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

QUARTERLY MEETING OF THE
STATE OF TENNESSEE
BOARD OF BOILER RULES

March 13, 2019
APPEARANCES:
1. Brian Morelock, Chairman
   Owner-User Representative
2. David W. Baughman
   Owner-User Representative
3. Allied Boiler & Supply, Inc.
   4006 River Lane
   Milton, Tennessee 37118
4. Harold F. Bowers
   Insurance Representative
   Centerville, Tennessee
5. Terry Fox
   Boilermaker Representative
   Chattanooga, Tennessee
6. Dr. S. Keith Hargrove
   Mechanical Engineer Representative
   Goodlettsville, Tennessee
7. Sam Chapman, Chief Boiler Inspector
8. Chris O'Guin, Boiler Inspector
   Legal Counsel, State of Tennessee
10. Lynn Kirby
    Board Secretary, State of Tennessee
11. Ebony Paige
    Assistant Board Secretary

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1. 18-08 East Tennessee State University
2. 18-14 Energy Conversion & Safety (ECS)
3. 19-01 University of Tennessee Medical Center-Knoxville
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5. 19-03 Leclerc Foods USA
6. 19-04 West Tennessee Healthcare-Dyersburg
7. 19-05 PolyOne Corporation (POC)
8. 19-06 West Tennessee Healthcare-North Hospital
9. 19-07 TriStar Centennial Medical Center
10. 19-08 Parkwest Medical Center

AGENDA
I. Call Meeting to Order
II. Introductions and Announcements
III. Adoption of the Agenda
IV. Approval of the December 12, 2018 Meeting Minutes
V. Chief Boiler Inspector's Report
VI. Variance Report
VII. Old Business
VIII. New Business
IX. Open Discussion Items
   * Deborah Rhone reports on inspection number at Wacker Polysilicon
   * Doris Barnett reports on Boiler Computer System and Jurisdiction Online
X. Announcement of Next Meeting
   Unless the Board decides otherwise, the next regularly scheduled meeting of the Board of Boiler Rules will be held at 9:00 a.m. (CDT) on Wednesday, June 12, 2019, at the Tennessee Department of Labor & Workforce Development building located at 220 French Landing Drive, Nashville, Tennessee.
XI. Adjournment.

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

MR. BAILEY: Mr. Chairman, just as a reminder to everybody, as the meeting gets going, sometimes we forget this is being transcribed. We like to have a clean record, so please try not to talk over each other. If you speak from the audience, tell us your name before you speak. Let the other speaker finish before you answer a question so that the transcript is clean.

CHAIRMAN MORELOCK: Yes. Thank you. That's an excellent announcement.

Yes, Mr. Toth?

MR. TOTH: Marty Toth. I just wanted to mention, I did not know if the Board was aware of the passing of Dr. Domenic Canonico. And he was a long-time member of this Board, and I didn't know if you would like to mention it.

CHAIRMAN MORELOCK: Well, we did recognize Dr. Canonico, and we actually attended the funeral. But also, in that same vein, I would also like to announce that we lost another boiler/pressure vessel expert, and that was Mr. Steve Heater. And so he passed recently as well.

And just as a matter of order, then, could we just have a moment of silence for Dr. Canonico and Mr. Heater.

(Moment of silence observed.)

CHAIRMAN MORELOCK: Thank you.

Okay. Any other announcements?

(NO verbal response.)

CHAIRMAN MORELOCK: All right. Our next item on the agenda is the adoption of the agenda. And we do need to add an item to the agenda. And that item will be 19-8, which is Park West Medical Center is requesting a boiler attendant variance. And so we will add that to the agenda.

Are there any corrections or additions to the agenda, other than that?

(NO verbal response.)

CHAIRMAN MORELOCK: Again, thank you all for the excellent job our court reporters do to capture all of this, so we certainly appreciate that. It's a big job.

Hearing none, do I have a motion to accept the agenda as amended?

MR. BAUGHMAN: So moved.

MR. BOWERS: Second.

CHAIRMAN MORELOCK: Any other discussion?

(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: Okay. We have an agenda.

Moving on to Item 4 would be the approval of the December 12, 2018 minutes. And thank you, Lynn, for sending that out for us to review. And with that, are there any corrections to the minutes?

(NO verbal response.)

CHAIRMAN MORELOCK: Again, thank you all for the excellent job our court reporters do to capture all of this, so we certainly appreciate that. It's a big job.

Hearing no comments, do I have a motion to accept the December minutes?

MR. FOX: I make a motion to accept.

CHAIRMAN MORELOCK: Second?

MR. BOWERS: Second.

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: Minutes are approved. That takes us to Item 5, which is the chief boiler inspector's report.

So Mr. Chapman, I'll turn it over to you.

CHAIRMAN MORELOCK: Second?

MR. BOWERS: Second.

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: Minutes are approved. That takes us to Item 5, which is the chief boiler inspector's report.

So Mr. Chapman, I'll turn it over to you.

CHAIRMAN MORELOCK: Second?

MR. BOWERS: Second.

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: Minutes are approved. That takes us to Item 5, which is the chief boiler inspector's report.

So Mr. Chapman, I'll turn it over to you.

CHAIRMAN MORELOCK: Thank you, Chairman.

Okay. Number of inspections performed by the State was 2,708. Insurance agency was 4,672, giving us a total of 7,380.

Total delinquent members or vessels, we have 217,736. State inspector is 1,367. Insurance inspector is 536, giving us a total of 1,903 delinquent. Number of code violations, violations found was 25. We have 25 uncorrected.

The variance report will be performed.
by Assistance Chief Chris O’Guin. And this
reporting period for the data was from October to
December of 2018.

MR. O’GUIN: As of today, we have
119 known variances, ten requiring a follow-up
inspection, 57 are active, 12 require a
reinspection, and 40 are no longer requiring a
variance. They're dormant.

This quarter we completed one
variance audit. And it was Sofix and it was
approved.

CHAIRMAN MORELOCK: Any questions
from the Board or visitors concerning the chief's
report or the assistant chief's report?

MR. BAUGHMAN: Chief, I just wanted
to clarify on those violations again. I was
writing them down and I missed it on there.

MR. CHAPMAN: Okay. There was 25
found.

MR. BAUGHMAN: I'm sorry. I said
violations; I meant delinquencies. I'm sorry.

MR. CHAPMAN: Oh, delinquent. I'm
sorry. Okay. The total number for the state was
1,367.

MR. BAUGHMAN: Very good.

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. BAILEY: Dan Bailey, legal
counsel.

MR. TOTH: Marty Toth,
ECS Consulting and the Boisco Training Group.

MR. BRIMMER: Don Brimmer, Lucite
International.

MR. CASH: Justin Cash, Lucite
International.

MS. PAIGE: Ebony Paige, WRC.

MR. WORLEY: Chad Worley with
PolyOne.

MS. RHONE: Deborah Rhone, boiler
office supervisor.

MR. HOLT: Tim Holt, state boiler
inspector.

MR. FARMER: Chris Farmer, State of
CHAIRMAN MORELOCK: Thank you-all for that. Okay. So we are now going to move on to old business. And when you come forward to make your presentation, there's a couple of seats here. If you need extra, we'll pull those up. And make sure you introduce yourself and then present your item, and then we'll discuss it.

So our first item is 18-08. East Tennessee State is requesting a new variance for four high-pressure boilers.

So gentlemen, if you'll come forward and present your item.

And while they're coming forward, are there any conflicts on this particular item? (No verbal response.)

CHAIRMAN MORELOCK: Gentlemen?

MR. HUDGINS: I'm Ernie Hudgins with Engineering Services Group. This is Todd Elrod, representing the East Tennessee State University.

Currently, East Tennessee State University is operating four high-pressure boilers. They've recently converted their cold plant to natural gas and dual fire. And due to that renovation, all the boilers now have microprocessor base controls, so they're asking for a variance in that.

The purpose of this variance is not to reduce staffing. It's to allow the staff to respond to other calls on the university. As far as the location of the staff, they are located in the boiler house. That is their duty station. All the boiler alarms will be transmitted over the Johnson Control Medisys System to the security office on campus. The dispatcher for the University of Tennessee has just recently been accredited by the Tennessee fire marshal as a central station, monitoring station. So the people in the station are highly trained and qualified for monitoring, and that's their sole duty, is to monitor alarms coming out of there.

The boiler attendant procedures and the emergency procedures are listed in the manuals along with the emergency call list. The boiler data sheets have been updated, as you requested, in Appendix A, along with the equipment descriptions, as far as the controls on the different boilers.

Mr. Chapman passed out the information on the deaerator tanks, as far as the tags and the data sheets on that.

Appendix C, we added the fault messages and the product information for the Coen burner and for the two different Fireye systems. I apologize for the lengthiness of the Fireye system. The information that we got was password protected, so we weren't able to reduce it. We just included it as it was provided to us by the manufacturer's rep.

If you look through that information, you'll see that the fault codes are pretty lengthy. The university understands that, even though it's not a critical fault that would shut down the boiler, it will generate an alarm, and the boiler will be shut down by the central monitoring station. And if that fault is not corrected, then they have to go back to monitoring the boiler every 20 minutes, as outlined.

Appendix E, basically, the site plan shows the location of the boiler plant in relationship to the central monitoring station and the boiler plan layout and the schematics. We included a boiler monitoring log so you can see what will be monitored every four hours. And the job description, we've included the description for the personnel in the campus security office.

CHAIRMAN MORELOCK: Do I have a motion for discussion of this item?

MR. BAUGHMAN: So moved.

CHAIRMAN MORELOCK: Second?

MR. BOWERS: Second.

CHAIRMAN MORELOCK: Okay.

Gentlemen, at the September meeting, we provided a pretty good list of things that needed to be changed to the manual. And from your presentation, you've revised the manual; is that correct?

MR. HUDGINS: That's correct.

CHAIRMAN MORELOCK: Have you submitted a revised manual to the Boiler Unit?

MR. HUDGINS: Yes, sir.

MR. CHAPMAN: That's the one we got for October.

CHAIRMAN MORELOCK: The one I've got is dated October 2018. So have all the Board comments been addressed from the September meeting?

MR. HUDGINS: Yes.
CHAIRMAN MORELOCK: Okay.

MR. HUDGINS: We were scheduled to be on the December board, but due to weather...

CHAIRMAN MORELOCK: You're right.

I understand that.

MR. HUDGINS: And so I think when we submitted it to Mr. Chapman the second time, it was in October.

CHAIRMAN MORELOCK: Okay. All right. So with that said, then I'm going to open the floor up. If you-all have any additional comments, please make them at this time.

MR. BAUGHMAN: Thank you for being here. One item, offhand -- and your addressing the Appendix A, B, C, D, and E, and so on -- my manual is missing Appendix E, drawings and sketches. And I don't know about the rest of you, but you may want to look in your manuals to see if that's in there or not. And you may want to look in your manual also.

MR. HUDGINS: Okay. It looks like they're in Chris's.

CHAIRMAN MORELOCK: So do you have sketches in Appendix E?

MR. O'GUIN: Yes.

CHAIRMAN MORELOCK: Because in my manual, I have Appendix E but I don't have -- no, I have Appendix F. That's why we're asking the question.

