops. And so then you do have an Eastman Chemical Company or one of the hospital groups. And then in that, you can give -- because do you still have the guidelines of how to fill out the permit? Is that still with it?

MR. CHAPMAN: Yes.

MR. O'GUIN: Yes.

MR. TOTH: So under that bubble, that number bubble, you put in there what's expected in that letter of your intent, how you recommend, you know, the training of the individuals, and then the boiler unit can look at that and say, you know, "Yes. Okay. We agree to that."

And, again, just like this board, this board goes and makes a ruling on a variance. That ruling does not get checked off until when?

MR. CHAPMAN: That's right.

MR. TOTH: Same thing happened when it gives them an avenue out. Because 99 percent of the time, it's going to be one. But at least they have that leeway to change it, then, for some reason. The owner also has an avenue and says maybe they don't understand. I want to appeal it to the board.

MR. TOTH: And I agree with that.

Because you're -- again, I started this with talking about the exception and the rule. The rule in this case is 90-something plus are going to go with one e-stop. The exception is that few percentile that will want multiple. And I think that to turn it around, the answer to the question or the answer to the inquiry is yes, it's required. Yes, required. However, a variance may be issued upon permitting, or a variance request. And we can wordsmith that to where it comes out right. But in essence, what we're trying to achieve is yes, you're required to have one e-stop to kill all the boilers in the boiler room in that single space, not the -- if they have multiple boiler rooms all over, just in that space, right?

MR. CHAPMAN: That individual space.

MR. TOTH: And then follow that up with the exception, which, however, you may apply for multiple e-stops through, you know, the boiler inspection unit, through the permitting. And we'll work together and verbalize that.

MR. BAILEY: Mr. Chairman, piggybacking off of that gentleman's suggestion over there -- and maybe I'm missing something here -- if we have a requirement that says you have to have one e-stop to shut all the boilers down at this location, there's nothing that prohibits that company from adding separate e-stops, just so long as they have one major e-stop. I mean, is there anything that now would prohibit that?

CHAIRMAN MORELOCK: Well, I mean, for us, if you want one e-stop to shut the whole thing down, you would program the DCS to shut the whole thing down.

MR. BAILEY: Right.

CHAIRMAN MORELOCK: And that's not --

MR. BAILEY: But, I mean, can you not then have separate --

CHAIRMAN MORELOCK: Oh, yeah.
right now there's that would prohibit it. If you-all took the position that you have to have one that shuts them all down, there's nothing right now that would prohibit them from adding separate ones for each boiler if that's what they wanted to do.

MR. TOTH: Absolutely.

CHAIRMAN MORELOCK: Yes.

MR. TOTH: I would say, if I may answer for you, absolutely. The only prohibitive factor that you're going to have on that, Mr. Bailey, is where it comes -- you know, it's a customer's choice. It's cost prohibitive. I mean, it going to -- you're running conduit or conductors and wires and everything else. That's why when somebody wants to put in multiple e-stops, they consciously know what they're doing. They consciously know we're going to quadruple our cost in doing this.

So I propose to you, Mr. Chairman, and the board, that we revise reply, after this discussion for Number 5, to yes, and then put the wording in there that allows for a waiver. I wouldn't call it a variance. I would call it a waiver, because a variance comes here; a waiver goes there.

CHAIRMAN MORELOCK: Well, I mean, we have to be careful to make it look like that just because companies, like Valero, hospitals, Eastman, all these -- you know, ETSU, I don't know. I mean, you know, I don't know if they've got one e-stop for all their boilers or not. But you don't want people to feel like you're penalizing them just because they've got a complex system.

MR. TOTH: Exactly.

CHAIRMAN MORELOCK: They've got a track history of being safe. Why are we going to force them to actually spend more money to keep doing what they're doing and it's not been a problem. That's my only thought. I'm not against it. I understand where these small installations are, yes. I agree wholeheartedly, because they don't have -- we've had these long conversations about even these attendant variances. Most of these folks are running it just like a piece of equipment. They have no idea of the stored energy that's in there and all that. For those applications, yes, you want one button to shut the whole thing down so

you don't hurt anybody. I agree with you. But if you've got a whole staff of competent people that know how to handle that pressure equipment, just don't unduly penalize them for being safe.

MR. FOX: And I agree with what you're saying, but every emergency situation is different.

CHAIRMAN MORELOCK: I agree.

MR. FOX: Now, I can tell you that Mr. Baughman knows just as well I do that we've had people in a boiler room with a couple of boilers in there on a forklift, and it ran into a gas pipe and ruptured the gas pipe while the boilers was actually running. That gas is expelled into the room. This other boiler now is sucking in, into the air intake. We've got a possible explosion right there. And it's not going to be good. But if we killed both boilers, we take that explosion factor away.

MR. BAUGHMAN: And I think the direction this is heading is great. It's going to need to be kind of fine-tuned. But there again, it's communication back to the inspectors. It's not an inspector's decision, a field inspector, a deputy inspector. It's between the chief and the assistant chief. That's where this waiver comes down to. And we don't want to have individual decisions, then, on what's going on. So that communication is important back to the state inspectors and the insurance inspectors. And then making sure that we, again, identify not only is this moving forward with new installations, but it addresses those that don't have e-stops presently. And then what do we do retroactively? Do we grandfather in the ones that already have single e-stops and so forth? So I want to make sure that we address those different entities very specifically so that there's clear communication to the deputy inspectors on what they're information is that they're passing on to their customers.

MR. TOTH: And I think that's the operational end of it. My personal opinion is the individuals that already have individual e-stops, they're already there. They're operational. I would always suggest that an inspector pay them closer attention, take them through the gamuts of inspection. And really, it goes back to inspections, too.

MR. BAUGHMAN: So my next -- the
next follow-up to that is you've got a preexisting boiler that's then getting -- and it's already got e-stops, and it's being removed. And a new boiler is going in, new permit, then do you -- and I'm taking that I kind of know the answer, but I'm saying you've got to go back to them and say codes have updated. We now have to go in and change our estop requirement or go for a waiver.

MR. TOTH: And I think that's where the boiler unit would need to look at that. I know if I were still sitting in that seat, I would look at it and say, okay, it's a preexisting. Are they showing an aptitude for safety? Are they looking -- you know, are they handling -- what's the reason? Why do you want to have that? I think it is a retroactive thing. And if you enforce it, it's going to be kind of a little bit hard on the end user. I would say as long as they can show a sense of safety, that replacement boiler gets to be put into the same circuit as the one that they're taking out.

MR. BAUGHMAN: Well, and I go back to thinking about some of our codes. We've got codes that are grandfathered in. We've adopted CSD-1, but we said, well, the old boilers, we don't have to upgrade unless there's a major repair done to the boiler. And we don't delineate what's a repair. We just say at the time of repairs to the boiler, the boiler has to be upgraded to the new code of the day. Well, that's subjective. And it also says, well, the old boilers, even though they've got old, outdated single-gas valves and what have you, those are the ones that really should be updated because the new boilers have all the newest and safer controls.

But we grandfather in the older stuff. And I've never quite understood that thinking except from an economic standpoint, not from a safety standpoint.

And so, you know, you get to weighing out both these things. We're here because of safety, but we're also considering the economic impacts of what it is to the customers. And you almost have to put that aside, because safety trumps everything. So not to get on a bandwagon about some of that, but at any rate, it's still thought for discussion on grandfathering and so forth. And that may be something we take up as we go through this process.

MR. TOTH: Well, if I may -- and I was paying close attention, but I was multitasking a little bit and I was doing a little wordsmithing here -- the response would be changed from current to yes, however, the owner-user or their designee, installer, may apply for a waiver from the chief boiler inspector during the installation permitting.

MR. ROBINSON: May?

MR. TOTH: Yeah, you may. You don't have to. It's an interpretation, Gene.

It's yes or you may apply. You're either going to have one or you're allowed to apply for a waiver.

MR. ROBINSON: Agreed.

MR. TOOTH: You don't have to apply.

MR. BOWERS: And that would be the same thing under preexisting. If they've already got a preexisting system like the hospital, today, if they were to change out a boiler, then they would have to go back to the state inspector and say, "This is how we've been running for years. We haven't had any problems. Can we continue to run with multiple e-stops?" And Sam or Chris would say yay or nay. If you've never had no problem, we don't see no problem with it.

MR. TOTH: Yeah. And then, as Mr. Bailey alluded to, then if the Boiler Unit decides no, well, that gives grounds for the submitter to then come back and say, well, I would like to appear on the boiler board of rules to -- yeah, absolutely. It absolutely gives opportunity.

Obviously, the Boiler Unit is not just going to say no. They're going to have a just reason why. I mean, you've got to have a just reason why you tell somebody no.

So I would say, Mr. Chairman, that my submittal on Number 5 is as stated in the reply. I'll be more than happy to reread that. If somebody want to wordsmith it, I've got it on paper and we can look at it.

MR. BAUGHMAN: So the reply is being changed to yes.

MR. TOTH: Yes. However, the owner-user, or their designee, may apply for a waiver from the chief boiler inspector. And I'm doing to put in here "or his" -- which we're not male or female here -- "designee during the installation permitting process."
installations. How do we address e-stops with rental boilers, temporary boilers.

MR. TOTH: On top of the installation -- or on top of the ones that are already there? So let me get this straight. So you bring in a boiler -- again, it goes really down to an individual case-by-case basis. Because I have a boiler room that has five boilers. Am I bringing that boiler into my boiler room? Or is it on a trailer outside of my boiler room? Because as we've discussed before, each boiler room is it's own entity.

So if I have three boilers in this boiler room, I have one e-stop. That one e-stop kills all three boilers. If in a situation that third boiler has to be repaired but I need to bring in a rental unit, that rental unit is sitting outside in its own trailer. It, yes, should have its own e-stop.

MR. BAUGHMAN: Well, and that was -- and so just as I'm going through thinking about these variables in the industry, they pull up a rental boiler, some of these rentals aren't even in an enclosed trailer. Some of them are just weather-proofed boilers that don't even have an e-stop plunger or an emergency disconnect.

MR. BAUGHMAN: Yeah. They're a separate room in itself, just as if you had a separate --

MR. TOTH: As long as -- yeah, right. As long as they have their own -- I'm sorry.

MR. BAUGHMAN: Sure. Well, and we've got -- well, outside of kind of over in your neck of the woods, the ammunition place that's got boilers spread out all over the place, and they've had issues in the past. But there again, when one of those -- what I would like to do is also look at it -- and the customer may want this, too, but when they have an explosion in one of those TNT buildings, the buildings are supposed to be spread out enough that they -- but when you walk up to a building and it shows -- they show the amount of TNT that's in the building, and those things are in the five and six figures, you're going, holy moley.

And there again, it's an individual building which would require an individual e-stop for one boiler, but it makes me wonder about the existing buildings that are in close proximity. But, there again, it's not a one-size-fits-all, and it goes back to the boiler unit itself. But it's interesting what we work with in the industry, isn't it?

MR. O'GUIIN: And, Dave, there shouldn't be many multiple e-stops out there. I mean, this has been in force for many past chiefs, one e-stop in a boiler room, except for, like, Eastman and a couple of others. But all the hospitals that are the majority of these variances are one e-stop, with apparently Parkwest is going to be the first one that I've done a variance on that has multiple e-stops in a boiler room.