MR. BAUGHMAN: So it's just not in my manual nor Chairman Morelock's. Is it in --

MR. BOWERS: No.

DR. HARGROVE: Not in mine either.

MR. BAUGHMAN: So it's missing in two others'.

MR. CHAPMAN: It wasn't in mine either.

MR. BAUGHMAN: So it's in none of the board members' manuals.

CHAIRMAN MORELOCK: So, gentlemen, I think for the sake of expediency, if you have addressed all the Board comments from September 2018, there's two ways of tackling this problem. One is you would come back at the next board meeting, or if the Boiler Unit can concur that your changes have been captured, then we could do a contingent approval, and then your site visit would confirm that the manual is complete.

So I'll leave that preference up to you. I'm not going to make that decision.

MR. HUDGINS: I would prefer to go with the second option.

CHAIRMAN MORELOCK: Okay. So now it's up to the Board, if they're comfortable with that. So do I have a motion to contingently approve this variance based on the fact that the manual has been revised per our September 2018 comments. And then the Boiler Unit would be responsible to verify that the manual is complete at their site visit.

MR. BAUGHMAN: What I would like to add to that is I would like that information all to be sent to the board members so that we can include it in our manuals --

MR. HUDGINS: I can do that.

MR. BAUGHMAN: -- since some of us --

MR. HUDGINS: Since some of it's not there?

MR. BAUGHMAN: Yeah. And so if you would be able to get that into our hands, that would be --

MR. HUDGINS: Send it to

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MR. CHAPMAN?

CHAIRMAN MORELOCK: Yes.

MR. HUDGINS: Okay. I'll get that done.

CHAIRMAN MORELOCK: So is that a motion?

MR. BOWERS: I make a motion that we approve it, as said, if you update the manual, send a copy there and, of course, pass the site visit.

CHAIRMAN MORELOCK: Do I have a second for that motion?

MR. FOX: I'll second that.

CHAIRMAN MORELOCK: Okay. Any discussion?

(No verbal response.)

CHAIRMAN MORELOCK: All in favor, say "Aye."

(Affirmative response.)

CHAIRMAN MORELOCK: Okay. Hearing none, I'm going to call the question.

All in favor, say "Aye."

(No verbal response.)

CHAIRMAN MORELOCK: Opposed?

(No verbal response.)

CHAIRMAN MORELOCK: Abstentions, not voting?

(No verbal response.)
CHAIRMAN MORELOCK: Gentlemen, you have a contingently approved variance that will be reviewed by the Boiler Unit for final approval and a site visit, and once the Board receives all the missing pages.

MR. BAUGHMAN: Well, and so backing that up, I thought what we were voting on was just this, getting the information in our hands for that appendix, not so much approving the variance itself --

CHAIRMAN MORELOCK: Okay.

MR. BAUGHMAN: -- since there's other items that need to be discussed on that.

CHAIRMAN MORELOCK: Okay.

MR. BAUGHMAN: I'm sorry.

CHAIRMAN MORELOCK: No, that's fine. So then, we just need to vote it. It's an up or down vote. So you can vote accordingly, or we rescind the motion. So the motioner can rescind the motion.

DR. HARGROVE: I move that the motion is rescinded and the Board reviews other issues relative to the variance request.

CHAIRMAN MORELOCK: But you're the seconder, so...

DR. HARGROVE: Oh.

MR. BOWERS: Okay. I rescind the motion.

CHAIRMAN MORELOCK: So you're going to rescind the motion. Okay. So now we're back to where we were at before.

MR. BAUGHMAN: Sorry about that.

CHAIRMAN MORELOCK: No. That's fine. We've just got to keep the procedure straight, so that's okay.

MR. BAUGHMAN: Absolutely.

CHAIRMAN MORELOCK: So I need a motion. What is the Board's pleasure for this item? I need a motion.

DR. HARGROVE: I second.

CHAIRMAN MORELOCK: Okay. So the floor is open for discussion of your items on the manual. And these will be added to the comments from the September meeting. Okay?

MR. HUDGINS: Understood.

CHAIRMAN MORELOCK: Okay. All right. So the floor is open for discussion.

MR. BAUGHMAN: Well, I'll start with it, then. Thank you again.

So when we get into the equipment description and we've got listed the Fireye control of the E110, the Coen for Boiler Number 2, and then Boiler Number 3, and Boiler Number 4 shows Fireye PPC 6000; is that correct?

MR. HUDGINS: That's correct.

MR. BAUGHMAN: Okay. The only issue I've got with that is that the Fireye PPC 6000 is not a dynamic self-check control. That's a parallel positioning controller, hence the PPC. That's to -- so instead of Linkage list, it's using Servos. So all it is, is it's a controller for O2 trim. It's not the flame safeguard or the dynamic check mechanism. It ties into a mechanism, but that mechanism is not listed. And so I'm a little bit in left field as far as to know what controllers that ties into.

The description for that controller is within the manual. It describes it being an O2 trim system. It's described under Appendix C-4, Boiler 3, and again on page 10 of the product description manual. But there again, it's strictly parallel positioning control. So I guess I needed to address exactly what dynamic self-check controllers on Boiler Number 3 and 4...

MR. HUDGINS: I do not know off the top of my head. I'll have to do some more digging.

MR. BAUGHMAN: Okay. Thank you.

And then for the Coen control, it's required to use a controller that uses dynamic self-check. This unit is a BMS2000, which, in its description, is not dynamic self-check. It's self-checking.

So there again, the requirement that we have is for a dynamic self-check, and so nowhere in there does it address -- in looking through this BMS 2000, I couldn't find what the programmer was they used.

MR. HUDGINS: Allen-Bradley.

MR. BAUGHMAN: Okay. Thank you.

MR. BAUGHMAN: It's an Allen-Bradley for the flame safeguard control?

MR. HUDGINS: Yes.

MR. BAUGHMAN: Okay. Because in the drawing that it showed in the picture that Coen produces, it's got two old Fireyes that are
shown on it, the old 70D10s, which have been obsolete for a number of years. And I did not see in the manual -- and if you can refer that to me -- I did not see the Allen-Bradley as a flame safeguard dynamic self-check in the manual.

MR. HUDGINS: I think in the information provided to us, it mentioned the Allen-Bradley. When we visited the site and opened up the control panel, it is an Allen-Bradley PLC.

MR. BAUGHMAN: And I appreciate you taking the time. I just could not find, within the technical data, the dynamic self-check for that particular item.

MR. HUDGINS: Okay. There is -- a part of the PLC, there is, I guess, a warning light that if any of the sensors are offline, it generates a fault. That was shown in the cover page for the -- if you look on the -- right before C4, there's like a -- they don't call it as an Allen-Bradley, but Number 1 is the programmable logic controller. It's listed there. And then as part of the function of that 10, the enunciator...

CHAIRMAN MORELOCK: Is this what he's talking about?

MR. BAUGHMAN: Yeah, and that's the different -- I'm still looking for that reference, so I'm sorry for taking the time to find that. So there's C2 and there's C4. And so you're saying in C4 --

MR. HUDGINS: The page before C4.

MR. BAUGHMAN: The page before C4, where it shows the open panel there?

MR. HUDGINS: The open panel, Number 1 says it's a programmable logic controller, and then under the description for the Coen BMS 2000, it refers to it as a programmable logic -- a PLC.

MR. BAUGHMAN: Yes. And that is different than the flame safeguard control. Item Number 4, where it says "Fireye or equal flame scanning system," if you'll notice, Item 4 shows two old Fireye programmers. It doesn't identify, in our description, what those are. The PLC is not the dynamic self-check part of this system. Everything ties into it.

MR. HUDGINS: Okay.

MR. BAUGHMAN: So I would like to know -- just to know what it is that we're actually using. Since we've got old controls in there, they may have been updated, or we may still be utilizing the same old programmers.

MR. HUDGINS: They've got them, haven't they?

MR. ELROD: I'm not sure that they have.

MR. TOTH: May I ask a question? Which controller? Are they stating the BMS2000 from Allen Rockwell -- Allen-Bradley?

MR. BAUGHMAN: I'm sorry, again?

MR. TOTH: Is it the BMS2000 from Allen-Bradley/Rockwell? Is that what they're stating?

MR. BAUGHMAN: That, I couldn't tell you. The BMS2000 is the complete system. Yeah, so it's listed as a Coen BMS2000 burner management system. In that are different components, and the PLC that he's mentioning being one. But the programmers themselves are not itemized.

MR. TOTH: Well, just to put my two cents in on it, you have -- for that particular unit, you do have the burner master portion of it and then the control logics portion, which is more of your parallel positioning portion as you referred to; whereas, the burner master portion of it is your flame safeguard system. So it's not really a lot of what we see in the market, but it is out there, just to let you know. I don't have a book, so I don't see it, but I heard BMS2000. I just -- I didn't want them to go down a rabbit hole here.

MR. BAUGHMAN: Sure. Well, it still doesn't clarify what's on there.

MR. TOTH: You're right.

Absolutely.

MR. BAUGHMAN: So yes, I agree with what you're saying. It still doesn't help us clarify.

MR. TOTH: Yes, sir.

MR. BAUGHMAN: So for clarification, I would like to know what programmers are actually used in that BMS2000.
programmable logic controller?

MR. BAUGHMAN: I'm sorry, again, sir?

MR. HUDGINS: Not the PLC?

MR. BAUGHMAN: No, sir. No. It's the flame safeguard programmers.

CHAIRMAN MORELOCK: Okay. Other comments? Questions?

DR. HARGROVE: Quick question. Could you describe your role and your daily responsibilities associated with the boiler operations?

MR. ELROD: So I oversee the daily operations, you know, as far as all the reporting required, personnel issues, all the maintenance for the powerhouse.

DR. HARGROVE: That includes what staff or personnel?

MR. ELROD: Well, it includes all the operators.

DR. HARGROVE: All the operators?

MR. ELROD: Yes, all the boiler operators.

DR. HARGROVE: And are you directly or indirectly involved in the training?

MR. ELROD: Indirectly. We actually have WARE Industries that comes in and does an annual training. So we have that done with them.

DR. HARGROVE: What's the frequency of that training?

MR. ELROD: Annually.

DR. HARGROVE: Annually?

MR. ELROD: Yes, sir.

MR. BAUGHMAN: The only other item I have is that within our boiler logs and within our requirements for our checklist we have, is the boiler water column tested. And under our boiler logs, in Appendix F, I saw nowhere on the log sheet that is part of the log; nor was it in the manual as part of the requirement. So if you could possibly shed light on where that might be. And if it's not in there, then I would propose we make a modification to the log sheet and within the manual itself to have that included.

MR. HUDGINS: Would you care to repeat? I was looking for the -- I thought I found what you were looking for in the description for the Coen.

MR. BAUGHMAN: Sure.

MR. HUDGINS: It basically just said it utilizes a programmable logic controller. But what was it that you were --

MR. BAUGHMAN: Under the boiler logs in Appendix F --

MR. HUDGINS: Yes.

MR. BAUGHMAN: -- there's no itemization for checking the water column, blowing the boiler down in the water column. And that's a requirement, also, on our checklist, that it asks if this is part of our procedure. So it just needs to be part of the procedure in the manual and also identified on your boiler log sheet.