MR. BAUGHMAN: I agree. I've seen many that have one of for all of them.

MR. O'GUIIN: So we're not talking, as far as retroactive. I mean, there shouldn't be that many out there.

MR. BAUGHMAN: But there again, the decision needs to be made, do we make it retroactive or not. And, you know, I've got my own view on that from a safety standpoint. But there again, I've got views on a lot of stuff.

MR. TOTH: That's all I've got.

MR. BAUGHMAN: So we're changing it to yes with these changes for now, and then does...
it get brought back before the board for the final review, or --
CHAIRMAN MORELOCK: Well, no. Everything else has been voted.
MR. BAUGHMAN: Okay.
CHAIRMAN MORELOCK: So if you-all move to vote, we're going to vote on Item 5 right now.
MR. BAUGHMAN: And I didn't know about any tweaking or whatever that needed to be done back through the process. Does that go before us, or does that carry back on through them?
MR. TOTH: That's going -- I would say, not to speak for the Boiler Unit, it's the Boiler Unit's responsibility to update their permits to address the requirements.
MR. BAUGHMAN: Sure. Good. I don't have to think about anything further, then, other than saying yes or no.
MR. BOWERS: So if we approve 5, that should cover the whole --
CHAIRMAN MORELOCK: That whole item.
MR. BOWERS: Because we've already approved the other ones except for Number 5.
MR. FOX: Number 5.
MR. BOWERS: And we've deleted one of them off of there.
MR. FOX: We deleted 9.
MR. BAUGHMAN: That was 9. Which this decision may carry over into our March --
MR. TOTH: It definitely will. It definitely will, into March, and the low-pressure boilers. I think that's going to be a very good discussion based on much conversation in the industry concerning low-pressure boilers and potable water heaters and things of that nature.
So what would happen, Mr. Bowers, is that once the board agrees on this, we agree on the verbiage of the response, if the board agrees with that, I'll go back in and clean this up as per the requirements and send it in to Carlene. And then it would be -- you would publish it with the other board interpretations that are out on the Web.
CHAIRMAN MORELOCK: Okay. Any other questions or comments?
(NO verbal response.)
CHAIRMAN MORELOCK: All right.

We've got a motion on the floor. 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: Motion carries.
MR. BOWERS: So the motion there was for Number 5, or was that for all of them?
MR. BAUGHMAN: Number 5.
CHAIRMAN MORELOCK: We voted the other ones. Remember, we took them one at a time.
MR. BOWERS: So we don't have to add any more to that.
CHAIRMAN MORELOCK: No. We're done. We are done.
All right. Let's look at our agenda and see where we're at. That takes us to BI 19-02.
Mr. Toth, do you want to present the interpretation concerning carbon monoxide detectors?
MR. TOTH: Thank you again,
were feeling so bad. And it all came back to carbon monoxide.

So I really applaud the State for taking the approach of enforcement, and, also, the NSIC. Now, with that said, it may get a little concerning where this body enforces carbon monoxide detection. And so that’s where we’ve brought that to the attention of the board.

If you would, I would like to read down through the inquiries as I’ve done before, the replies, and then open it up for any discussion that the board may have. And I’ll try to answer from my end, but I think everybody here has their own opinion on it as well.

Inquiry 1, is it required to have a CO detector/alarm in the boiler room or space containing a boiler that has a fuel firing energy input of greater than or equal to 100,000 BTUs per hour?

Just for knowledge’s sake, the 100,000 BTUs per hour is based off of the inspection requirements set for low-pressure units here within the state of Tennessee. Anything equal to that or greater than is required to be inspected and registered by the State.

So the reply comes back as yes.

Number 2, if Inquiry 1 is yes, does this requirement include both high- and low-pressure boilers?

Reply, yes.

Inquiry 3, if Inquiry 1 is yes, is unfired steam, slash, water boilers utilizing the fired fuel waste heat combustion gases; example, heat recovery steam generator as its energy source required so?

Answer is yes.

Number 4, is it required to have a CO detector where the boiler room or space where a boiler is installed possesses a higher-space mechanical ventilation system that either continuously operates or electrically tied to operate whenever the boiler is on in the space or fired?

The response is no.

Again, these are not my personal opinions.

(Mr. Baughman exits the room.)

MR. FOX: Can I interject something there?

MR. TOTH: No.

Not yet?

Again, Mr. Fox, this is not a personal opinion. This is just an opinion for editorial.

Mr. Chairman, would you like me to pause until Mr. Baughman...

CHAIRMAN MORELOCK: Yes. We probably ought to because we don't have a quorum without Mr. Baughman, as far as a voting quorum anyway.

(Pause in the proceedings.)

CHAIRMAN MORELOCK: Continue, sir.

MR. TOTH: Inquiry Number 5, is it allowed to install a CO detector anywhere within the boiler room or space where a boiler is installed?

Reply, no. CO detector shall be installed no lower than five feet above the lowest space in a boiler room or space containing a fuel-fired burner.

Number 6, is it required for CO detectors to be hardwired electronically?

The reply is no.

Number 7, is it required for the CO detector to have two means of power source?

Reply, yes. One of which may be a battery-powered source.

Number 8, is it required for a detector to be dedicated for CO detection only, or may the detector be a multipurpose detector/alarm? I put No. But we need to -- I need to probably reword that and not give an and/or. It needs to be a straightforward response.

So if I may, I would change that question to is it required for a detector to be dedicated for CO detection only?

The response will be no. Detectors may be of multipurpose, detection or alarm.

CHAIRMAN MORELOCK: So you'll have a second sentence with that last part?

MR. TOTH: I will have a comma.

CHAIRMAN MORELOCK: A comma?

MR. TOTH: Yeah. It will be no with a colon and elaboration.

Number 9, is it allowed for additional control and safety devices on the boiler that monitor carbon gas O2 levels to ensure complete combustion; for example, O2 trim, etcetera, be acceptable as a CO detector for a boiler room or space where the boiler is
installed?

Reply is no.

Number 10, is there a requirement for the decibel level, the audible alarm must emit?

Is there a requirement for the decibel level the alarm must admit?

The response is yes. The decibel level must exceed the normal operation decibel level of the boiler room or space where the boiler is installed or located.

And that's it. And I will be -- I would recommend that we do as we've done in other interpretations, and just go down through and open those that have discussion to discuss.

MR. BOWERS: Well, one thing I'll mention, it's kind of -- you know, I think, to the National Board, by coming out with this is overreaching. That's my personal opinion.

You know, this is something that's required by a lot of fire codes anyhow, and just because they don't enforce it like maybe they should, now it's fallen back on the boiler people to enforce something that doesn't really have to do with a boiler. It's just a safety issue. So now it's fallen back on the boiler people to do what that's beyond their expertise.

MR. TOTH: I can see where you're coming from on that, Mr. Bowers; however, I think, the board members here felt the feed that it addresses and gets more specific as to what are those requirements.

MR. BOWERS: Which is very vague. All it says is put in a CO2 monitor. That's all they say. I mean, it's very vague in what they put out there.

MR. TOTH: And that's why I felt the need and, I think, the board members here felt the feed that it addresses and gets more specific as to what are those requirements.

MR. O'GUIN: Chairman?

CHAIRMAN MORELOCK: Yes.

MR. O'GUIN: Those counties there, they said, had local codes they'll enforce, and so the state fire marshal's office don't enforce in those counties.

CHAIRMAN MORELOCK: Yeah. And, I mean, that's part of our process safety when we put in a process, is to make sure you're monitoring CO, CO2, all these other things that come off of that process.

I'm not opposed to that, but then you've got to have -- you almost have to have the caveat if you have existing processes that monitor and satisfy the state requirements, you don't have to do anything in addition to that.

MR. O'GUIN: Yes.

Page 201
MR. BAUGHMAN: It's interesting.

MR. TOTH: Well, a lot of these requirements that you're seeing from this interpretation came specifically out of the NFPA code book on CO monitoring. And a very nice, white page that was written by a member of the NFPA talking about CO monitoring, something that really has hit the industry -- obviously been there forever -- but has really hit the industry in the past decade of the monitoring and the requirements.

And I could take it from both sides, as to the responsibility, because as Chris and Sam have looked at, I mean, they've went to the fire marshal, and -- it's the same thing we did back in the day, went to the fire marshal if it was CO or if it was gas requirements. They just don't have the enforcement. And so when we look at it, what's our responsibility, that's where the NBIC came from -- came up with it.

MR. BAUGHMAN: We just had one within the last two-to-three months that put the CO monitor not only in the boiler room but out in the facility itself, and both alarmed. And there again, it went back to air intake, which is in part of this inquiry. But when the air intake itself fails and there's no interlocks between the air intake and the boiler itself, it can produce CO. But we'll discuss that as it gets down to it. But yeah, more deaths and injuries each year attributed to CO poisoning than there are boiler pressure vessel accidents.

MR. TOTH: And one of the things that I found during my research on this is that one would think -- that a number that has increased over the past ten years, has doubled, nearly tripled, over the past ten years in reported CO2 incidents, would think, oh, my goodness, we've got units out there that's spitting out -- I keep saying CO2 -- keeps spitting out CO, and that's not the case. They've always been doing it. It's just now we have better monitoring systems in place.

So now they're able to attribute it. So the fire departments that are getting called out because of these alarms, we didn't have that monitoring, you know, a decade ago or nobody really paid it as much attention, and now the fire department is getting called out. And so that's where those numbers have increased. And you talk to the fire experts, that's what they're saying, is that it's not an increase in the amount of units that are releasing more CO to the environment. Because we all know in this industry, the actual technology has helped to limit those, but they're still there.

So just know that these did come from the requirements that are within the NFPA for monitoring.

MR. BAUGHMAN: I'm seeing at some point, we get into this issue on CO is that we're kind of working on the back side of it, putting a monitor in. And CSD-1 says we should tune the burner every so often. But CO is a byproduct of combustion which starts at the burner. And there's not a lot that addresses that front side.

We make recommendations, nonmandatory within ASME and CSD-1, but we've got all these things that are taking the end of it, which is great, it's a starting point. But we're not addressing chimneys, which is a huge issue, as we've discussed with quite a few of us in the past of the wrong chimneys that let that CO migrate into the boiler room or the existing facility.

So there's a lot of things that we'll take one step at a time, but at least we're looking at the CO monitoring. But at some point in time, I'd love to be an advocate in some other respects.

MR. TOTH: And to piggyback on that, and then we can move forward, is that I agree 100 percent. The combustion is happening at the burner itself. For those that are aware, even at that burner, even at complete combustion, there is CO that is being produced.

And the issue that you run into is a situation where if we are doing O2 monitoring -- we'll see that later on -- O2 monitoring, we're doing that on the back end, okay, as it's going out the stack; whereas we could have a situation that occurred through gaskets and on the fire side that are leaking out because of higher pressure, and on that, leaking out into the boiler room, it can be on that -- that first, that turn of the first, the second pass on the fire tube boiler, or even outside of a casing of a water tube boiler, that can emit a lot more CO than what we would find at the end of the flue cycle.

MR. BAUGHMAN: So what we find in the industry is not so much even on the forced
draft but on atmospherics where you have a negative air pressure and they're not pulling all their combustion air in from outside. And then, of course, you're taking anything that's being expelled right into the room itself. And those are just operational issues that we work with in the industry. But some of those -- some of these alarms are going to be going off, which is great, they need to attend to them, but I know of quite a few boiler rooms that they're going to be going off quite a bit. 