MR. HUDGINS: Okay. The intent was, you know, we have the column for water level inches above mark. But we can add a separate column for that.

MR. BAUGHMAN: And that may be sufficient. It just -- it doesn't address, actually, whether the water column is blown down. It is checking the water level, which is good. The problem with that is that sight glasses get plugged up, and without any kind of check, we're assuming the water level in the boiler is proper.

MR. HUDGINS: Would you want a separate column, or just change the heading on that to include --

MR. BAUGHMAN: I'm good with however you want to address it.

MR. HUDGINS: Okay.

MR. BAUGHMAN: Just as long as we address the water column. I don't quite know how to word it for you.

CHAIRMAN MORELOCK: We're not going to tell you how to do it. We're just going to tell you what's required in it.

MR. HUDGINS: Okay.

CHAIRMAN MORELOCK: So that's -- we're not going to tell you how to do it. Currently, this is a new log that we'll be using once this variance goes in place. Our current logs reflect that, and it's done every eight hours.

CHAIRMAN MORELOCK: Okay. And so if you're currently doing it, then certainly, your variance ought to have the same data in it. So that's good. It's good to know.

MR. BAUGHMAN: Thank you.
questions or comments?

(No verbal response.)

CHAIRMAN MORELOCK: Okay. Hearing no more comments, these gentlemen desire for the Board to -- they're seeking contingent approval of this variance contingent on taking the September 2018 comments, the comments from today's meeting, and revise their manual accordingly, and then have a site visit from the State of Tennessee.

Is there any concerns of the Board if that is a -- with their desired course of action?

MR. BAUGHMAN: For one, I would make sure for myself -- I'm not speaking for the other board members -- but I would like to have the flame safeguard information on that BMS2000 sent to us. I would like the flame safeguard information on Boilers Number 3 and 4, since they aren't part of what we've got. We've got that PPC6000. I would like to have that in our hands and make that part of the contingency, that if there's anything that's a red flag, that we can address that back, then, through the Boiler Unit and Mr. Chapman. But that's the only -- and the appendix that was missing, getting that into our hands. But other than that...
to be revisited, that's on the board members, so we would take an item out to look at that.

MR. TOTH: And, Mr. Chairman, I'm definitely not pushing the buck on that because I was a big part of that checklist you see there, and we have "dynamic" in there.

CHAIRMAN MORELOCK: Right.

MR. TOTH: It just looked really good. No.

CHAIRMAN MORELOCK: Right.

MR. TOTH: We're not going the put that on your plate.

Any other comments?

MR. BAUGHMAN: Thank you.

MR. HUDGINS: You're welcome.

CHAIRMAN MORELOCK: All right. Hearing none, I'm going to call the question on the current motion, which is to provide contingent approval of this variance for ETSU contingent upon information being sent back to the Board through the Boiler Unit to address the comments from today, as well as verification that all of the September 2018 Board comments have been addressed and that the manual actually reflects what's actually in operation.

So with that said, I'm going to call the question for this item. 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. And please get that information to the Boiler Unit as expeditiously as you can, and we'll move forward.

Thank you for your time.

MR. HUDGINS: One question. As far as the supplemental information, would Mr. Chapman want that in one package or as -- the drawings that were missing, I can provide that to him, you know, this afternoon or first thing --

CHAIRMAN MORELOCK: If you can send it all at the same time.

MR. HUDGINS: Just at one time?

Okay.

CHAIRMAN MORELOCK: Yes. Are you okay with that?

MR. BAUGHMAN: I'm okay with that.

CHAIRMAN MORELOCK: All right.

Very good. Thank you.

MR. HUDGINS: Thank you, gentleman.

CHAIRMAN MORELOCK: All right.

Moving on to our next old-business item, which is 18-14. Energy Conversion and Safety will provide an update to existing variance manual for two high-pressure boilers located at Lucite International.

MR. BAILEY: Mr. Chairman, just for the record, I would like to note that Mr. Toth is wearing a very fine suit.

MR. TOTH: I was really concerned they were going to confuse me with you.

Mr. Chairman and members of the board, thank you for your time and all your hard work for our state.

My name is Marty Toth. I am with ECS Consulting and the Boisco Training Group. And I am here to represent Lucite International from Memphis, Tennessee.

To my left, I would like to introduce Justin Cash. He is a senior process engineer and our resident boiler expert for Lucite. To my right, Mr. Don Brimmer. He is a project engineer and the go-to man when I have process questions.

So first, I would like to apologize. The manuals you received hard copy, it was not found until I received the hard copies that there was a misprint. I think you probably found that, that there was an extra page added. And when it did, it threw off all the title page or the table of contents.

I did find that and sent an electronic copy. Hopefully, that was sufficient. We also were able to clarify responsibilities better. And so I do apologize for if there was any inconvenience with that.

The other thing I would like to address is when we went through the process and I was contacted by Mr. Brimmer and we discussed going through the process of renewing their variance, there was a lot of confusion. And I will briefly go through that. Mr. Brimmer was communicated with about their variance being out of date. There were a couple of situations of variances for Lucite International. One pertained to V10534, which as you know, is a board interpretation. That board interpretation
pertained to the requirement for inspections to
unfired steam boilers.
And what that interpretation allowed for is for unfired steam boilers to be inspected on an internally two-year cycle with a subsequent external inspection every six months.

Lucite International came to the Board some years ago requesting a three-year cycle on those internal inspections, which the Board then passed. I vaguely recall that. It's been some years ago. Mr. Morelock, you may recall it also.

Since that time, Lucite has chosen to go back to the two-year cycle. They no longer wait that third year for an internal inspection. So that is no longer necessary.

The conversation comes in with the remote variance. Of myself, Mr. Brimmer, we could not locate the documentation for the original variance that they were -- that he was communicated with about. So what I would like to do is treat this variance as a brand-new variance, because the variance that you have before you is from scratch. When we could not locate the documentation for revisions, the revisions were required due to the fact that we changed both heat recovery steam generators, which are the unfired steam boilers. And those have been inspected. They've received registrations. They're good to go. They're up to date. It's just the confusion came about with the remote variance itself.

So now what you see, the request is for an update, and in reality, we would like for this variance to be treated as a new variance. Okay?

CHAIRMAN MORELOCK: Okay.
MR. TOTH: So with that, just to kind of give you a little background, this is a very unique system that you're going to see. I would say that some of you that are new to the Board have not experienced a variance of this type. This is not your standard boiler that has a burner on the front. These are what we call in the industry heat recovery steam generators. And, in essence, what we have is we have a furnace that is separate from the actual pressure vessel itself, i.e., the boiler.

The flue gases that are combusted in this unit is what would be a spent gas, or an acid, from the process. It has a natural gas pilot in the furnace. It has all the flame safeguards, as you've seen in the manual, that are required by code. It actually goes above and beyond whenever we talk about flame scanners. They have the best in the industry that can be offered for self-checking.

The flue gases that come off of the furnace and go through the steam generator; whereas, the steam is generated and then used throughout the process.

Mr. Cash is here. He can go into great detail about this process. We have added quite a few illustrations of the process from the furnace side, all the way through to the boiler itself.

What we have is a control station that's very nearby that is manned 24/7 by our CCR operators, and our boiler attendants are manned by the field operators or, as we like to call them, too, assistant operators. And they are manned 24/7.

Shifts are 12 on, 12 off; 12 and 12. They start at 6:30 in the morning, off at 6:30 at night, and the replacement comes on; 24/7.

I'm open to any questions that you may have.

MR. BOWERS: Are we open for discussion?

CHAIRMAN MORELOCK: Yes. So is that a motion?

MR. BAILEY: Conflicts of interest?

CHAIRMAN MORELOCK: Any conflicts of interest for this item?

(No verbal response.)

CHAIRMAN MORELOCK: All right. The floor is open. Thank you.

MR. BOWERS: If this is manned 24 hours, what's the reason for the variance?

MR. TOTH: Well, the variance is the SAR operator, field operator, has other responsibilities throughout the plant that they take care of. But they are on the plant premises, as you see from the site plan. It's a pretty good size facility, but it's all within walking distance. A lot of the individuals have golf cart transportation if they need that. The remote station is what is manned 24/7 with the remote operator. As you can see, I provided an
illustration, there of one of the CCR operators in
the remote station.

MR. BOWERS: Is this a waste-heat
boiler?

MR. TOTH: Yes. That's exactly --
when you talk about heat recovery steam
generators, all heat recovery steam generators
would be categorized as a waste-heat boiler.

MR. BOWERS: So shutting down this
waste-heat boiler, is there a delay, once you shut
off the product, to shut off the flame --

MR. TOTH: No.

MR. BOWERS: -- to the pipe gas?

MR. TOTH: No, there is not. From the furnace itself that's
burning the spent fuels or the spent acids, once
you extinguish that furnace, you've lost any
energy transfer capability.

MR. BAUGHMAN: So, Mr. Toth, just
for clarification, then, getting into Appendix I
on the checklist, Number 9, we're going to change
that from "modified" to "new"?

MR. TOTH: Please.

MR. BAUGHMAN: Okay. And then
under the cover letter, the same; "requests a
renewal," we're going to change that to "new."

i.e., the Clayton, the Vapour that was brought
before us, for determining attendants versus
unattended. And if I'm not mistaken, it was made
to where a steam generator was unattended, and we
voted upon the Clayton and the Vapour unit that
because they're classified as a steam generator
and not a boiler, that it wasn't required to be
attended. So I wanted to just, being that you've
got probably more that what I'll ever know -- but
we do have a board interpretation that was voted
upon. And even within recent times, within the
two last to three years, we had something on it.

MR. TOTH: It was 2005. And I
don't have it right in front of me, but it's -- I
think it's a BC -- I don't think it was a BI --
board case, BC05 -- wow. You caught me at a bad
spot.

But I do understand what you're
referring to. When we talk about the intent of
that board case, it was not the intent of heat
recovery steam generators. The intent of that was
for the Claytons because they were a coiled system
that -- where there was an understanding where
there was no fixed water level. Okay?

Also, if I can recall, and I would
have to go back and look, I believe there was a
differentiation between -- wow. I'm just going to
stop right there, because I don't want to speak
out of turn on it. I would have to go back and
research.

MR. BAUGHMAN: Okay. Well, and I
bring that up just because if we had the
information, it would be super. But I know it was
just within the last handful of years because we
had the company from Lebanon, Tennessee, that had
one of these steam generators come before us to
draw this boiler up and so forth.

MR. TOTH: What kind of steam
generator was it?

MR. BAUGHMAN: It was a Vapour
unit -- Vapour -- Vapor -- and --

MR. TOTH: But was it a coil-type
unit?

MR. BAUGHMAN: Coil-type unit, yes.

MR. TOTH: Okay. No fixed water
level.

MR. BAUGHMAN: Well, that's true.
The issue came about, not so much with the water
level as it was that the steam is not accumulated
in the vessel itself. It's accumulated external
of the vessel. Which, I believe this unit made by
Continental is that same way. It has an external
accumulation for its steam, correct?

MR. TOOTH: Right. But there's no
cut-off communication chamber between the two.