MR. TOTH: That's good. That's a good thing.

MR. BAUGHMAN: So in this, nowhere does it designate -- and it's by EPA requirements and AGA requirements -- on what the CO monitor level needs to be at. We're talking about installation and BTUs and what have you, but we've not identified within that alarm also. And there's variances between what Home Depot supplies, Lowe's supplies, others in the industry that have higher ends. But there's variances in that CO monitor itself or the CO alarm, and I'd like to be able to have that information available as we move forward, if we move forward, to be able to advise what that alarm needs to be set at.

MR. TOTH: And that's a good point. Because the exposure rates of CO, it's going to vary as to what conditions. As I mentioned to in my lead-in, that we have a lot of situations where people are exposed to CO long periods of time, having illness, not understanding what those illnesses were. And when you start looking at those levels, you're looking at 50 ppm of exposure.

Now, when you start getting in the higher levels, it's almost as -- yeah, absolutely. And, you know, no pun intended. That's exactly what's going to happen, is that you're going to walk in there and it's going to overcome you. Because, contrary to popular belief, there's a couple of things that I'd like to mention. Number one is that CO is colorless and odorless. Okay?

We always associated with the smell of combustion gases. Why? Because it's usually mixing together. But it's not. It's colorless and odorless. So if you go into a situation and there are high enough levels, you can be exposed to it for a matter of seconds and be unconscious.

The other thing is understanding that we see it when we look at where they're going to be placed within the boiler room. There's a misconception that CO gases is heavier than air, that it's going to sink, but it's not. So let's think about the concept of that, too, is that if we take natural gas, natural gas is lighter than air, you release it, it's going to go up. Well, if we're combustion, natural gas, it, too.

So CO is actually just slightly lighter than air, so it's going to make its way up. That's why you see that the monitoring has to be at a five-foot -- you know, the requirement at a five-foot level or above so that we're not taking and plugging into a wall socket here. Because for that to be reading in that wall socket, that whole room has to fill up.

MR. BAUGHMAN: So my question, then, gets back to the original, was the requirements on what we talked to them about. And there's requirements in the industry, ASHRAE, EPA, AGA of either 30 or 35 is the typical for an enclosed occupied space for a given amount of time. And we've actually got CO in Nashville in our own air that gets above some requirements sometimes. It's just kind of interesting to contemplate. But it needs to be identified so that as we're giving these recommendations out, if we decide to, that we need to know what numbers -- the customer is going to ask, well, is there a specific? Well, we don't want to tell them yeah, go out and get one that's set at a hundred or what have you. We need to have something specific, I believe.

MR. BOWERS: Well, you can make this thing way overcomplicated. You know, you can't go -- you don't think the state inspectors go out there, you've got this Lowe's 6500 and you can't use that one. You've got to use a Home Depot. I mean, you could have a book on monitors. It's just not going to be enforceable.

MR. BAUGHMAN: Well, I'm just talking about the limits, the ppm limits. I'm not talking about the brands or whatever. I'm just talking about whoever they want to buy it from, Brand A through Z, but it needs to be set at 30 or 35.

MR. BOWERS: So you're saying -- well how do we know what they're set at the stores?
on the label.

MR. BOWERS: But I'm sure if they sell it at the store, it's going to be all right. Are we going to monitor?

MR. BAUGHMAN: Well --

MR. BOWERS: Are we going to monitor the CO monitors to make sure they're adequate enough?

MR. BAUGHMAN: I couldn't tell you. I mean, it's getting overcomplicated. I mean, half the homes in the state don't have monitors. So we could go on and say, well, require it in homes.

MR. BAUGHMAN: Well, here is the other end of that, Harold, too, is that we make requirements, and we list that information out. What they decide to put on, we don't necessarily know until there's an accident and the finger-pointing starts happening. But it's like we mandate you can't use rebuilt controls in our industry. Well, nobody knows if you've got a rebuilt controller or not until there's an accident and they pull it off and they look at it and go, "It's a rebuilt control."

So we have requirements, and all we can do is lay that out. I don't know if it's necessarily up to our inspectors to look at that ppm.

MR. BOWERS: Once the State sticks their thing into it and says, well, we want 3500 and above; someone dies at 2500 and says state guy said it was all right at 3500. You don't want to get overcomplicated into us deciding which CO monitor that the owner can use or not use.

MR. TOTH: Again, if I may, it goes back to what the acceptable amounts are. I think Mr. Baughman made a really good point. Normal levels that are not going to cause an alarm are going to be in that 30 to 35 ppm range.

NFPA looks at it -- National Fire Protection Association -- looks at it, at anything over 50 ppm and above can cause illness. Okay? So what I think Mr. Baughman -- and I don't mean to speak for him -- this is very easily controlled, no different than what -- in our last discussion about the e-stops, is that there is a revision to the permit manual that stipulates at what level we need to have an alarm. And if that level is that the max level is 35 ppm, then that detector has to be able to register an alarm if

35 ppm is exceeded. It doesn't mean that they get the one from Lowe's or they get Johnson Control out here to run them. It doesn't matter. It just really matters where it is located in the boiler room, because where are most plugs going to be located in the boiler room? It's going to be located about two foot off the ground.

And so if this body puts it out there and says, well, here's the interpretation and said where's it going to be located? It's got to be able to monitor an alarm at this limit, whatever one they use, if it's a hardwire or if it's a plug in to a socket, it's got to be satisfactory per an FP72.

MR. BOWERS: Yeah, but that addresses 12,500 and above.

MR. TOTH: No. No. No. You're speaking of NFPA 85, which is 12.5 million. This is something totally different.

MR. ROBINSON: I would be interested to see if the National Board would consider making changes. And the reason being is because, Brian -- Mr. Chairman, Marty, you guys are National Board members, and, you know, I've been a member of ASME at one point in time in my life, and we used to sit around the table and discuss issues like this. And for this to be a one-liner is very ambiguous. I think that they may want to come back and, at least, clean it up a bit, because this is so broad.

MR. TOTH: So what I've -- in a very easy or quick way of doing it -- I wasn't checking my email, by the way -- is that I was looking -- that coming from the American Society of Heating and Refrigeration, they stipulate in theirs that the EPA is set for one hour of exposure, a maximum of 35 ppm. Eight hours of exposure, direct exposure, is 9 ppm. Because the more you're exposed to it, the more it's going to start to affect you. And so that's a quick search.

So when we talk about it, we set it here, or you, the board, sets it here and says you have to have CO monitoring. Then you put it back on the Boiler Unit to do the research of what is that threshold. And then in the permitting, you establish what is that threshold requirement for the monitors. And then when they go to the point of doing installs, and then how do you enforce it from here on when you go into those boiler rooms,
you have a baseline. Just my recommendation.

I really think we could probably move forward or we could table this until March to give you more opportunity. It's completely up to you.

MR. ROBINSON: One comment. Would it be prudent to submit a code question to the National Board and ask them for more clarification?

MR. TOTH: It could. The problem is, is that when you -- the process of submitting that comes in as an interpretation; that interpretation has to be put forth before the subcommittee; the subcommittee has -- it goes into the subgroup; the subgroup looks at it and then sends it on to the subcommittee; the subcommittee looks at it and sends it on to the main committee; the main committee may or may not vote on it. It may get kicked back. The next thing you know you're two years down the road trying to figure out, when you can handle the situation now and then adjust as needed. But again, that's --

CHAIRMAN MORELOCK: Well, I'm a part 3 person on NBIC. So what does part 1 say?

MR. TOTH: That's what part 3 says. Part 3 is very specific. It reads that it has to have -- I've actually mentioned it here.

CHAIRMAN MORELOCK: Well, I mean, like on installation. What's installation requirements for that?

MR. BOWERS: It's very vague, isn't it?

MR. TOTH: It is very vague. And again, the verbiage reads the owner-user shall install a carbon monoxide detector/alarm in equipment rooms where fuel-fired boilers -- now, remember, we're talking about fuel-fired boilers. Let's not go and put them in electric boilers -- fuel-fired boilers and/or fuel-fired pressure vessels, such as heat-recovery steam generators, are located in accordance with the authority having jurisdiction.

MR. BAUGHMAN: Well, and then that gets over into, again, authorities having jurisdiction on -- we've got fire marshals. It falls within the fire marshals' jurisdiction also. So we've got this overlap that we're discussing on whether we're stepping to the plate and taking charge of this. And that's something that we need to think about, too, is do we take this on just because it's in NBIC, or do we shirk that and put that to the jurisdiction that it already has in place, the responsibility, expect that where there's exemptions of installing this stuff, so...

MR. BOWERS: Well, I think we have taken it on with the NBIC. It's now how far do we want to go with it. And I think we have different levels here. We could go through these individual ones. I think most of us are in agreement something needs to be done. Now it's a question of what degree do we want to go, you know. It's like, how far do we want to go with it.

MR. TOTH: And again, it's really -- you could answer this interpretation by coming back and saying that's beyond the authority of this body and -- but that's not really true. I mean, it's really -- if you want to pass it off on the fire marshals, okay.

MR. BOWERS: No.

MR. TOTH: Is it being enforced and do we find there's an issue -- I'm going to tell you, NBIC didn't put this in part 1 just because somebody just threw it up -- I mean, same thing happened with what, with the CO2 storage tanks. It's because there were actual fatalities that occurred because of it, and so then they started putting that in the NBIC.

MR. ROBINSON: They came back with greater detail.

MR. BAUGHMAN: Well, and I guess my question is going to be is that there's counties and cities that are exempt, but there again, we're going to go back in, if we adopt this, and say no, you're not exempt. We've got to put them in across the board within the boiler end of things.

MR. TOTH: Let's -- yeah. And, you know, that actually goes down to everything. If you look in our statute -- and Mr. Bailey can attest to this -- is that this law, this rules and regulations, can be actually overextended or -- what's the legal word I want to use? So local jurisdiction can have their own law. We had that in the city of Memphis for years. And so as long as they have a local requirement that, at least, satisfies the board's requirements, then they can enforce as they see fit. You're absolutely right. You've got to put it out there first.

I'll do whatever y'all need to do. I really think -- I'll be honest with you -- I really think that this is a great opportunity to
put this aside and you guys really digest it and 
look into it, give the Boiler Unit an opportunity 
to get some of those numbers.

And I imagine, you know, Mr. O'Guin 
and Mr. Chapman over there, I imagine they've 
already received a lot of information that came 
through.

Fire marshal's a lot more 
residential. Residential has been there a long 
time when it came to CO monitoring. Those local 
industries, not so much. And so now they're 
starting to enforce it. I bet they can come up 
with those figures of what that threshold is, and 
then you go back and you look at it, and in the 
meantime, you know, we'll be out there in January.

Maybe we'll have a little discussion. Mr. Morelock 
and I both sit on the main committee.

This is why a lot of this stuff we 
don't see, because he and I are sitting in on 
repairs and alterations while they're over here 
talking about installations.

CHAIRMAN MORELOCK: Right.