MR. BAUGHMAN: Sure. And so -- but
the issue was that it was still separate from the
unit itself, and there was something within that
interpretation -- and I just bring it up so that
we can look into it.

MR. TOOTH: Sure.

MR. BAUGHMAN: Because I wasn't
sure -- I tried to read as much as what I could,
Mr. Toth, on the differentiation between steam
generator and boiler.

MR. TOOTH: Sure. It's a very
confusing term in a lot of cases. It can be.
MR. BAUGHMAN: Sure. So I wanted
to make sure that what we were doing was actually
applicable to this. I'm all for having a
monitored to a higher degree, by all means.

MR. TOOTH: Well, if I may add to
that a little bit. The confusing thing that
you're going to look at with a unit design of this
nature is that in the industry, a lot of us want

MR. TOUGHMAN: It just showed --

MR. TOOTH: Yes.

MR. BAUGHMAN: -- in your drawings
in here --

MR. TOOTH: Yes.

MR. BAUGHMAN: -- that it's --

MR. TOOTH: Yes, it actually does.

MR. BAUGHMAN: -- coming up into
the steam drum itself.

MR. TOOTH: Yes. I'm going to
verify it, but yes, it actually does.

MR. BAUGHMAN: Very interesting.

So when this unit --

MR. TOOTH: Let me ask the question.

Why would you say that?

MR. BAUGHMAN: Well, getting back
in my mind, knowing how steam generators work
versus steam boilers, the boiler typically has the
feedwater going into the boiler part of the vessel
itself and not up into the --

MR. TOOTH: On a fire-tube, you're
correct.

MR. BAUGHMAN: Yes. And so any
time that feedwater is coming up into the steam
header, thinking about carryover and so forth and
to differentiate boiler types with fire-tube,
water-tube, and we put that in our mind. When in
reality, if we look at it, a steam drum on a
water-tube boiler is really connected by the
downcomers, the risers, and the generating tubes.
Well, if we look at that in regards to this type
of unit, you have a steam drum on top of the
fire-tube process on the bottom with the risers
downcomers connecting it, no different than
you would on a water-tube boiler.

So that's why it's all built under
one stamp. We have one national board number and
we had -- when it was built in that way, it was
parts put together and assembled on site and
stamped individually.

MR. BAUGHMAN: Super. Well, I
appreciate the discussion, so --

MR. TOOTH: No. That's a really
good discussion. I just hate that I didn't recall
that from 2005.

MR. BAUGHMAN: So with that, I
noticed in the drawings it shows the feedwater
actually coming into the steam drum itself on
these drawings; is that correct?

MR. TOOTH: From the DA?
system, is it a modulating feedwater system?

MR. TOTH: It is a modulating feedwater system.

MR. BAUGHMAN: So when it goes into e-stop, we're stopping the boiler, but is an e-stop tied in with the DA also to stop the pump operation?

MR. TOTH: I'm going to ask my colleague, Mr. Cash, to kind of go into the process of the interlock systems that you have in place.

MR. CASH: To answer your question, sir, no. The boiler feedwater pumps are not part of that interlock system. We have a recirculation line, so once the boiler is full, the pump will recirculate back to the deaerator.

MR. BAUGHMAN: So, I guess, in my question -- and there, again, quickly, without going too far down the hole, I'm interested to know, since when the boiler stops, if that modulating feedwater valve has a fail-close mechanism on it versus just being electric. There's all different types of valves on the market, but if a boiler shuts off and a feed pump is continuing to run and the valve is open, we have issues with flooding the system and so forth. But there again, that's not part of what we're discussing here. So it's just the way my boiler mind works.

What temperature is entering the boiler from the waste-heat mechanism stream?

MR. CASH: Around 1,000-degrees Celsius.

MR. BAUGHMAN: 1,000 Celsius. So with our feedwater system itself and it's modulating, the water level controls that are on this boiler, what water level controls are utilized on this system?

MR. CASH: The main one for control is the Eye-Hye system. We also have two other independent level control devices, DP and a radar as well on steam pumps.

MR. BAUGHMAN: Good systems. Thank you.

MR. TOTH: It's. They've got -- they're pretty top shelf.

MR. BAUGHMAN: After 42 years of being in this, you always see something new, so that's pretty neat.

MR. TOTH: It's good stuff.

CHAIRMAN MORELOCK: Any other questions?

MR. BOWERS: Do you have circulating pumps to circulate the water off the feedwater system? Or just the feedwater?

MR. TOTH: Circulate -- okay. Are you talking about circulating back to the DA or --

MR. BOWERS: Yes.

MR. TOTH: Well, I believe that that's off of the same feed system, is it not?

It's off the same feed pumps.

MR. BOWERS: Do you have a redundant system?

MR. TOTH: Redundant pumps?

MR. BOWERS: Yes.

MR. TOTH: Yes.

MR. BOWERS: Both of them electric?

MR. TOTH: They are both electric.

We don't have any steam. Yeah, they're both electric. And both DAs have -- the only difference that you're going to see in our DA system is one is a tray type and one is a spray-type DA.

MR. BOWERS: The reason I was asking, because, you know, being my background from the zinc refinery, we had circulating pumps, in case the process went down, to keep the system from --

MR. TOTH: And that is the feed pumps.

MR. BOWERS: Okay. And usually one was steam and one was electric in case you lost electricity.

MR. TOTH: That's because you want to keep them running. I know what you guys are doing over there. I remember you.

DR. HARGROVE: Mr. Brimmer, can you describe your role and responsibilities with regard to daily boiler -- or steam generator operation?

MR. BRIMMER: On a daily -- I have no involvement on daily operation. I'm a project engineer for the engineering department for the plant. I also maintain the documentation and make sure the compliance is for state registration and stuff like that.

DR. HARGROVE: You're going to keep up with it this time, though, right?

MR. BRIMMER: Yes, sir.

MR. BAUGHMAN: So where does...
MR. BRIMMER: He's our plant superintendent.

MR. BAUGHMAN: Okay. So he's the one that in the cover letter says is ultimately responsible for the continued implementation of the variance criteria.

MR. BRIMMER: He's ultimately responsible for the entire plant.

CHAIRMAN MORELOCK: I've got just a few nitpicky questions. Pertaining to what -- as far as responsibilities go, so the cover letter states that Mr. Foeller is responsible for the manual and the variance, and then page 1, it puts it back on the project manager. So make sure you've got your --

MR. TOTH: Yes. Absolutely. I think that is a great description. As you're very aware of, in ASME National Board tri-annual reviews, the ultimate responsibility comes back to the man with the big hat. And that is -- in this case, that is Dennis. What he does then is he then assigns responsibilities out as designated.

In this case of the caretake of this manual and to ensure that it is up to date and distributed properly, Mr. Brimmer has that responsibility. And that is given down through Dennis.

CHAIRMAN MORELOCK: Well, and so just make sure everything says the same thing.

MR. TOTH: I will make sure that's corrected.

CHAIRMAN MORELOCK: In your organizational chart on page 19, one thing that's helpful, not only to the Board but to people that would look at your manual, is it's always nice -- you've got a nice organizational chart. I have no issue. But to go ahead and put in parentheses or in underneath that particular job function, if they're serving as a remote attendant or a boiler attendant, go ahead and show that on your organizational chart. That way you can take a quick look and see who is responsible for what.

MR. TOTH: We can do that.

CHAIRMAN MORELOCK: Okay.

MR. TOTH: You are aware it is, also, in the glossary of terms?

CHAIRMAN MORELOCK: Yes.

MR. TOTH: Okay. So you want -- you want even --

CHAIRMAN MORELOCK: Well, because this is just to honor Dr. Canonico.

MR. TOTH: Yes.

CHAIRMAN MORELOCK: Because he always wanted that job description --

MR. TOTH: Okay.

CHAIRMAN MORELOCK: -- to match what's in the front of that book.

MR. TOTH: Okay. So we can add to that. No problem.

CHAIRMAN MORELOCK: And so most -- and then this is a different type of -- the HRSG is different. I agree with you. So as far as your control and your monitoring system, typically, we'll see an Appendix B that's the equipment doing it, and then C is the fault codes, so that when these guys come in and do an inspection, if they want to see a fault code run -- so this doesn't have any fault codes at all?

MR. TOTH: It doesn't have fault codes on this. Unlike what you would see in an E110 or a Honeywell 7800, it doesn't have the fault codes.
MR. TOTH: And again, I agree, 100 percent, it's great to put those in there. It's not something that is technically required within the variance, per se, and it's great to have them in there, but this doesn't have fault codes in that.

CHAIRMAN MORELOCK: Well, it's a two-edged sword. If you don't put them in there, then you're not accountable for them, but if you do, then it gives them free reign to say I want you to do that.

MR. TOTH: Sure. Absolutely.

CHAIRMAN MORELOCK: Okay. All right. On page 8, under 1.b), you list "Boiler Attendant." And the first two, Project Engineer and Sr. Process Engineer -- but I didn't understand "Lucite Personnel Listed Here." What's the (3) for?

MR. TOTH: Oh, that was a correction.

CHAIRMAN MORELOCK: Okay. All right. On page 8, under 1.b), you list "Boiler Attendant." And the first two, Project Engineer and Sr. Process Engineer -- but I didn't understand "Lucite Personnel Listed Here." What's the (3) for?

MR. TOTH: Oh, that was a correction.

CHAIRMAN MORELOCK: Okay.

MR. TOTH: Yeah. If you saw, that was a draft correction that you will see under -- well, maybe I didn't put it in there. I thought I had listed it. I did do a revision page for Number 8.


CHAIRMAN MORELOCK: Okay.

MR. TOTH: Yes, I did. It's under 1.b) on the revision page. You'll see the corrected titles under the draft, under 1.b).

CHAIRMAN MORELOCK: Okay. All right. Very good.

MR. TOTH: And again, if I would have paid closer attention --

CHAIRMAN MORELOCK: No problem. Mr. TOTH: -- that's on me.

CHAIRMAN MORELOCK: No problem. So how does your monitoring system prevent unauthorized access?

MR. CASH: Oh, yeah. Our PLC is password protected and requires log-in and password.

CHAIRMAN MORELOCK: Okay. I didn't read those words in the equipment description, so not to say that they're not there. I just --

MR. TOTH: Usually, you do see those in my books, but yeah, you are absolutely correct.

CHAIRMAN MORELOCK: That's all the comments I had.

DR. HARGROVE: Mr. Chairman, to follow up, are those passwords -- is there a duration in which they remain the same, or how frequently are they changed? Surely, you're not using the password from two years ago.

MR. CASH: Mr. Chairman, to follow up, are those passwords -- is there a duration in which they remain the same, or how frequently are they changed? Surely, you’re not using the password from two years ago.

MR. CASH: I would think not. I personally do not have one, sir, because they keep it with our engineering department. And I don’t know how often they change that.

MR. TOTH: We can find that out.

CHAIRMAN MORELOCK: Well, and that's not a manual requirement. It is a nicey, but it's not a necessity. It's a good question. It's a good question.

MR. TOTH: It's a good question. I would still like to find that out.

CHAIRMAN MORELOCK: Any other questions or comments?

MR. BAUGHMAN: These units being 2014s and 2015s, were there units that were in prior to that that needs replaced?