MR. TOTH: And so we'll have an 
opportunity in January to maybe have some 
discussion with those installation guys and

\[ Page 220 \]

\begin{verbatim}
1  few things in there we don't have agreement on.
2  CHAIRMAN MORELOCK: Because, I 
3  mean, it's either that or we table it until March 
4  and you come back ready then.
5  
6  MR. BAUGHMAN: March is going to be 
7  a pretty thick agenda, it sounds like, so either 
8  way, I think that we can have discussion on them.
9  But it doesn't look like we're going to actually 
10  vote. Or we might vote on certain items in here 
11  and get it narrowed down to where we get some of 
12  these questions actually resolved and put to bed, 
13  and maybe our discussion in March will be shorter.
14  
15  CHAIRMAN MORELOCK: Okay. All 
16  right, then, let's proceed.
17  
18  So as far as Inquiry 1 goes, is it 
19  required to have a CO detector/alarm in a boiler 
20  room or space containing a boiler that has a 
21  fuel-firing energy input of greater than or equal 
22  to 100,000 BTUs per hour?
23  
24  And the reply is yes.
25  
26  MR. BAUGHMAN: So my question on 
27  that is does that come from the NFPA-72, or is 
28  that jurisdictional for us just because of our 
29  permitting requirements?
30  
31  MR. TOTH: It comes from us.
\end{verbatim}

\[ Page 221 \]

\begin{verbatim}
1  seeing, you know, what was their mindset, where 
2  did this come from, and then be able to come back 
3  in March and really answer this.
4  
5  CHAIRMAN MORELOCK: Well, in 
6  industry, you know, you've got process safety 
7  management, which is mandated by OSHA 19-10. And 
8  outside of all this, which is excellent 
9  information, if you sit down and do a hazardous -- 
10  process hazards analysis and all that, that 
11  process is going to accomplish this and maybe even 
12  more stringently. So again, you've got your 
13  laundries that need it, you've got chemical 
14  companies and tire manufacturers, and they may 
15  already have it just through their normal process 
16  safety management process.
17  
18  So I think it's good. I agree with 
19  you. My question to the board is do you want to 
20  vote these individually now, or what's your 
21  pleasure?
22  
23  MR. BOWERS: I think we should go 
24  through them, you know. If we have any concerns,
25  that way we can work on the concerns. At least we 
26  go through them, and there's some of them I think 
27  it's probably just easy to go through and we'll 
28  have a lot in agreement, and there's probably a
\end{verbatim}
you could have a fireplace and put 30- to 50,000 --

MR. TOTH: They're looking at potable water heaters, et cetera.

MR. PARRHAM: Dave Parham with Travelers. Are we talking about new installations, or already installed items, you know, from 20 years ago?

MR. TOTH: Those are definitely the ones we want to look at.

MR. PARRHAM: Are those going to be grandfathered in or...

MR. BAUGHMAN: I would say not.

CHAIRMAN MORELOCK: No.

MR. PARRHAM: And if I may ask another question, at what point do I become the inspector? I'm looking at it from the inspector profile. At what point do I become an inspector of CO monitors? I mean, I ask them, "Okay. Do you have a CO monitor here?"

And he says, "Why, yeah. It's right over there." I look over there and there's a 1975 Knart blue-light special hanging on the wall. It's plugged in or it's hardwired in, but do I go over there and check and make sure that thing is accurately monitoring? At what point do I become the inspector of the CO2 monitor?

MR. BOWERS: Well, I agree with you, we need to make it simple. If they have it, they have it. We don't need to come in there and be testing CO monitors to make sure they're --

MR. PARHAM: It's like a fire extinguisher. Right now I look and say, "Okay. They've got a fire extinguisher." But I do not go over there and make sure it's the A, B, C, D -- I don't know what the difference is on them.

MR. TOTH: You're right.

MR. BAUGHMAN: Well, and these inspectors are pressure vessel inspectors. And that's where we get into issues of the chimney. The chimney is external of the pressure vessel. It's integral to it, but we get into those discussions. And I had some interesting discussions with Brother Tanner years ago on that particular issue, and it was a fairly one-sided discussion, but it was a discussion all the same.

But that's a great point that you make, is all you can do is look and say, "Do you have this item?" Yes. No. Boom.

MR. TOTH: And that's why I can see -- and that's a very good point, Dave -- is that nothing in this interpretation talks about inspections of the CO monitor; it's verification that they actually have one. To test to see if it operates, pushing a button to see if it blows a horn doesn't necessarily mean -- but all you're doing is verifying that it is audible.

Again, this is not intended for inspection and service. Don't get me started on pressure vessel inspectors.

MR. BAUGHMAN: So the question being 100,000 BTUs, above 100,000 BTUs is what we're voting on.

MR. TOTH: Yes.

CHAIRMAN MORELOCK: Okay. Any more discussion? All in favor say aye.

(Affirmative response.)

CHAIRMAN MORELOCK: All in favor say aye.

(Affirmative response.)

CHAIRMAN MORELOCK: Opposed?

(NO VERBAL RESPONSE.)

CHAIRMAN MORELOCK: Abstentions, not voting?

(NO VERBAL RESPONSE.)

CHAIRMAN MORELOCK: That one passed.

Inquiry Number 2, if Inquiry Number 1 is yes, does this requirement include both high- and low-pressure boilers?

The proposed reply is yes.

Any discussion on that?

(NO VERBAL RESPONSE.)

CHAIRMAN MORELOCK: All in favor say aye.

(Affirmative response.)

CHAIRMAN MORELOCK: Opposed?

(NO VERBAL RESPONSE.)

CHAIRMAN MORELOCK: Abstentions, not voting?

(NO VERBAL RESPONSE.)

CHAIRMAN MORELOCK: That one passed.

Inquiry 3, if Inquiry 1 is yes, are unfired steam/water boilers utilizing the fired fuel waste heat combustion gases, for example, heat recovery steam generator as an energy source, as its energy source required so?

The reply is yes.

MR. TOTH: I probably can wordsmith that a little bit better.

MR. BAUGHMAN: Well, one -- so we've got -- I've known some installations over
the years that the waste heat stream diverted out
of the boiler room itself into a separate room
where the steam or hot water was generated out
through the unfired heater. So that being the
case, the boiler room itself will have one, but
being that it's in a separate room, would we
mandate that separate room that has no fuel source
with that? And that could be a waiver again, that
you could be able to go back and apply for. But
there again, we could arbitrarily say yeah,
regardless of where it's at, you've got to do it, but
yet if there's no combustion gases in that
room, it doesn't make sense to apply the CO
monitor. That is a very minute number of
installations out in the field, but I wanted to
make sure that I brought it up because it can and
has been encountered before. And if it does, how
do we address that back through our enforcement?

MR. TOTH: Well, the concern that
you're going to see that was addressed in the NBIC
and also in the NFPA is the concern of the
ductwork that takes those combustion gases to the
heat exchanger. And if there's a possible leak
within that ductwork, taking it to the exchange
room.

Page 227

MR. BAUGHMAN: That makes sense.

MR. TOTH: You may have it fine
coming out of the boiler, but when it's
routed into another space that has that is where
you could possibly get escape of the CO.

MR. BAUGHMAN: I agree. I see
that.

MR. BOWERS: But at that location,
they're not producing any CO, at that location.

MR. TOTH: Okay. But we have to
understand, where is the CO? The CO is actually
in the combustion stream. And so that combustion
stream -- okay. Let's take a car in the garage
and you take a hose pipe and you put it into the
tailpipe of the car and then you run it into the
car, well, the inside of the car is not producing
it, but the gases are coming in, right? So that's
the concept, is that if it runs into the other
space, so, too, does any possible CO that's in
that boiler stack so, too, is going to run into
that ductwork.

MR. BOWERS: But if that stack is
in good shape, it shouldn't be a problem. The
stack is supposed to be in good shape. I mean,
I'm saying if you have a stack that's going

Page 228

through multiple roofs, are you going to put a CO
on every level? Because you've got the stack
going through there. Or are you going to follow a
combustion line through several rooms that every
room that stack -- every room that line goes
through has to have a monitor? I mean, you could
go on and on.

MR. TOTH: We can go deeper into
NFPA and find that. With that requirement, I do
recall during my research that it did address,
o.kay, communication chambers. But I didn't -- I
just pretty much added it to here and say wherever
it's going into the heat recovery steam generator,
based on the fact that the NBIC spelled it out.
If the NBIC didn't say heat recovery steam
generators, I'll be completely honest with you
guys, it probably wouldn't have crossed my mind.

MR. BAUGHMAN: Well, I'm thinking
CO from the combustion source, but understanding
it's following the path of exit with the
combustion gas, so I understand the inquiry now
better.

MR. TOTH: But I think what
Mr. Baughman's suggestion, too, if you wanted to
put that into the permit, that it allowed for a
waiver to be addressed and applied for, I don't
see that there's any problem with that.

MR. BAUGHMAN: I kind of rescind
that, actually.

MR. TOTH: Don't do that to me.

MR. BAUGHMAN: Thank you.

MR. O'GUIN: There's the NBIC
carbon monoxide code if you want to read it.

MR. TOTH: Chris, was that what I
had read out loud?

MR. O'GUIN: Yes, sir. NBIC
Part 1.

MR. BAUGHMAN: So what we find on
the chimney are stacks that I've got issues with
in the field. It goes by manufacturers'
recommendations, and I've seen manufacturers'
recommendations that were incorrect.

Jurisdictional requirements -- our
jurisdictional requirement goes back to the
manufacturers' recommendations. And that's an
issue that I have. But at any rate, for this, I
think I'm pretty good with understanding it.

CHAIRMAN MORELOCK: Well, I think
our scope is going to have to end at the boiler
proper. Yeah, if it's being piped through
buildings, that's a process safety issue right there. Do you agree?

MR. TOTH: Oh, yeah. I mean, I agree. You know, talking about going through communication chambers and stuff like that, yeah, that's a little much. Again, as I reference, a heat recovery steam generator only because it's spelled out in the NBIC.

CHAIRMAN MORELOCK: Yes. Okay.

Any more discussion on 3?

MR. BAUGHMAN: So is the thought to that were you saying to change that, in your mind, to no, or what's our recommendation or thought process to that? Are we leaving it to the boiler room, or what are we -- I was following your conversation, but --

CHAIRMAN MORELOCK: Well, I mean, if you've got a heat recovery steam generator, you've got to monitor it.

MR. BAUGHMAN: If it's in a different room?

CHAIRMAN MORELOCK: And if there's a stack associated with the boiler, I mean, you've got to consider that. But theoretically, if that -- like, with the heat recovery, once you run it through that heat exchanger and up the stack, that should be part of the boiler. But anything after that should be a process safety issue.

MR. BOWERS: So I would say my opinion would be no on that one.

CHAIRMAN MORELOCK: On 3?

MR. BOWERS: My opinion.

MR. TOTH: And that's great, if you choose to do that, if I may add. But, Mr. Bowers, let's talk about where you and I first met eons ago. We won't talk about how many years it's been. But you actually had a heat recovery steam generator.

MR. BOWERS: Yes.

MR. TOTH: So I would say my opinion would be no on that one.

CHAIRMAN MORELOCK: On?

MR. BOWERS: My opinion.

MR. TOTH: And that's great, if you choose to do that, if I may add. But, Mr. Bowers, let's talk about where you and I first met eons ago. We won't talk about how many years it's been. But you actually had a heat recovery steam generator. So I would say my opinion would be no on that one.

CHAIRMAN MORELOCK: I agree.