MR. CASH: Yes, sir.

MR. TOTH: It kind of goes where I was describing kind of the process of the boilers were changed out, and when they were changed out, that's when it came to the attention. And so that's why the decision was made to present before you.

MR. BAUGHMAN: Do we have to go through any scrubbers, any types of EPA requirements on our emissions, Mr. Cash?

MR. CASH: Yes, sir. We do have an air permit. We burn our spent acid in -- SAR, spent acid regeneration. So we take the spent acid, combust it down to SO2 and then turn it into SO3 and absorb all that back, and then ended our process and recycle it around.

MR. BAUGHMAN: Interesting. Any NOx requirements?

MR. CASH: We do not. No, sir.
MR. BAUGHMAN: Just interested in that. Since we're combusting and we've got a pretty good -- these are fairly good-sized boilers.

MR. TOOTH: It's fairly good-sized boilers, fairly good-sized temperatures. The dew point on these, whereas you would see a dew point in a natural gas being somewhere in that 130, 140-degree range, dew point here is much higher.

MR. BAUGHMAN: Sure. I just didn't know what the NOX requirement is since the State -- you know our State requirements --

MR. TOOTH: Federal too.

MR. BAUGHMAN: -- but these are well above that. And since we're combusting into a boiler, I was interested to know --

MR. TOOTH: Well, I mean --

MR. BAUGHMAN: -- from that emission standpoint.

MR. TOOTH: -- you know, the --

that's a very good question.

MR. BAUGHMAN: Yeah. And there again --

MR. TOOTH: And there again, it's --

MR. BAUGHMAN: -- I'm sorry, not to go down the rabbit hole.

MR. BAILEY: You've got two people talking at one time.

MR. BAUGHMAN: Mr. Toth?

MR. TOOTH: There again, you're talking about mostly what are we doing with fossil fuel burning versus spent acids. So that's where you're going to find some difference.

MR. BAUGHMAN: And I apologize, for one -- thank you, Mr. Bailey.

But there again, it's going down a different technical area than what we're addressing here. So I apologize for that. But thanks for sharing it. As boiler people, this is what we do, is we get involved on the technical side of things.

CHAIRMAN MORELOCK: Any other comments?

(No verbal response.)

CHAIRMAN MORELOCK: So do I have a motion for this variance?

MR. BAUGHMAN: So moved.

CHAIRMAN MORELOCK: So this would be a motion to approve contingent on updating your manual based on comments from today's meeting and a successful site visit from the Boiler Unit.

Do I have a second for that?

MR. FOX: I'll second that.

CHAIRMAN MORELOCK: Okay. Any more discussion or comments?

(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. So thank you.

MR. TOOTH: Thank you gentlemen.

MR. CASH: Thank you.

CHAIRMAN MORELOCK: Okay. That concludes our old business. So now we'll start on our new business items, the first one being 19-1. The University of Tennessee Medical Center is requesting a variance for three high-pressure boilers.

So if you'll come forward and introduce yourselves.

MR. CHAPMAN: Chairman, I made a mistake. It's not "Medical Center." It's "Medical Science Center."

MR. BAUGHMAN: It says on the cover "Medical Center."

CHAIRMAN MORELOCK: There is a medical science center.

MR. CHAPMAN: Sorry about that. Wrong one.

CHAIRMAN MORELOCK: Yeah, we're good. We're good. And before I turn you-all loose, is there any conflicts with this item?

(No verbal response.)

CHAIRMAN MORELOCK: All right. Hearing none, gentlemen, you have the floor.

MR. HUDGINS: I'm Ernest Hudgins with the Engineering Services Group. Beside me is Doug Young with the University of Tennessee Medical Center.

MR. YOUNG: Douglas Young, University of Tennessee Medical Center.
MR. HUDGINS: Currently, the University Medical Center operates three high-pressure boilers. One was recently installed approximately two years ago. It's equipped with a Hawk 6000 system. It's a Low NOx burner. The other two, one is a Cleaver Brooks water-tube boiler. Its controls were recently upgraded to the Hawk 5000. The third boiler is an older B & W boiler. Its controls were upgraded at the same time as the Cleaver-Brooks boiler to the Hawk 5000 system.

The purpose for requesting this variance is not to reduce operating personnel, but to allow the operating personnel to perform other duties in the hospital during their regular shifts. As far as the monitoring of the boiler attendants, they are the same people that are attending to the day-to-day operation of the boiler today. There's not any intent of the medical center to utilize security/janitorial staff during off hours to attend the boiler. The same people that are doing the job today under current rules and regulations will be the same people doing the monitoring.

The alarms from the boiler will be transmitted via hard wire to the hospital security office where the remote panel would be installed, a placard installed with the emergency procedure and call numbers located there. The fault codes in Appendix C, again, are extensive. They include codes that would shut down the boiler down and, also, codes that would just generate an alarm. But as far as the remote station knows, it's an alarm. And when it shows up, they are to shut the boilers down. The University understands that if it is just a nuisance code, they do not have the option of ignoring that. They have to go to the 20-minute rule until that nuisance code is corrected.

The training and the boiler attendants and the remote monitoring are addressed in the manual. And I don't know -- I verified mine. The drawings are in this one and, hopefully, they made it in everyone's manual for this one. I don't know how we got two in one and not in the other. But the boiler feedwater diagram is shown in Sketch 1, the boiler alarm diagram and then the location of the remote monitoring station in relationship to the boiler house.

The personnel that are responsible for monitoring/attending the boiler, that is their -- like with ETSU, that is their duty station. It's that building. The boiler data sheets are in Appendix A. Originally, the hospital had two old B & W boilers. Boiler 1 has been decommissioned and, since the writing of this manual, has been salvaged and taken to the scrapyard.

The faults, like I said, are in Appendix C; the organizational diagrams in Appendix D; and then the boiler monitoring log, in Appendix F, we will add the column that was brought up before, as far as changing the header to include the terminology that indicates the water column has been blown down or a separate column for that. The attendant, boiler attendant, duties are all in Appendix G, as far as what their responsibilities are, and then the training logs and in Appendix F.

One thing I just noticed when I was looking through this, it had boiler attendant/security guard. That is not -- that's not there -- that is a faux pas on my mistake -- on my part there. That should have been taken out. Like I said, there's no intention to use security personnel to attend the boiler or a janitor. It's strictly boiler mechanics.

CHAIRMAN MORELOCK: Do I have a motion to discuss?

MR. BOWERS: Motion to discuss.

CHAIRMAN MORELOCK: Second?

MR. BAUGHMAN: Second.

CHAIRMAN MORELOCK: Okay. The floor is open, gentlemen.

MR. BAUGHMAN: Well, I'll start.

CHAIRMAN MORELOCK: All right.

MR. BAUGHMAN: So as per requirement 3c on the checklist and 3a, could you refer me to the cover letter requesting the variance? It says it's on page 1, but I don't see -- well, actually, that's the confirmation of a company representative. It doesn't confirm that a company representative will be here. It just says that -- it lists who the person is responsible for implementing the provisions of the variance.

MR. HUDGINS: Okay.
MR. BAUGHMAN: So 3c doesn't confirm that the company rep will be here; although, we have a gentleman here representing, so I'm good with that. But I don't see the cover letter in my manual.

MR. HUDGINS: The cover letters, we did not bind those into the manual. It was sent under, I guess, separate cover with the manuals. But if you wish, I can add the cover letters into the bound manuals that will be on site. And then, also, I thought we'd caught all of them, where we referenced paragraph 22 on the cover sheet of the manual. And that should be 11.

MR. BAUGHMAN: I'm sorry. I missed that. Again?

MR. HUDGINS: On the cover page for the boiler manual, I've got paragraph 22 called out, and it should be paragraph 11.

CHAIRMAN MORELOCK: That should be 08, parenthetical 11.

MR. HUDGINS: Just self-reporting all my errors.

MR. BAUGHMAN: So if we could just have the cover letter just because it goes into all our manuals, and we're kind of sticklers for attention to detail in that respect, having the date on there also.

In Appendix A on the Boiler Data Sheet, so we've decommissioned Boiler Number 1. We're operating 2, 3, and 4. We've got good ole B & W, 1954 boiler --

MR. HUDGINS: Spring chicken.

MR. BAUGHMAN: -- that I have no input and no output for.

MR. HUDGINS: Do you remember what the input on that one...

MR. YOUNG: As far as what?

MR. HUDGINS: The input on the old B & W.

MR. BAUGHMAN: Just so that we can have that added in.

MR. HUDGINS: Okay.

MR. BAUGHMAN: And to follow back up, in addition, Boilers 3 and 4 have no output. We've got inputs but no outputs.

MR. HUDGINS: Okay.

MR. BAUGHMAN: So if we can just figure that little --

MR. HUDGINS: We can add that in.

MR. BAUGHMAN: You mentioned the boilers had what controllers on them?

MR. HUDGINS: The newer boiler, Boiler 4, is the 6000.

MR. BAUGHMAN: Okay.

MR. HUDGINS: The other two are the 5000s.

MR. BAUGHMAN: Very good. Thank you. You've already addressed the water column, as you said, and so you'll take care of that.

MR. HUDGINS: And I'll also provide, similar as we did with ETSU, the data sheets for the aerator types in this also.

MR. BAUGHMAN: Okay.

CHAIRMAN MORELOCK: Other comments?

(No verbal response.)

CHAIRMAN MORELOCK: I've just got a few. On page 2, Roman Numeral III, it mentions a physical plant troubleshooter in the first sentence. But I don't see that particular job classification on your organizational chart.

MR. HUDGINS: Initially, in the development of the manual, the hospital was going to use a troubleshooter, which is just like a general maintenance person, to attend the boilers. They decided not to.

MR. BAUGHMAN: It's also on page 5.

CHAIRMAN MORELOCK: Right. Yeah, so that would be good. And I couldn't find -- the manual references, on page 3, it says, "a shutdown switch for each boiler, see SD-4," but I couldn't find an SD-4. I know it's a sketch, but -- it may be shown on an M drawing or something, but I didn't see SD-4. You've got SD-1 and 2 for your floor plans. And then you've got several drawings that are M for boiler feed water piping and alarm diagrams and things like that. But I couldn't find SD-4.

MR. HUDGINS: That was --
CHAIRMAN MORELOCK: The reference to it is on page 3.

MR. HUDGINS: It should be M2.1.

CHAIRMAN MORELOCK: Okay. I was guessing that, but...

MR. HUDGINS: Yes.

CHAIRMAN MORELOCK: Okay. Very good.

In your Appendix G for job descriptions, you may want to consider adding the responsibilities for implementing the variance and training under that job description as applicable. And that kind of ties into Mr. Baughman's comment about the cover letter also mentioning that too, so...

And then on page 7 --

MR. HUDGINS: I hate to delay but we're trying to find --

CHAIRMAN MORELOCK: That's okay. Like in Appendix G where you have all the job descriptions listed, we want to make sure the job descriptions, in addition to their assigned activities, as they take on these roles as boiler attendant or remote attendant or they're going to be responsible for the manual or anything like that, you just add that into those job descriptions. Okay?

MR. HUDGINS: Okay. We'll do it.