MR. O'GUIÑ: Well, the NBIC code states equipment room, so, I mean, that's telling you inside --

MR. FOX: Inside, it needs a monitor. That's my opinion.

MR. TOTH: I just wanted to make sure, Mr. Chairman, that the recorder actually got Mr. Fox saying that I was correct.

MR. BAUGHMAN: I didn't hear that.

MR. FOX: No. I said I agreed.

MR. TOTH: Oh, agreed, not correct. Got you. All right. Thank you.

CHAIRMAN MORELOCK: Okay. So are we at yes or no on Number 3?

(Affirmative response.)

CHAIRMAN MORELOCK: We're staying yes. All right. I'm going to call the question. All in favor say aye.

(Affirmative response.)

CHAIRMAN MORELOCK: Opposed?
CHAIRMAN MORELOCK: Abstentions, not voting?

CHAIRMAN MORELOCK: Number 3 is passed.

Inquiry 4, is it required to have a CO detector where the boiler room or space where a boiler is installed possess an upper-space mechanical ventilation system that either continuously operates or electrically tied to operate whenever the boiler or boilers in the space are firing?

And the reply is no.

MR. TOTH: Now, I will say my piece on this and then turn it over to Mr. Fox, because I think he has some opinion on this.

The reason I put no in here is because there are allowances within NFPA that do allow for spaces that have a draw off of the boiler room to be exempt from certain CO monitoring based on when the pieces of equipment are -- when they are firing, when the possible -- there's possibility of CO gases being produced.

If the Boiler wants to go that route,

MR. TOTH: I am going to let -- go ahead and let Mr. Fox -- because I know that he's --

MR. FOX: I've gotten into -- over the years, I've dealt with a lot of boiler rooms that had a negative inside or was located in a hotel or something like this, on the fifth floor when there's 12 floors of hotel space and the boiler room was actually in the middle. And they would have -- I really don't want to mention any brand names, but I will -- like, T Journal and exhaust systems and different type exhaust systems that were never, in my opinion, installed correctly, did not have differential pressure switches on to ensure that that fan would come on, and you would have a belt break. Or they could be belt-driven and you would have a belt break.

Well, the motor starter is running. So you've got an interlock and the motor starter is going, but we have nothing to prove that we're actually exhausting that building. And you would develop tremendous amounts of CO in those rooms.

And back to the hotel that you were talking about, it was almost the same situation. The boiler room was located below, but the fresh air make up for the whole hotel was on the roof.

That CO got sucked back into the fresh air make up. That's what killed them people on that one. I was part of that little investigation.

But no. I mean, I do not agree with that answer. I think that even though that we've got a pressurized ventilation system or whatever, you should still have a CO monitor.

MR. TOTH: Perfect. And that's where -- and as I said, this is what NFPA says. NFPA actually states -- and I'm going to clarify myself -- NFPA states that if you have a mechanical means of ventilation or ventilation that is electrically tied to the piece of equipment that will automatically either start or open to allow for a positive draft out of the room, that you don't have to have CO monitoring.

MR. ROBINSON: Hey, Marty, a question: Could that have been meant to mean to shut the boiler down in the event that the switch wasn't satisfied, like a safety interlock where the boiler would not start?

MR. TOTH: Huh-uh. Well, the thing is, is that in those switches, if you have it tied in, it's required for a boiler if you have a
1 mechanical louvered system. So let's not confuse
2 ourselves on combustion air versus room
3 ventilation.
4 So combustion air, if you have a
5 louvered system, that louvered system has to be
6 connected with that boiler. When that boiler
7 starts, that louvered system or that mechanical
8 combustion air system has to allow for combustion
9 air to come in.
10 What we're referring to is the
11 ventilation of the space. And the ventilation of
12 the space, as Mr. Fox alluded to when he's talking
13 about boiler rooms that are having a negative air,
14 we could go way deep into the weeds talking about
15 that today.
16 But when we're talking about negative
17 air, having negative combustion air in the room
18 can attribute to incomplete combustion which, in
19 turn, creates carbon monoxide.
20 What we're talking about is a
21 ventilation system in the room. Because as I
22 mentioned earlier, carbon monoxide gas is slightly
23 lighter than air, so it is going to work its way
24 to the top of the space. Once it works its way to
25 the top of the space, as long as it has a

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<th>Page 238</th>
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<td>mechanical louvered system. So let's not confuse ourselves on combustion air versus room ventilation. So combustion air, if you have a louvered system, that louvered system has to be connected with that boiler. When that boiler starts, that louvered system or that mechanical combustion air system has to allow for combustion air to come in. What we're referring to is the ventilation of the space. And the ventilation of the space, as Mr. Fox alluded to when he's talking about boiler rooms that are having a negative air, we could go way deep into the weeds talking about that today. But when we're talking about negative air, having negative combustion air in the room can attribute to incomplete combustion which, in turn, creates carbon monoxide. What we're talking about is a ventilation system in the room. Because as I mentioned earlier, carbon monoxide gas is slightly lighter than air, so it is going to work its way to the top of the space. Once it works its way to the top of the space, as long as it has a...</td>
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<tr>
<th>Page 239</th>
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| ventilation system that pushes it out, NFPA allows for that. What I personally believe is that -- I personally believe that you should have a carbon monoxide detector, that we should not follow suit with the NFPA on this, an additional line of safety. I hope everybody got all that, because there's a lot of this. There's a lot of this.

MR. BOWERS: So basically, yes.
CHAIRMAN MORELOCK: All right. Any more questions or comments?
MR. BOWERS: Change that to yes.
CHAIRMAN MORELOCK: So we've changed Reply 4 to yes?
MR. TOTH: Yes.
CHAIRMAN MORELOCK: 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: Number 4 is passed.

Moving on to 5. Is it allowable to install a CO detector anywhere within a boiler room or space where a boiler is installed? Reply is no. CO detectors shall be installed no lower than five feet above the lowest space in the boiler room or space containing a fuel-fired boiler.

Questions? Commitments?
MR. FOX: I agree.
MR. BAUGHMAN: Well, and it gets back, just quickly, because it is addressing the boiler room or space containing a fuel-fired boiler. But going back to this heat recovery unit, it's not a fuel-fired boiler, so I don't even know if it needs clarification. But that just comes into mind, as far as the wording; it's a boiler room or a space containing a fuel-fired boiler, is a boiler room with the heat recovery unit considered a boiler room?
MR. TOTH: (Nods head.)
MR. BAUGHMAN: Very good.
MR. BAILEY: Verbal answer, please.
MR. TOTH: Yes.
MR. BAILEY: Thank you.

MR. TOTH: (Nods head.)
MR. BAUGHMAN: Very good.
MR. BAILEY: Verbal answer, please.
MR. TOTH: Yes.
MR. BAILEY: Thank you.

CHAIRMAN MORELOCK: Any more questions/comments?
(No verbal response.)
CHAIRMAN MORELOCK: I'm going to call the question.
MR. BOWERS: So the question is whenever they mount that, it's got to be... a boiler room or a space containing a fuel-fired boiler. But going back to this heat recovery unit, it's not a fuel-fired boiler, so I don't even know if it needs clarification. But that just comes into mind, as far as the wording; it's a boiler room or a space containing a fuel-fired boiler, is a boiler room with the heat recovery unit considered a boiler room?
MR. TOTH: (Nods head.)
MR. BAUGHMAN: Very good.
MR. BAILEY: Verbal answer, please.
MR. TOTH: Yes.
MR. BAILEY: Thank you.

CHAIRMAN MORELOCK: Five feet or above.
MR. TOTH: Mr. Chairman, just a quick elaboration -- and this is really for the Boiler Unit -- is that we can have situations when we run into them where you could have multiple levels of where the boilers are located. So you could have a boiler level that's a little bit lower that you go down. It's got to be from that point. Even though it is lighter than air, it can be -- that could go into another area. So it's five feet from the lowest space to which the boiler is located.

CHAIRMAN MORELOCK: Good explanation.
All in favor say aye.
(Affirmative response.)

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CHAIRMAN MORELOCK: Opposed?

(No verbal response.)

CHAIRMAN MORELOCK: Abstentions, not voting?

(No verbal response.)

CHAIRMAN MORELOCK: All right. That one passes.

Moving on to 6, is it required for the CO detector to be hardwired electrically?

The reply is no.

MR. TOTH: Simply enough, it can go into an outlet plug as long as that outlet plug is five feet from the lowest level. It could be a plug-in type or --

CHAIRMAN MORELOCK: Battery powered?

MR. TOTH: Battery powered is a second line. Yes, it has to have -- it has to have -- and you'll see that next.

CHAIRMAN MORELOCK: You're right.

MR. TOTH: It has to have two means of power, one of which can be a battery power source.

CHAIRMAN MORELOCK: Oh, yeah, since you have to have two means of -- okay. I'm with you.

CHAIRMAN MORELOCK: Okay. Any other questions or comments about Number 6?

(No verbal response.)

CHAIRMAN MORELOCK: All right. All in favor say aye.

(Affirmative response.)

CHAIRMAN MORELOCK: Opposed?

(No verbal response.)

CHAIRMAN MORELOCK: Abstentions, not voting?

(No verbal response.)

CHAIRMAN MORELOCK: Number 6 passed.

Moving on to Number 7, is it required for the CO detector to have two means of power, or power.

Reply is yes. One of which may be by a battery power source.

MR. BOWERS: That one there, I don't know. You don't -- you want to make something simple that a lot of people can just comply with. You have some of these boiler rooms where they have to end up putting in electrical outlets and all that stuff. These battery units are used all over the place, and so we're kind of saying, well, you're not going to be able to use a battery unit.

MR. TOTH: Just to be specific, I don't recall of a CO monitor that is NFPA compliant that is solely operated by battery. Battery is a back-up, including the ones at your house. You will find installations where they'll hardwire them in the ceilings and stuff of that nature. It really depends on the manufacturer recommendations. But the battery is a back-up. It's not the main source.

CHAIRMAN MORELOCK: Well, but Home Depot and others will sell you a combination smoke detector/CO monitor, battery powered, guaranteed for ten years.

MR. BOWERS: Yes. I have them.

MR. TOTH: That do not have an additional power source?

CHAIRMAN MORELOCK: No. I just bought a half a dozen of them.

MR. TOTH: Those would not fail under the requirements of satisfying NFPA.

MR. BOWERS: By who do we have to satisfy that?

MR. TOTH: I'm sorry?

MR. BOWERS: We're making our own stuff here.

MR. BAUGHMAN: And so our requirement, from what --

MR. TOTH: If you wanted to do a battery and the battery goes dead and you're satisfied with that, put it in there.

MR. BAUGHMAN: Well, and so nowhere in this are we addressing NFPA requirements being part of this that we're writing up. So we're talking about those guidelines, but we're taking that information for what it's worth. So the same thing with the limits and so forth with it. So
having the two sources, that could be two battery sources. It just says one of those may be a battery source. And if you add a battery back-up to your battery, you know, it's -- all we're saying -- and that gets to my above, was that we said does it have to be hardwired electrically. So in one we're saying we said no, it does not have to be hardwired electrically. Hardwired, you know, even though plugging it into a receptacle is electronic, this kind of alludes to that of saying, well, one needs to be electrical and battery.

MR. TOTH: Well, and if I may add, I'm giving you my expert testimony here of the research. When you talk about one of them may be, I can go back and show you numerous cases where code is going to say we're going to require this, but one of them, such as feed water on a solid-fired boiler, it uses one of them may be a separate pump source. Well, that's the case, because it says you'll have two sources. One of them may be a pump -- yeah. So it's the same kind of concept, is to say that you'll have two sources. One of them may be a power source. It doesn't say it can be -- or a battery source. It doesn't say that it can be powered by a battery.

Now, does that mean we have two separate lines, one hooked up to a generator, the other -- you get where I'm going, down the road of that. I'm comfortable with whatever, as long as the board is comfortable recognizing when somebody puts a CO monitor in their boiler room that is specifically DC-powered battery source, that DC power -- I don't care what Home Depot says, they're going to take it back when it doesn't work -- that DC power source is going to diminish.

CHAIRMAN MORELOCK: Oh, yeah. I agree.

MR. TOTH: And I can bring you return slips from many times when these light fixtures at home, they said these are going to last for ten years or whatever, and you took them back to Home Depot and said this blew out in six months. I'm fine with whatever way the board wants to go with that.

MR. BAUGHMAN: I would be interested in, since you've got the -- both you and Terry have fire backgrounds and alarms -- what your thoughts are on the issue.

MR. O'GUIN: Me, personally, I'm fine with a battery back-up, because, I mean, it falls on the owner-user. If they're going to do the right thing, then they're going to make sure it's working anyway. And this goes the same with the relief valve on the boiler. If they're going to do the right thing, they're going to know if it's working or it's not working.

Our one inspection a year is not going to save, you know, an accident if a failure was to happen and the owner is not actually doing safety checks, et cetera, on their equipment. That's my opinion.

MR. TOTH: Can I ask something, Chris?

MR. O'GUIN: Sure.

MR. TOTH: When you said you're fine with battery back-up, are you fine with battery source as being the main source as well?

MR. O'GUIN: I'm fine with battery source.

MR. TOTH: Battery source. Okay.

MR. O'GUIN: They have a ten-year life batteries on these alarms now. I mean, that's my opinion.

MR. TOTH: All right.

MR. BAUGHMAN: Do the alarms -- and I guess I'm kind of --

CHAIRMAN MORELOCK: But what you're saying, it's okay as long as you're testing it every six months or a year, right?

MR. O'GUIN: Yeah. I mean, the owner-user should take responsibility of testing.

CHAIRMAN MORELOCK: Right.

MR. O'GUIN: I mean, you know, I'm city fire chief for Lobelville. We're part of the state forestry grant -- or not the state forestry -- state fire marshal's alarm grant. So I install alarms in homes in my area. All these alarms I install are battery only. They're not hardwired. And that comes straight from the state fire marshal's office.

MR. BOWERS: And there's no guarantee that the one that's plugged in, that the receptacle is even working. It's up to you to check and see if it -- so I agree with the battery only.

MR. TOTH: I'm fine with whatever way. I'm just speaking straight from the NFPA-85.

CHAIRMAN MORELOCK: Well, everybody...
<table>
<thead>
<tr>
<th>Page 250</th>
<th>Page 251</th>
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<td>1. is agreeing with the way it reads. Yes, one which</td>
<td>1. you've got to have two means.</td>
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<td>2. may be a better power source, so...</td>
<td>2. CHAIRMAN MORELOCK: But you've got to have two means.</td>
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<td>3. MR. TOTH: Okay.</td>
<td>3. MR. BOWERS: I would say you've got only one mean, the battery.</td>
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<td>5. MR. BOWERS: No, he's talking about second source.</td>
<td>5. MR. BOWERS: Okay.</td>
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<td>6. MR. BAUGHMAN: So it says -- is it required for the detector to have two means of power source. And what we're, I think, hearing agreement of is that one --</td>
<td>7. MR. BOWERS: And that would be changing the answer to no, is that no means one power source is acceptable.</td>
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<td>8. MR. BOWERS: No, he's talking about second source.</td>
<td>9. CHAIRMAN MORELOCK: Okay. Yeah.</td>
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<td>9. MR. BAUGHMAN: So it says -- is it required for the detector to have two means of power source. And what we're, I think, hearing agreement of is that one --</td>
<td>10. MR. TOTH: Just no. And we can definitely make that change. No big deal.</td>
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<td>10. CHAIRMAN MORELOCK: Well, yeah. Six says you have to -- well, six doesn't say you have to hardwire it.</td>
<td>11. CHAIRMAN MORELOCK: So you're going to change 7 to just have one power source?</td>
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<td>11. MR. BAUGHMAN: That's right.</td>
<td>12. MR. BOWERS: Just battery.</td>
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<td>12. CHAIRMAN MORELOCK: Seven doesn't say that you can't use a battery power source.</td>
<td>13. MR. FOX: If you --</td>
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<td>13. DR. HARGROVE: Well, it's saying you've got to have two means.</td>
<td>14. MR. TOTH: Or just say no.</td>
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<td>14. MR. BAUGHMAN: You've got to have two means of power. So what we're saying is --</td>
<td>15. MR. FOX: Or you can take Question 7 out completely.</td>
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<td>15. CHAIRMAN MORELOCK: So we're not telling them what to do. I mean, it's up to them to figure it out.</td>
<td>16. MR. BAUGHMAN: Yeah, because --</td>
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<td>16. MR. BOWERS: But they're saying</td>
<td>17. MR. TOTH: No, let's not do that. Because when you do that, it's no different than a box that's left unchecked.</td>
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<td>17. MR. FOX: I mean, you can take it out completely.</td>
<td>18. CHAIRMAN MORELOCK: I got you.</td>
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<td>18. MR. TOTH: Did that box mean to be left unchecked, or did you just forget to check it?</td>
<td>19. CHAIRMAN MORELOCK: okay. So everybody is in agreement that Inquiry 7 will say is it required for the CO detector to have two means of power source? The reply is no.</td>
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<td>19. MR. TOTH: So this is a case where you set it out, because I promise you, it will come back.</td>
<td>20. MR. TOTH: Okay. I'll make that change.</td>
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<td>20. CHAIRMAN MORELOCK: Okay. So</td>
<td>21. CHAIRMAN MORELOCK: All right. So I'll call the question. All in favor say aye. (Affirmative response.)</td>
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<td>21. everybody is in agreement that Inquiry 7 will say is it required for the CO detector to have two means of power source? The reply is no.</td>
<td>22. CHAIRMAN MORELOCK: Opposed? (No verbal response.)</td>
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<td>22. MR. TOTH: Okay. I'll make that change.</td>
<td>23. CHAIRMAN MORELOCK: Abstentions, not voting? (No verbal response.)</td>
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<td>23. CHAIRMAN MORELOCK: All right. So I'll call the question. All in favor say aye. (Affirmative response.)</td>
<td>24. CHAIRMAN MORELOCK: Okay. Moving</td>
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<td>24. MR. BOWERS: And you're saying no to that.</td>
<td>25. CHAIRMAN MORELOCK: Okay. So let me reread this. So Inquiry 8 now says it...</td>
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Iso required for the detector to be dedicated for CO detection only, question mark.

The reply to Number 8 is no. A multipurpose detector/alarm may be used, period. Is that correct?

Mr. Toth: And if I could add a little bit to that. A multipurpose CO detector/alarm.

Chairman Morelock: Okay. So just add CO --

Mr. Chapman: Slash alarm.

Chairman Morelock: I'll put CO in from of detector/alarm.

Mr. Toth: Yes. And mainly to ensure that that multipurpose unit does have the CO monitoring in it.

Mr. Bowers: So are you saying on this one here -- and I'm confused between a yes and a no -- that a multiple unit is allowed or not allowed.

Mr. Fox: It is allowed.

Chairman Morelock: It is allowed.

Mr. Chapman: It is allowed.

Mr. Toth: Uh-huh, is allowed.

Mr. Bowers: Okay. The way it's worded is kind of like --

Mr. Toth: Well, that's why after I read it out loud to you, I realized I was asking two separate questions, and I should know better. Right, Brian?

Chairman Morelock: That's all right.

Mr. Toth: No, but you can't ask two questions in an interpretation. You've got to ask one, then give a response.

Mr. Bowers: So people can use a combination detector.

Mr. Toth: Yes.

Chairman Morelock: Yes.

Okay. Any more questions, comments?

No verbal response.

Chairman Morelock: I'm going to call the question on Number 8. All in favor say aye.

Affirmative response.

Opposed?

No verbal response.

Abstentions, not voting?

No verbal response.

Chairman Morelock: All right. So 8 is passed.

Number 9, is it allowed for additional control and safety devices on the boiler that monitor combustion gas oxygen levels to ensure complete combustion; for example, oxygen trim, et cetera, be accepted as the CO detector for the boiler room or space where the boiler is installed?

And the reply is no.

Mr. Baughman: I say we go with that.

Chairman Morelock: You're just making it clear that you can't --

Mr. Toth: Making it clear that you can't turn around and say, hey, I've got O2 trim to verify that I'm burning completely. Because you can have leaks elsewhere in the boiler --

Chairman Morelock: Well, but there's no perfect combustion.

Mr. Toth: Well, there is, just not in the boiler.

Mr. Fox: I've got a question on the wording, Marty. On the second question, should it say boiler, slash, water heater, since we're down to 100,000 BTU input?

Mr. Toth: You could, if you wanted to. Again --

Mr. Fox: I mean, that would --

Mr. Toth: If we look back at the definition in the state of Tennessee of what is a boiler, it encompasses high pressure, low pressure, water heater -- it encompasses everything. But again, it's really what the board feels.

Mr. Baughman: Well, and it could be fuel-fired equipment or -- I don't know -- or we just leave it as it is and go back through.

Mr. Fox: Just leave it as it is.

Mr. Chapman: Leave it as it is.

Mr. Baughman: Sounds good.

Chairman Morelock: Everybody good with it the way it's written?

Affirmative response.

Chairman Morelock: Okay. I'm going to call the question on Number 9. All in favor say aye.

Affirmative response.

Chairman Morelock: Opposed?