CHAIRMAN MORELOCK: And on page 7, I think you already addressed this. I think you already told us about the technicians in your opening presentation.

MR. YOUNG: Yes.

CHAIRMAN MORELOCK: So we just need to make sure that those are taken out. So that's fine. You-all addressed that.

MR. HUDGINS: Correct me if I'm wrong, but these are the three -- these are the only three people they're classifying as boilers.

MR. YOUNG: Yes.

CHAIRMAN MORELOCK: Yes.

And so -- and then just for my information, on pages 5, 8, and 9, which is -- so you're talking about restarting the boiler -- again, you've got the plant troubleshooters. You need to take that out because you're not using them. So the boiler attendants listed as physical plant troubleshooter is not allowed to restart a boiler. You're not going to do that.

MR. HUDGINS: No.

CHAIRMAN MORELOCK: And then I think you're going to have a similar reference on pages -- yeah. You've got it on 8 and you've got it on 9, as well, as far as a boiler attendant is not allowed to restart a boiler unless he is also classified as a boiler technician. So just --

MR. HUDGINS: That sentence, we can just take it out totally.

CHAIRMAN MORELOCK: Yeah. Okay. So just take care of that. This is just a comment. You don't have to do anything with it. But just -- you've got personal names on your emergency call list, which is fine, but just know if that changes, you'll have to revise that page in your manual.

MR. HUDGINS: And resubmit it.

CHAIRMAN MORELOCK: So a job title would maybe be less work for you. But if you want to leave it that way, it's fine. It's just a comment.

MR. HUDGINS: Okay.

Do you want to take it out?

MR. YOUNG: We'll change that.

MR. HUDGINS: So that emergency call list would just be -- Item 1 would be...
1 variance based upon updating the manual based on
2 comments at the Boiler Board meeting and a
3 successful site visit by the Boiler Unit. Do I
4 have a second for that?
5 MR. BOWERS: Second.
6 CHAIRMAN MORELOCK: So I have a
7 second. Do I have any additional comments,
8 questions?
9 (No verbal response.)
10 CHAIRMAN MORELOCK: Okay. Hearing
11 none, I'm going to call the question.
12 All in favor, say "aye."
13 (Affirmative response.)
14 CHAIRMAN MORELOCK: Opposed?
15 (No verbal response.)
16 CHAIRMAN MORELOCK: Abstentions,
17 not voting?
18 (No verbal response.)
19 CHAIRMAN MORELOCK: Gentlemen, you
20 have a contingently approved variance.
21 And I've got a question for
22 everybody. Does everybody need a ten-minute
23 break?
24 (Affirmative response.)
25 CHAIRMAN MORELOCK: Okay. We've

can I interrupt you just for a minute?
MR. NEVILLE: Yes, sir.
CHAIRMAN MORELOCK: So these 13
existing boilers, is this just the renewal for
them?
MR. NEVILLE: That is correct.
CHAIRMAN MORELOCK: Is there any
9 technical change to those 13?
MR. NEVILLE: There is not.
11 CHAIRMAN MORELOCK: No technical
change at all?
13 MR. NEVILLE: That is correct.
14 CHAIRMAN MORELOCK: Then the Boiler
15 Unit can take care of that for you and you can
16 proceed on with the new one.
17 MR. NEVILLE: Okay. The issue here
18 was they wanted to include all of them in one
19 manual.
20 CHAIRMAN MORELOCK: Okay.
21 MR. NEVILLE: So that's why
22 they're -- I mean, we have them all in one manual,
23 so...
24 CHAIRMAN MORELOCK: Okay. Then
25 that's fine.
elements, as far as the electric boiler on that. As far as I know, there's no method for changing any of the parameters. It's really not password protected. But it's just hard-coded into the controller. So I wasn't sure how to identify that. But that's -- that is --

CHAIRMAN MORELOCK: So you can't make any adjustments or changes or anything to it?

MR. NEVILLE: No.

CHAIRMAN MORELOCK: It's just plug and play?

MR. NEVILLE: Right.

CHAIRMAN MORELOCK: Okay.

MR. NEVILLE: So as far as the individuals that will be monitoring these boilers, the boiler attendant is still the senior power plant operator, and the individuals at the remote station are, again, the senior power plant operator, the boiler operation supervisor, and the HVAC operation supervisor. So those three individuals' job descriptions will be monitoring it remotely.

These boilers are -- the remote station for all 14 boilers is in the general education building, the GMB control room, as identified on the site plan. Each one of those buildings, of course, has different lengths that are identified in the site plan. Are there any questions regarding this?

CHAIRMAN MORELOCK: So do I have a motion to discuss this item?

MR. FOX: I make a motion to discuss.

MR. BAUGHMAN: Second.

CHAIRMAN MORELOCK: Okay.

MR. FOX: I do have a question for you.

MR. NEVILLE: Yes?

MR. FOX: The new building, Building 44 on the site plan, we're looking at approximately 1400 foot of distance between it and the control room?

MR. LOGGINS: They're hardwired?

MR. LOGGINS: Yeah. You have an automatic shutoff outside of the door, entering into where the boiler is located. Is that what you're asking me?

MR. FOX: That's not what I'm following.

MR. NEVILLE: No. The --

MR. FOX: The remote shutoff station --

MR. NEVILLE: Yes.

MR. FOX: -- it is hardwired 1400 foot from one building to another?

MR. LOGGINS: No. I think that's going to be through the Medisys system, and they use a point of input and output. So they put the controller -- if I'm saying it right, they have the controller that reads that signal that is monitored in the GEB by an attendant. So he actually sees the boiler, actually what it's doing, the whole nine yards.

MR. NEVILLE: Right. So that distance is covered by the Medisys system, the controller.

MR. FOX: Okay.

CHAIRMAN MORELOCK: Any other questions?

MR. BAUGHMAN: Yes, sir.
MR. LOGGINS: Each individual station engineer has their own log-in/log-out.

DR. HARGROVE: Each individual...

MR. LOGGINS: Station engineer has their own log-in and log-out. So when that person works from 6:00 to 2:00, that's the person that's responsible. I think I'm answering that correctly.

CHAIRMAN MORELOCK: So that would be password protected.

MR. LOGGINS: Yes.

DR. HARGROVE: Because the individual has access.

MR. NEVILLE: Now, as far as the local controller on the --

MR. LOGGINS: System itself.

MR. NEVILLE: -- boiler, that doesn't have a log-in. What has a log-in and that we're talking about here is the BMS at the remote -- at the Medisys system, has a log-in that is password protected.

DR. HARGROVE: Yes, sir. Thank you for that clarification.

MR. BAUGHMAN: What feedwater system are we utilizing on the electric boiler? I don't see it necessarily identified. I see where it says electronic feedwater control, but I was just curious as far as what system we were feeding water to that unit with.

MR. NEVILLE: On page E-13, Appendix E-13 --

MR. BAUGHMAN: E-13? I'm sorry.

MR. NEVILLE: E-13. It's going to show the Sussman electric boiler.

MR. BAUGHMAN: Okay. Just had to ask.

CHAIRMAN MORELOCK: Any other comments or questions?

MR. TOTH: I have a question, just because of doing these. I just needed clarification. Because the connectivity that we're talking about, as Mr. Fox alluded to the 1400 feet, and we're utilizing the Medisys system, are we allowing that as a hardwire connection versus that's a network-based connection? Not to really throw you guys under, but, I mean, I have clients all the time that are rewiring systems because a network system like that was never classified as a hardwired system. That's just my question. I'm sorry.

CHAIRMAN MORELOCK: No. That's a fair question.

MR. TOTH: I don't mean to -- I just know from -- I've got a client right here that has the same thing.

MR. FOX: I mean, if your Medisys system goes down, your network goes down, what protection do you have?

MR. LOGGINS: Actually, what we do and had that happen, what you have to do is you have to have that rover engineer do more checks at the building. So what you have is, like, every 25, 30 minutes they just continuously run the campus, just continue to run the campus. So also what we do if we see that that's going to be the case, we can bring in another individual to assist that rover engineer that's on duty, if that's the situation, if that case happened. And it has.

MR. BAUGHMAN: And you say that has happened?

MR. LOGGINS: Yes. But that was actually in our central location, so we actually could go straight downstairs into the boiler room and see what was going on with the boiler.

MR. NEVILLE: So if the Medisys system does go down, they are not on the variance anymore. They have to monitor those boilers every 20 minutes.

MR. LOGGINS: Every 20 minutes.

MR. BAUGHMAN: Which means you have to bring in an extra person now, because one man cannot --

MR. LOGGINS: Oh, no. That's impossible, 44 buildings. If we're lucky, we can get a third, you know, the availability of the person, so...

MR. BAUGHMAN: Well, that's an
issue in itself, but yeah.

CHAIRMAN MORELOCK: Well, I guess, to Mr. Toth's question, what he's alluding to is we -- I'm pretty sure our checklist requires it to be hardwired; is that not correct? Isn't that a part of the checklist?

(No verbal response.)

CHAIRMAN MORELOCK: Your boiler stop has to be hardwired, from the remote station to the boiler. So do you have that hardwired?

(No verbal response.)

CHAIRMAN MORELOCK: So, I mean, if that person hits that e-stop on that remote, it's going to shut that boiler down, and it's hardwired to do that, right?

MR. LOGGINS: Correct.

CHAIRMAN MORELOCK: Okay. So...

MR. LOGGINS: And you're going to get a signal to the GEB that that boiler is shut down.

MR. BOWERS: No. We're not talking about the e-stop at the door. We're talking about at the central -- wherever the remote station is, 1500 foot away --

MR. LOGGINS: And you can shut it down from there as well.

MR. BOWERS: -- is that hardwired that that security guard or whoever it is can shut that boiler down? Is that hardwired?

CHAIRMAN MORELOCK: Right.

MR. BOWERS: We're not talking about the one at the door. We're talking about the remote one.

MR. LOGGINS: I would say no. That's a long run. I could check into it, but from Building Number 44 back to the GEB? Man, I would say no. You're talking about hardwired? You're going across, like, five or six different streets to get to that location. So I could check on it, but...

CHAIRMAN MORELOCK: Well, I mean, the danger is, you know -- I mean, the whole purpose of the remote system is to free up the boiler attendants. And if they're busy and they need to shut that boiler down and it's not hardwired, they may or may not be able to shut the boiler down, correct?

MR. BAUGHMAN: Not at the remote station.

CHAIRMAN MORELOCK: Right.

MR. LOGGINS: But we have a spot on the boiler that gives the ability to shut it down from the control room. Now, it's going through a network, but I don't know about hardwire.

MR. NEVILLE: That's what...

MR. LOGGINS: I'll have to check that out. That's a new one.

CHAIRMAN MORELOCK: But I think it's been required that we do that. It may not be on the checklist, but that's what I'm trying to -- I've got to -- we'll have to get to the bottom of that. But we have required those to be hardwired, if I'm not mistaken. That's correct, right?

MR. O'GUIN: Yes.

CHAIRMAN MORELOCK: Okay.

MR. BAUGHMAN: So how do we address that if it's not?

MR. NEVILLE: So that would be one of the requirements, to have a variance on this boiler is that that shutoff be hardwired; is that correct?