No verbal response.
CHAIRMAN MORELOCK: Abstentions, not voting?
(No verbal response.).
CHAIRMAN MORELOCK: Number 9 is passed.
Inquiry 10, is there a requirement for the decibel level the audible alarm must emit?
Reply, yes. The decibel level must exceed the normal operation decibel level of the boiler room or space where the boiler is located.
MR. BOWERS: That's kind of vague. I mean, it's hard to --
CHAIRMAN MORELOCK: It is.
Because, I mean --
MR. TOTH: It's going to have to be.
CHAIRMAN MORELOCK: I mean, you know --
MR. BAUGHMAN: It's -- yeah. I mean, we ask this within the variance, what's your decibel in the --
MR. TOTH: And the reason why it's vague, it's got to be. Because an example of me walking through Nokian Tyre and making sure, because they have multiple panels, I want to make sure that the decibel level of the alarm that I designed in all their panels would be over the decibel level of all the equipment. Now, the boiler room is the loudest of them all. But again, that's a different -- pump room, yes.
CHAIRMAN MORELOCK: So --
MR. TOTH: So you just -- you put it out there and say yes, it must be. And, I mean, that's really the basis.
CHAIRMAN MORELOCK: So what is the typical decibel level in a boiler room?
MR. TOTH: Typical, again, you're ranging between -- I would say between 82 to 95.
CHAIRMAN MORELOCK: Okay.
MR. ROBINSON: And what's the typical range of a CO monitor?
MR. TOTH: It all depends on what you buy, if it's 80 decibel or 85 or --
CHAIRMAN MORELOCK: It's going to exceed that.
MR. TOTH: But again --
CHAIRMAN MORELOCK: It's going to exceed that.
MR. TOTH: Yeah, it's going to exceed that.
MR. BOWERS: They're probably up to a hundred, aren't they, probably?
MR. ROBINSON: Average?
MR. TOTH: I don't know.
CHAIRMAN MORELOCK: Yeah. Because you can -- you start having hearing loss above 140 decibels.
MR. TOTH: Well, yeah. And even more specific, 80 is your threshold.
CHAIRMAN MORELOCK: Yes.
MR. TOTH: Okay? Anything over 80, you're working into the point where you can start developing, over the course of time, kind of like CO -- yeah, it's going to, over the course of time...
CHAIRMAN MORELOCK: I mean, it's a good question, because if somebody is wearing hearing protection to go in and check the boiler --
MR. BAUGHMAN: Yes, exactly.
CHAIRMAN MORELOCK: -- you know, I mean, that's why I was asking what -- I don't want you to nail it down, but it's a very interesting question.
MR. TOTH: And, you know, again, it really goes back to if you want to put a minimum in there, you could, but you're -- yeah. You're putting yourself in a position where -- you know, one that is 84 decibel or 80 decibel, like what we usually see in panels for remote monitoring, is satisfactory.
CHAIRMAN MORELOCK: No. I'm fine with the way it's worded. I just wanted to make sure --
MR. TOTH: 100 decibel, man, you'd have people coming out of their skin.
CHAIRMAN MORELOCK: Yeah.
MR. BOWERS: It just makes it hard for the inspector to go in there and say -- because he don't have a reader. If you put it out there and it's real loud and you say okay, this is loud enough -- he's got to know if it's going to be loud enough.
CHAIRMAN MORELOCK: Well, so if you walk in there and say, "I need you to actuate that CO monitor/alarm," if you can hear it, then it's loud enough, right?
MR. TOTH: Yes.
MR. BOWERS: Right.
CHAIRMAN MORELOCK: Okay. Any
other questions or comments?

MR. BOWERS: No.
CHAIRMAN MORELOCK: All right. 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: All right.
MR. BOWERS: We got through them.
CHAIRMAN MORELOCK: Got through it.
MR. BAUGHMAN: So will the results from this be in our next booklet, as far as what we voted on? Because I made notes all over what was in my...
CHAIRMAN MORELOCK: I'm taking mine with me.
MR. BAUGHMAN: Okay.
CHAIRMAN MORELOCK: I'll take mine out of the book.
MR. BAUGHMAN: I'll take mine with me.
MR. TOOTH: Yeah. I'll send it over to you once it's cleaned up.
MR. CHAPMAN: Yes. We've got to sit down and work on that.
MR. TOOTH: Let me know where I can assist you on that.
CHAIRMAN MORELOCK: Okay.
MR. TOOTH: I'm done.
CHAIRMAN MORELOCK: Are you done?
(No verbal response.)
CHAIRMAN MORELOCK: All right.
MR. BAUGHMAN: We're no closer than we were, to be honest with you, a few months ago, three months ago.
MR. HERROD: We're no closer than we were earlier today.
CHAIRMAN MORELOCK: Okay. I'll just say progress report on that.
MR. HERROD: We may be closer now than we were earlier today.
CHAIRMAN MORELOCK: Okay.
MR. BAUGHMAN: That's progress.

CHAIRMAN MORELOCK: Okay. So the next item is discussion regarding variance manual submission and dates and procedures. And, of course, Marty said he's done, but he does have an interp that -- should we just, maybe, review it and go over it in March?
MR. CHAPMAN: Yes.
CHAIRMAN MORELOCK: Are you okay with that?
(No verbal response.)
CHAIRMAN MORELOCK: We'll just have him submit his item for March.
MR. BAUGHMAN: Sounds like a plan.
CHAIRMAN MORELOCK: Tentative meeting dates for 2020 is March the 18th, June the 10th, September the 16th and December the 9th. So does anybody have a conflict for March the 18th?
MS. BENNETT: The March 18th, meeting, it's actually a week later than what we normally meet.
CHAIRMAN MORELOCK: Okay.
MS. BENNETT: But there was not a conference room in the entire building, so...

CHAIRMAN MORELOCK: Even the Pearl Room?
MS. BENNETT: None of the rooms.

CHAIRMAN MORELOCK: So that's why --

So we're going to have this big meeting in March, we may need to --

MS. BENNETT: No, no, no. The 18th --

CHAIRMAN MORELOCK: If we're going to have this big meeting in March, we may need to --

MS. BENNETT: -- there were rooms available. But the week prior, there was nothing available.


MS. BENNETT: Yeah.

CHAIRMAN MORELOCK: So we can get the Pearl Room on the 18th?

MS. BENNETT: I can check.

MR. BAILEY: We're hoping.

MS. BENNETT: Yeah. I'll have to check afterwards.

CHAIRMAN MORELOCK: Okay. But we definitely have this room available, right, for March 18th?

MS. BENNETT: Yes.

CHAIRMAN MORELOCK: Right.

MS. BENNETT: And he's got to be at both, so I'll work with you guys.

CHAIRMAN MORELOCK: We should be okay.

MS. BENNETT: Okay.

CHAIRMAN MORELOCK: Okay. That takes us to Item 11. And so our next meeting will be March 18th here in Nashville. We'll determine if it's going to be in the Pearl Room. But that's it.

Before I adjourn, I want to thank you-all for hanging in. It's been a long day. We got a lot done. And that's what we've been asked to do, so we wanted to make sure we gave you your money's worth today, so...

Thank you-all very much. Merry Christmas. Happy New Year. We'll see you in March.

We're adjourned.

END OF THE PROCEEDINGS.
| $150,000 | 80:21 |
| $525,000 | 80:16 |
| $700  | 91:9 |

(a) 38:9 39:18 46:24  
(b) 38:8,9,10 39:18,19 44:4,5  
(c) 38:9 39:18  
(d) 38:9 39:19

-04(11) 144:12  
-08(11) 144:12

0

0800-03-03.14 78:15

1

1(a) 111:5  
1,205 18:1  
1,572 18:2  

Stone & George Court Reporting 615.221.1089
Stone & George Court Reporting
615.221.1089
inspects 221:3,15
install 160:6 161:6
196:14 215:10 240:3
249:14,15 263:20
installation 53:21,23
68:25 137:23 154:15
160:22 172:11 184:6
185:23 186:4 187:17
206:18 215:4 218:25
installations 163:9
172:20 179:18 181:7
186:1 218:21 222:7
225:25 226:15 244:19
installed 70:8 104:25
105:2 115:15 136:18,22
137:4 150:3,7 164:25
165:1 195:14 196:16,18
198:1,10 222:7 234:9
236:13 240:4,6 256:9
263:19
installer 60:19 160:17
161:6,9 184:5
installing 216:4
installs 213:24
instantaneous 164:8
instruction 71:24
instructs 71:24
Instrument 99:2
instruments 99:25
100:1,8
insulation 94:20,24
insurance 8:1 17:20
18:1 27:24 85:25 88:15
89:20,21 93:11,14
94:13 108:9 160:3
181:5
intake 180:16 202:25
203:1,3
intangible 90:17
integral 223:17
integrated 131:7
integrity 93:16 160:23
Intellectual 7:23 122:4
intend 28:5
intended 138:17
207:13 224:8
intent 174:15
intention 110:25
interchangeable 108:23
interest 104:14
interested 20:9,14
52:17 143:7,19 212:21
247:23
interesting 23:13
25:16 36:19 131:22,24
132:7 189:2 202:1
208:25 223:18 260:23
interfaces 52:5
interfacing 52:2
interior 137:19
interject 40:24 41:8
43:20,21 106:14 129:20
152:19 163:20 170:2
195:23
interlock 236:19
237:21
interlocks 203:2
internal 94:3,7 95:13
232:19
internals 94:19 95:14
international 168:14
interp 265:5
interpretation 11:3,25
14:24 15:20 148:13
149:14 184:10 192:23
193:2,5,8 202:4 212:9
214:11,12 216:14 224:2
255:9
interpretations 14:25
15:2 146:23 157:24
163:23 191:20 198:13
interrupt 57:20
interruption 65:5,14
67:7
interval 93:13
intervals 139:17
introduce 8:19 28:17
56:12 99:5 117:12
125:6
introduced 142:16
introducing 8:5
introduction 126:6
introductions 5:16
investigate 113:11
151:18
investigation 237:4
involved 29:12
involves 81:4
isolated 162:12
issue 20:13 25:8 97:5,7
131:19 153:3 157:12,21
159:17 164:6 165:4
167:3 198:24 204:11,21
205:11 216:21 223:20
229:21 230:1 231:3
247:25
issued 28:14 30:6
108:11 176:16
issues 28:2 96:13
132:13 142:13 164:10
188:11 206:6 213:2
223:15 229:14
item 8:6,20 9:7,12,13,
16:19 12:3 15:15,16,25
16:23 17:15 18:20
28:12,13,17,19 38:8
41:23 44:4,5 46:24
56:9,14 64:23 71:23
73:3 78:13,14 81:20
91:24 92:6,7 99:1,6
105:11 117:7,13 121:16
124:24 125:7,8 135:22
136:4 146:22 190:7,24
223:24 264:12,15
265:2,12 268:8
items 12:23,24 13:3,4
14:24 15:6,9 16:3 41:24
68:11 96:22 120:4,6
220:9 222:7 264:15
James 6:18 117:14
125:11
Jamie 7:9
janitorial 139:14
January 218:15,24
Jeremy 6:22 87:25
92:12 95:8 98:23
Jesse 167:13
Jewell 8:2 166:3
Jim 21:6
JO 264:16
job 52:1,20 97:3 118:2
144:20,21 170:4,19
jobs 45:5
John 7:19
Johnson 212:2
Jones 7:13 135:25
136:1 138:10 141:13
144:1,5,18 145:2,7
Jordan 118:8,11
Journal 236:11
July 18:7 82:20,21,22,
23 83:12 94:2,5 263:11,
12,18,19,23
June 265:15 267:12,14,
15,16,19
jurisdiction 168:17
200:18 215:17,20,21
216:2 217:17
jurisdictional 48:4
94:8,11,22 155:23
156:2,17 163:15 172:6
220:23 229:18,19
jurisdictional-wise 200:5
jurisdictions 168:8
keeping 25:10
Keith 6:1
Kelley 7:17
ketchup  125:24  126:3
Kevin  7:13  135:25
         136:1  138:7  140:2
key  69:22  23  92:22
         100:20,21  101:4  127:7
         133:17,25  134:8
keyed  134:8,11
kicked  214:18
kill  121:17  166:7,9,11
         171:16  176:20
killed  180:18  235:18
         237:3
kills  67:20  155:23
         173:18  174:1  186:15
kind  36:9  47:13  58:5
         59:16  90:21  99:20
         101:18  114:17  119:7
         131:24  134:16  142:17
         157:15  162:15  165:14
         173:7  180:22  182:5,17
         187:5,13,15  188:8
         198:16  204:11  208:25
         229:3  244:12  246:10,22
         249:3  253:6  255:1
         258:11  260:13
kinds  125:24
Kmart  222:23
knew  131:3
knowing  90:18
knowledge's  194:20
Knoxville  136:9,25
         137:25
kosher  159:24
Kyra  7:5

L

label  210:1
labeling  144:7
lack  19:10,11,12,14,15
         20:23  21:1,8
lacking  142:4
laid  157:6

large  36:6,8  60:6  61:3
         65:14  68:22  69:2  70:11
         94:12  131:25
Largen  7:19
larger  85:1  125:25
         126:1
lark  171:6
Laughter  146:15
laundries  219:12
law  82:25  217:14,17
lax  24:24
lay  211:1
layout  138:14
lead  50:24,25  65:3,22
         68:3,7  87:12
lead-in  207:5
leader  51:4
leads  66:10,23
leak  226:23
leaking  205:17,18
leaks  256:18
leave  10:18  40:16
         61:24  62:11  132:1
         156:18  173:13  257:13,14,15
leaves  47:7,11  172:24
         173:7
leaving  158:19  170:7
         230:14
Lebanon  19:12  108:6
leery  23:18
leeway  176:3
left  35:8  52:7  131:6
         133:4,5  137:18  160:8
         252:1,5
legal  6:12  217:16
legend  69:8
legislation  161:21
legislature  84:18  87:5
let all  263:10

letter  59:22  144:13
         147:24  148:2,8,17
         174:15
letting  83:21
level  31:12  33:2  42:5
         63:9  74:4  102:15,16
         106:5  109:13,15  112:20
         130:24  198:4,5,8,9
         206:17  208:13  211:23,
         24  228:2  241:15  242:13
         258:7,8,9  259:1,3,11
levels  33:6  197:22
         207:9,12,23  211:13
         216:8  241:14  256:5
liability  41:2
life  213:1  248:24
light  155:3  247:16
lighter  208:6,10  238:23
         241:18
limit  42:23  44:8,13
         45:24  204:6  212:11
         221:14
limiter  112:17,18
         113:5,6
limits  38:24,25  39:8,15
         40:4,10,19,20  41:14,18
         44:3,18,21  209:17
         245:25
line-of-fire  96:24
lines  158:2  247:4
lingo  48:1
links  142:15
list  29:21  41:24  51:2
         112:7,12  113:1,3,25
         114:4  118:5,14  127:3,8
         128:4,8  130:17  200:12
         210:16
listed  29:8  52:18  93:9
         117:24  121:1
listing  118:13  131:15
lists  113:10
lit  165:19
LME73  102:22
load-bearing  34:24

Lobelville  249:11
local  31:2,4,6  60:15
         102:2  201:12  217:16,19
         218:10
locally  67:20
located  29:2  31:7
         33:13  51:15  101:24
         120:12  122:16  136:9
         198:10  212:4,6,7,10
         215:16  233:3  236:6,25
         241:14,21  243:4  258:10
location  26:6,23,25
         46:7  60:24  74:13  86:24
         126:14,15  150:4,5,10
         154:3  177:10  227:8,9
locations  34:2  36:13,
         17  69:14  152:9  170:5
locked  60:21  63:3,13
         69:17  70:1
locking  69:17
log  49:5,6,16  139:18
logs  39:10  139:16
long  67:8  92:3,4  108:25
         131:12  151:21  157:6
         166:24  175:24  177:12
         179:20  182:19  188:4,5
         207:6  217:18  218:9
         238:25  242:12  247:6
         249:5  268:13
longer  19:2  168:15
looked  108:3  141:12
         187:7  202:14
lose  68:2
loss  97:14  260:6
lot  23:18  48:21,22  61:3
         83:16  86:16  96:18  98:9
         104:6  141:4  142:1
         152:2  162:11  163:2
         168:15  189:22  193:6
         198:20  199:7  202:2
         204:16,25  205:22  207:5
         218:6,8,18  219:25
         236:5  239:9  244:8
         268:14
lots  126:3
loud  229:10  255:3
recommendation 143:1,3,5,6
reinspect 26:18
reinspected 26:25
90:19 91:2
reinspection 19:1 20:6
27:11 90:5
reiterate 50:4 149:9
related 92:22
relayed 112:12
relays 150:10
release 102:20 104:2
208:7
releasing 204:3
relevant 41:22
reliability 93:2
relief 115:15 131:23,25
139:8,9 248:6
relieve 128:17
remain 63:13
remarks 117:23
remember 192:14
215:12 235:13 253:5
reminded 57:18
remote 19:13,25 20:19
21:16,18 23:6 29:13,15
32:3,8 33:1 42:21 44:12
45:18 46:2 51:20 52:25
71:17,24 72:2,5,22
73:3,12 74:20 75:8,14,
19 77:1,5 101:14,24
105:13 106:18,21
110:17,24 112:14
113:14 118:5 121:17
123:20 126:15,17
130:10 137:7 138:15
139:25 144:17 150:6
261:5
remotely 118:3
remove 34:22 93:21
removed 147:6 149:13
182:3
renew 24:1,6
renewal 24:16 136:21
rental 186:2,17,23
187:7
rentals 186:23
renumber 9:21
reoccurring 28:2
repair 119:7,9 183:2,3
repaired 186:16
repairing 99:25
repairs 94:24 97:13
183:4 218:20
replacement 182:20
replies 147:10 148:8
149:10 193:9,10 194:11
reply 12:13 149:19,20
150:11 178:21 185:12,
16 195:1,5 196:17,23
197:1 198:2 220:20
225:3,21 234:14 239:15
240:5 242:10 244:4
252:14 254:3 256:10
258:8
report 17:16 18:7,15,21
94:16 95:12 96:8 97:24,
25 98:24 133:2 264:16,
21
reportable 96:23
reported 22:17 203:13
REPORTER 5:18
reporting 5:19 87:13
representative 28:24
representing 162:5
represents 34:24,25
request 13:8 15:20
31:8 48:22 56:13 59:22
65:17 87:4 117:18
129:23 139:12 149:11
159:19,21 169:1 176:16
193:5
requesting 56:10 60:3
99:3 117:8 125:5
requests 149:14
require 19:1,2 33:25
42:14,15 129:12 188:22
200:20 210:13 232:11
246:17
required 33:23 42:5
46:16 47:11 49:1 64:12
82:8 102:21 150:2,18
170:6 176:15,19
194:15,24 195:10,12
196:21,24 197:3,10
198:20 220:16 225:20
234:7 237:25 242:8
244:1 250:9 252:13
253:1,7 254:1
requirement 34:3 37:3
39:4,6 47:9 48:3 49:16
52:20 113:25 128:12
129:24 153:20 155:23
156:2,17 157:18 163:15
177:8 182:8 195:3
198:3,5 208:12 213:22
217:19 225:1 228:9
229:19 245:16 258:6
requirements 37:25
38:18 43:4 44:20
107:25 128:19 150:14
153:5,8,24 154:6
162:20,25 168:18 170:7
190:17 191:18 194:22
201:8,23 202:3,11,17
204:8 206:15,16
208:19,20,24 210:16,25
215:5 217:20 220:24
221:10,18 229:18 235:6
245:9,21
requires 37:4 61:23
100:25 163:1,2 200:18,
21
requiring 18:25 170:22
221:18
reread 185:13 253:25
reseed 229:3
research 13:22 203:9
213:20 228:10 246:15
reserve 85:5,8
reset 45:15 100:19,21
101:4 123:3,4,6
resets 123:9
reselled 141:15
vague 201:1,3 215:6,8 258:11,23
Valero's 97:23
valid 171:15
valve 115:15 128:4 140:16,18 143:10,11, 13,14,15 248:6
valves 114:17,18,21 115:8,11 139:8,9 183:8
Vanderbilt 156:24
vapor 108:3
variables 26:1 163:3, 16 186:22
vasty 143:9
vented 99:18 104:3 235:16
ventilated 235:21,24
verbalize 177:4
verbiage 74:19 191:16 215:9
verification 224:3
verified 175:4
verify 60:1 61:11 256:17
verifying 224:7
versa 103:7 139:20
versus 34:13 111:23 238:2
vessel 80:19 200:11 203:7 223:14,16 224:10
vessels 17:23,25 18:3 80:17 215:15
vetted 168:15,16
viable 98:12
vice 103:7 139:20
victory 61:19
video 46:9
view 163:14 189:21
views 189:22
vintages 139:3
violations 18:4,5
virtually 80:4
visual 33:3 94:25
voice 156:14
volts 44:10
volunteered 193:4
voted 148:11 149:11 190:4 192:13 262:16
VPP 93:25 94:3
wait 53:12 82:22 83:14 148:14
waiting 53:14 149:22
walk 75:8 188:16 207:15 261:20
walk-through 63:14
walking 171:6 258:24
wall 33:10,15 34:12,14, 24 68:16 164:9 208:14, 15 222:23
walls 68:23
wanting 111:19
waste 195:8 225:18 226:1
watch 48:11
watches 48:12
watching 168:23
water-heating-boiler-type 115:15
water-level 130:22

Stone & George Court Reporting
615.221.1089
water-tube 102:18
ways 47:24
wearing 260:17
weather-proofed 186:25
Web 191:21
website 81:17 88:12
     89:15
weeds 238:14
week 100:14 265:19
     266:11
weeks 26:17,19
weighing 183:15
West 19:8,10,15 26:23
whichever 110:16,22
     111:15 151:19 171:2
white 202:6
wholeheartedly 179:19
wire 153:1
wired 155:20
wires 178:15
wise 20:14
wondered 105:15
wondering 34:18
     187:6,12
woods 188:9
word 47:6 48:2 91:25
     92:1 160:25 217:16
     232:17
worded 255:1 261:8
wording 110:6,13
     178:23 240:17 256:24
words 44:7,13 69:18
     91:3 123:4 153:8
     158:15 160:4
wordsmith 176:17
     185:14 225:22
wordsmithing 184:2
work 19:13 21:20 93:3,
     5,6 119:5,8,9 138:23
146:20 150:23 157:10
172:21 177:4 189:2
206:6 219:22 231:21,25
238:23 247:12 264:4
267:20 268:3
worked 19:22 131:21
Worker 118:17
working 22:21 23:17,
     20 24:10 59:19 193:22
     204:12 248:5,8 249:20
     260:12
works 238:24
world 48:8
worth 25:11 162:18
     245:24 268:16
worthy 96:14
would’ve 52:14
WRC 6:11 7:10
write 137:8
writing 28:4 82:9
     162:21 173:21 174:4
     245:22
written 22:13 82:4
     130:9 154:12 202:6
     257:18
wrong 124:25 140:14,
     17,18,20 141:2 204:23
wrote 50:16
years’ 25:11
yesterday 46:8
you-all 21:15 78:12
     178:2 190:6 264:15
     268:13,17
Z
zones 61:7

Y
y’all 217:23
yay 184:23
year 83:14 95:9,12,13,
     20 96:17 97:6,25 119:6
     141:14 203:5 248:9
     249:6 263:14 268:18
years 23:25 24:5,6,11,
     23,25 25:1,4,8,14 26:18
     71:3 84:2,6,7 99:24
     121:6 141:5,8 153:4
     184:20 203:11,12
     214:19 217:18 222:8
     223:19 226:1 231:11
     235:14 236:5 245:2
     247:18

Stone & George Court Reporting
615.221.1089