CHAIRMAN MORELOCK: Well, that's the concern. I understand the concern.

MR. NEVILLE: About every 300 feet there will have to be a transformer.

MR. BOWERS: That thing is kind of like a satellite on its own, and you just can't let it be out there by itself without controls. And you can't depend on the network. Anything can happen on a network. I think that was originally the purpose of looking at these variances that would have control. And if you lose a network, you lose control. And so I can see where it has to be hardwired into there so someone can shut that boiler down if they have a problem.

CHAIRMAN MORELOCK: I mean, the 13 existing boilers, they're hardwired with e-stops, right?

MR. NEVILLE: Right. And they have shorter distances as well on some of them.

CHAIRMAN MORELOCK: I mean, I understand that, but, I mean, it's -- I mean you've got 13 examples of hardwire.

MR. NEVILLE: Right.

CHAIRMAN MORELOCK: Okay.

MR. O'GUIN: Chairman?

CHAIRMAN MORELOCK: Yes?

MR. O'GUIN: Number 19 on the checklist, I think, covers the hardwire.
DR. HARGROVE: Yes.

CHAIRMAN MORELOCK: It talks about "hardware." It doesn't say "hardwire."

Well, gentlemen, this may be one of those things that we assumed that everybody would do it hardwired. If we need to add it to the checklist, we can. But, I mean, you know, you've got 13 boilers that are hardwired and --

MR. NEVILLE: Right.

CHAIRMAN MORELOCK: Now, that comes back on us. If we need to add a specific item to the checklist to spell it out that it's mandatory to be hardwired, we can do that.

But I think the longstanding understanding is that you do hardware that e-stop.

MR. BAUGHMAN: And we need to make that part of our information that's available out to the industry.

CHAIRMAN MORELOCK: Yes.

MR. BAUGHMAN: But all the other boilers are, in fact, hardwired, Mr. Neville?

MR. NEVILLE: That is my understanding, yes. I mean, I can check all of them and verify that.

MR. BAUGHMAN: Do you know,

proposing this variance with hardwired remote shutoff at the remote station, and that will have to be put in and verified that that's a hardwire shutoff.

MR. BAUGHMAN: You made the comment that that has to go across how many streets?

And --

MR. NEVILLE: It will take a while to have that put in, for sure.

MR. BAUGHMAN: Being that it will take a while, that means that the site visit won't be scheduled until that's actually accomplished. So you will have to operate, until that time, under the 20-minute rule.

MR. NEVILLE: That is correct.

MR. LOGGINS: For the GMP?

MR. NEVILLE: For a GMP.

MR. LOGGINS: Okay.

CHAIRMAN MORELOCK: Well, and so when is variance on the 13 existing boilers up for renewal?

MR. NEVILLE: I can verify that.

CHAIRMAN MORELOCK: Because if you want to put them all together and we approve it, then all 14 are going to come under the same requirement of the 20-minute rule. So you may want to leave the 13 on the other variance --

MR. NEVILLE: Right.

CHAIRMAN MORELOCK: -- and then get a variance on this one, or you could actually run with the other variance with the 13 until you get this electric boiler ready.

MR. NEVILLE: Right.

CHAIRMAN MORELOCK: And then you could do what you're doing today, is to add this 14th boiler to your existing variance.

MR. NEVILLE: Yes. That's what we would like to do.

MR. LOGGINS: That will be fine.

CHAIRMAN MORELOCK: Okay. So what I -- so correct me if I'm wrong, but from what I understand your desire is, you would like to get contingent approval for 14 vessels on a revised variance, because you're going to add the electric boiler to the other 13, and that will be contingent on corrections made to the manual based on comments to this meeting, hardwiring the e-stop to the new electric boiler, and a successful site visit by the Boiler Unit; is that correct?

MR. NEVILLE: That's correct.
MR. LOGGINS: That's correct.
MR. BOWERS: I also want them to confirm that the other 13 boilers are hardwired.
CHAIRMAN MORELOCK: Okay. And confirm the other 13 boilers are hardwired. So do I have a motion to that effect?
MR. BOWERS: I set the motion.
CHAIRMAN MORELOCK: Okay. Do I have a second?
DR. HARGROVE: I second.
CHAIRMAN MORELOCK: 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: Any opposed?
(No verbal response.)
CHAIRMAN MORELOCK: Gentlemen, you may proceed.
MR. NEVILLE: Again, I'm James Neville with Neville Engineering.
Leclerc Foods is located Kingsport, Tennessee. They package snack bars typically made from nuts. They're requesting a boiler variance for one boiler. This boiler is located in their boiler room, as shown on Figure 1 on the site plan. And the remote station is located near their process line on -- that's identified as approximately 85 feet from the boiler. That process line, the individuals, there's a line operator and a mixer that are within the vicinity of that remote station that are monitoring it. This boiler is only operated when that line is in operation. It's dedicated strictly for that line.
The boiler attendant is a maintenance technician, and as far as the qualifications of that maintenance technician, I'll let Dustin go over the details of how they qualify that maintenance technician.
MR. BOWERY: We just had an outside local company come in and send each person through a training course.
MR. BAILEY: Could you speak up a little bit.
MR. BOWERY: Sorry.
CHAIRMAN MORELOCK: All right. Do I have a motion to discuss?
MR. BAUGHMAN: So moved.
MR. BOWERS: Second.
CHAIRMAN MORELOCK: What comments does the Board have?
DR. HARGROVE: Can you describe, just for information, the training that's involved? You mentioned that someone comes in and provides training over a period of time. To your knowledge, can you describe the duration and who has provided that training, maybe, within the last year or so?
MR. BOWERY: We're actually doing a two-day training currently. And it's with Boiler Supply Company, is the name of the facility in our area. And they come in and they just do, like, a basic understanding of boilers, how to interpret what needs to be done, if there's a fault, how to correct any issues. But nothing as far as maintenance-related, replacing any parts or anything like that. Just basic boiler operations.
DR. HARGROVE: Does the mixer, as defined in the title, does that person participate in that training?
MR. BOWERY: Yes. We have them, maintenance, the line operators, and then the plant supervisor that is over that plant. We have two separate plants that are operated as separate entities. So that main person that's over that facility is in that training as well.
DR. HARGROVE: Thank you.
MR. BOWERY: Yes, sir.
CHAIRMAN MORELOCK: Other comments?
MR. BAUGHMAN: On the boiler emergency call list, page 11, it lists one job title, production manager. Page 9 refers to this call list. In particular, "If the remote stations
personnel is unable to communicate with the boiler attendant, they shall call the successive individuals on the emergency call list. I'm taking they will call the production manager over and over? Or --

MR. NEVILLE: That is correct. So since this is a dedicated line -- the boiler is dedicated to the line -- if the maintenance is not able to be reached for some reason, the only other person to call would be the production manager at that facility. So is that clear?

MR. BAUGHMAN: Yes. And I would assume there is a production more for each shift or --

MR. BOWERY: It's one shift and he's there at all times. If he's out for vacation, sick, whatever, there's a replacement there for him.

MR. BAUGHMAN: Very good.

Part of your safety for your personnel working on the production line, I take it, is probably hair nets and so forth?

MR. BOWERY: Yes, that's right.

MR. BAUGHMAN: Ear protection?

MR. BOWERY: At this facility, no.

whatever reason. It's a manmade device. And so I guess my concern is that the remote station is not being continuously actually manned. It's more of an enunciation station, that if we have an alarm, we're going to get an audible and a visual. I don't know if that quite meets the criteria of what we're --

MR. NEVILLE: That panel is right adjacent to the line. So, you know, if that boiler is operating, you know, there are individuals on the line, multiple individuals on the line.

MR. BAUGHMAN: Well, the line stops periodically. I take it that people go on break. They're not at the line for hours and hours without a break.

MR. BOWERY: They do take breaks, but there's always relief. It's a constant flow process and never shut down.

MR. BAUGHMAN: Okay.

MR. BOWERY: And when it is shut down, the boiler is down as well, so relief is always there.

MR. BAUGHMAN: Very good. Do you see where I'm --
of, was looking at remote station and boiler room and how that all coincided. So not being familiar, I needed to ask the questions. So how are the faults actually enunciated on the Honeywell RM7897A programmer? I see that Appendix C shows the Fault List taken from a drawing that was titled. MR. NEVILLE: Yes. MR. BAUGHMAN: But how are they actually enunciated at the job site? MR. NEVILLE: I mean, in enunciating, it's got an audible enunciator at the remote station. Alarm messages are not sent back to that, but there is an audible alarm and a visual alarm and an e-stop at that --

MR. BAUGHMAN: So it's not going to identify necessarily what the fault code was. It's that strictly enunciating that we've got an alarm.

MR. NEVILLE: Yes. A shutdown alarm.

MR. BAUGHMAN: Well, and that's why I was a little confused, because it gave us the fault list on what the alarms were but I didn't see the mechanism to enunciate those particular alarms.

MR. NEVILLE: Correct.

CHAIRMAN MORELOCK: But then when you look at their job functions in Appendix G, the line operator, the last line says, "when scheduled, performs the duty of the boiler attendant." And I'm assuming that would be remote attendant, correct?

MR. NEVILLE: That would be a remote attendant. Correct.

CHAIRMAN MORELOCK: And the same thing for the mixer as well, right?

MR. NEVILLE: That is correct.

CHAIRMAN MORELOCK: Okay. On page 7 for training, it just says, "The Engineering Controls Technician shall be responsible for training all incoming personnel assigned to boiler operations and for keeping a documentation log of initial training and annual training thereafter." But the boiler attendants, it just says, "shall be familiarized with the emergency procedures." And I think you want to maybe add a little more to actually what you're doing, especially if you're bringing in outside subject matter experts to train you. You don't necessarily have to list a specific name in the manual, but I would put a little more detail in there that you are having initial training and annual training.

Under normal duties on page 8, you're talking about, "If the boiler system is not functioning properly, a Boiler Attendant shall attend the boiler until the problem is corrected." And it's not mandatory, but you could say, like you have in other parts of your manual, per the rule, the 20-minute rule, put the reference for the 20-minute rule in there. And this is just an aging problem for me, but Appendix E in Figure 1, the yellow text is really, really hard for me to read. And that's all I have.

Does anybody have any other questions or comments?

MR. BAUGHMAN: Well, on our checklist under Number 38 --

MR. NEVILLE: Yes.

MR. BAUGHMAN: -- the printing on it came out funny where you can't read the referenced page numbers, and it kind of cut off the question on it also.
MR. NEVILLE: Okay. I'll fix that.

CHAIRMAN MORELOCK: Anything else?

(No verbal response.)

CHAIRMAN MORELOCK: Do I have a motion for this variance.

DR. HARGROVE: Motion to approve contingent on the inspection.

CHAIRMAN MORELOCK: So I have a motion to contingently approve this variance based upon a revision of the manual based on the comments from this meeting and a successful site visit by the Boiler Unit. Do I have a second?

MR. FOX: I'll second.

CHAIRMAN MORELOCK: Any other questions or comments?

(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: Gentlemen, you have a contingently approved variance.

MR. NEVILLE: Thank you.

CHAIRMAN MORELOCK: That takes us to Item 19-4, which is West Tennessee Healthcare, is requesting a variance for two high-pressure boilers. And while you guys are preparing to present, do I have a conflict of interest on this item?

(No verbal response.)

CHAIRMAN MORELOCK: Gentlemen, you may proceed.

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

MR. BRANDEBERRY: Rick Brandeberry, West Tennessee Healthcare, Dyersburg.

MR. NEVILLE: This hospital is located in Dyersburg, Tennessee. It's an approximately 225-bed acute care hospital. We're requesting two of the high-pressure boilers be added to a variance. These boilers are on demand 24/7, seven days a week. They furnish high-pressure steam for heat and sterilization.

In the site plan, on Figure 1, page 2, we show the location of the boiler room and the location of the remote station. The remote station is located on the second floor. And that is approximately, I believe, 175 feet away. That is a hardwired remote station. The remote station is staffed by the telemetry monitor technician. And the boiler attendant is -- there are four different job titles that would be classified as a boiler attendant. That is the plant operation and the supervisor, the maintenance HVAC technician, the maintenance technician, and sometimes the security officer would monitor only those operations. So they do not operate the boilers, but they could do the four-hour checks, as far as going by the boiler and taking readings. If there were any issues with the boilers, they would call in a boiler operator to come in and monitor that boiler. So the security officer is not qualified to.

The two boilers that are Burnham boilers, we list those in Appendix A. And both of those have Honeywell 7800 burner controllers on those.

And if there are any questions regarding this variance, I'll answer those for you.

CHAIRMAN MORELOCK: Do I have a motion to discuss?

MR. BOWERS: Motion to discuss.

CHAIRMAN MORELOCK: Okay. Second?

DR. HARGROVE: I second.

CHAIRMAN MORELOCK: Good.

MR. BAILEY: Mr. Chairman, I don't believe --

CHAIRMAN MORELOCK: I was getting ready to do that.

So do you have a conflict of interest?

MR. BAUGHMAN: I do not.

CHAIRMAN MORELOCK: What comments does the Board have on this variance request?

MR. BAUGHMAN: In regards to the cover letter, it just says the person writing the cover letter was Reba --

MR. NEVILLE: Celsor.

MR. BAUGHMAN: Yes, sir. They

MR. BRANDEBERRY: Yes, sir, they
MR. BAUGHMAN: Okay. So under the Appendix A, the Boiler Data Sheet and DA Data Sheet, I just want to make sure -- so we listed as a deaerator, but it's actually an atmospheric unit, correct?

MR. NEVILLE: That is correct.

MR. BAUGHMAN: Okay. Because it's got a rated capacity of pounds of steam per hour and so forth, so it's more of kind of a nomenclature in my own mind, a DA we usually refer to as a pressurized type of unit. But I just wanted to make sure that it was atmospheric and did not need a Tennessee or National Board Number associated.

MR. NEVILLE: That is correct.

CHAIRMAN MORELOCK: The only comments I had would be on page 1, second paragraph, first sentence, "The hospital will operate three (2) high-pressure boilers." So let's make that two.

On the Appendix D, organizational chart, for the security officer being listed as a boiler attendant, you may want to put monitor only and a parenthetical with that, just as you described in your opening comments.

When you look at Appendix G for job duties, I could not see where there were specific requirements for those specific job functions to serve as boiler attendants and remote station personnel. So you may want to add that.

MR. NEVILLE: Page G-4, that would -- the last line item on that does talk about that --

CHAIRMAN MORELOCK: Okay. So that would be the remote --

MR. NEVILLE: -- for the remote station.

CHAIRMAN MORELOCK: What about your boiler attendant?

MR. NEVILLE: I can verify -- or add that to it if it's not in there. But yes.

CHAIRMAN MORELOCK: Just a verification will be fine.

And how does the remote monitoring system prevent unauthorized access?

MR. NEVILLE: That system is password protected, both of those. I'll add that to -- it may show up in, actually, Appendix --

yes. So I guess it's B2, which is the 7800 series. It does talk about the password on the last paragraph where it talks about a personal three-digit password is required.

CHAIRMAN MORELOCK: Thank you very much.

DR. HARGROVE: Question: What differentiates the skills and responsibilities between the two maintenance technicians?

MR. BRENDBERRY: There is none. We have a lead boiler operator that's been there for 12 years, and I just have him trained. I'm the plant operation supervisor. I have been training the other two guys. I mean, they're all trained the same. They've been with the lead boiler operator for a month. Each one has to get -- they're not at his level, but pretty much.

DR. HARGROVE: Okay. Both receiving the same boiler training.

MR. BRENDBERRY: Yes, sir.

DR. HARGROVE: Okay. Even though their skill level or knowledge may be based on service?

MR. BRENDBERRY: Yes, sir.

DR. HARGROVE: One is an HVAC technician, correct?

MR. BRENDBERRY: Chris.

DR. HARGROVE: Okay. All right.

Thank you.

CHAIRMAN MORELOCK: Any other questions?

MR. FOX: Just a comment. The one thing I would like to see is a picture, or whatever, of the remote panel itself. That's one thing we were missing. We're not seeing the actual remote panel.

MR. NEVILLE: Okay. I guess what I would propose is that I add that to the equipment, Appendix B. I could add that to that appendix where it shows the picture of the remote station.

MR. FOX: That would be good.

MR. BAUGHMAN: Is this system installed already?

MR. BRENDBERRY: No.

MR. NEVILLE: No. It's to be.

MR. BAUGHMAN: That clarified because it did say will install, and that's why I was --

MR. NEVILLE: Right. I guess, on that, once it's installed, we can take the picture
and then put it in the manual. Do we have to wait
until it's installed before I get it to
Mr. Chapman to...

CHAIRMAN MORELOCK: I would say no,
because it's not a checklist requirement.

MR. NEVILLE: Okay.

CHAIRMAN MORELOCK: It does require
an equipment description, which you've provided.
That's something that we can talk, as a discussion
item, if we want to add that to the checklist.
But if it's a new installation, we obviously don't
want to delay that. I mean, what you could do is
you could add the photo later as a revision to the
manual.

MR. NEVILLE: On renewals, that's
much easier to put in there.

CHAIRMAN MORELOCK: Absolutely.

MR. NEVILLE: Putting it in on the
front end.

CHAIRMAN MORELOCK: Yes.

MR. NEVILLE: We're waiting until
it gets installed, so...

MR. BAUGHMAN: So how is your
boiler being attended to currently?

MR. BRENDBERRY: The lead boiler
operator checks every morning, and then every
20 minutes it's checked and everything is
recorded. On the first shift, it's by the boiler
operator, but second and third shift, it's done by
a security officer.

MR. BAUGHMAN: And so that security
officer is going back every 20 minutes?

MR. BRANDEBERRY: Yes, sir.

MR. BAUGHMAN: Wow.

MR. BRANDEBERRY: We added another
one.

DR. HARGROVE: What is the schedule
for procurement and installation?

MR. BRENDBERRY: Within three
months.

CHAIRMAN MORELOCK: Any other
questions or comments?

(No verbal response.)

CHAIRMAN MORELOCK: Do I have a
motion for this variance?

MR. BOWERS: Motion to approve,
contingent on updating the manual and a site visit
by the chief.

CHAIRMAN MORELOCK: Okay. Do I
have a second?

MR. FOX: I second.

CHAIRMAN MORELOCK: Okay. Any
further 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,
11 not voting?

(No verbal response.)

CHAIRMAN MORELOCK: Gentlemen, you
have a contingently approved variance manual.
That takes us to new business
Item 19-5, PolyOne Corporation, requesting a
variance for two high-pressure boilers.
Is there a conflict of interest on
this particular item?

(No verbal response.)

CHAIRMAN MORELOCK: Okay. You may
proceed.

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

MR. WORLEY: I'm Chad Worley with
PolyOne in Dyersburg.

MR. NEVILLE: PolyOne is a
manufacturing plant located in Dyersburg. They
produce plastic pellets for the automotive
industry.

Today, our request is for two
high-pressure boilers. These boilers operate 24/7
furnishing high-pressure steam for process and
building heating.

In our site plan, we show the
distance from the boiler room to the control room.
It's approximately 389 feet. The individuals that
will be at the remote station will be the
production associate. Also, the production
maintenance of the Pro-Ma is how they turn that
individual. At the plant will be the boiler
attendant.

We list the two boilers. One is a
Cleaver Brooks boiler; the other is a Superior
boiler. Those are listed in Appendix A. Both of
these boilers have the Cleaver Brooks Hawk ICS
control system.

We list the fault list in Appendix C,
boiler controller.

The organizational chart is in
·1· Appendix D.
·2· · · · · · · ·Are there any questions?
·3· · · · · · · · ·CHAIRMAN MORELOCK: All right. Do
·4· I have a motion to discuss?
·5· · · · · · · · ·MR. BAUGHMAN: So moved.
·6· · · · · · · · ·CHAIRMAN MORELOCK: Second?
·7· · · · · · · · ·MR. BOWERS: Second.
·8· · · · · · · · ·CHAIRMAN MORELOCK: All right.
·9· What questions or comments do you have?
10· · · · · · · ·(No verbal response.)
11· · · · · · · · ·CHAIRMAN MORELOCK: Well, gentlemen, as I noted earlier, I have the same
12· problem with this manual as I did with the last
13· one. I'm getting old and I can't read Appendix D
14· very well. So the org chart is hard to read.
15· · · · · · · · ·MR. NEVILLE: I will rotate that
16· and enlarge for all of us.
17· · · · · · · · ·CHAIRMAN MORELOCK: Thank you very
18· much. And that's the only comment I have on this
19· manual.
20· · · · · · · · ·MR. FOX: I do have something I
21· would like to have clarified. On Appendix B,
22· where you're showing the description of CB-Hawk
23· and you get down to the burner controller --
24· · · · · · · · ·MR. NEVILLE: Yes.

1· · · · · · · · ·CHAIRMAN MORELOCK: Any other
2· questions or comments?
3· · · · · · · · ·MR. BAUGHMAN: Feedwater system,
4· are we using a DA or an atmospheric?
5· · · · · · · · ·MR. WORLEY: It's atmospheric. It
6· really shouldn't be labeled as DA.
7· · · · · · · · ·CHAIRMAN MORELOCK: Any other
8· questions or comments?
9· · · · · · · ·(No verbal response.)
10· · · · · · · · ·CHAIRMAN MORELOCK: Hearing none,
11· do I have a motion for this item?
12· · · · · · · · ·MR. BOWERS: Motion to approve,
13· contingent on updating the manual and a site visit
14· from the chief.
15· · · · · · · · ·CHAIRMAN MORELOCK: Okay. Do I
16· have a second?
17· · · · · · · · ·DR. HARGROVE: Second.
18· · · · · · · · ·CHAIRMAN MORELOCK: Any other
19· discussion?
20· · · · · · · ·(No verbal response.)
21· · · · · · · · ·CHAIRMAN MORELOCK: Hearing none,
22· I'll call the question. All in favor say "aye."
23· · · · · · · · ·(Affirmative response.)
24· · · · · · · · ·CHAIRMAN MORELOCK: Opposed?
25· · · · · · · ·(No verbal response.)

1· · · · · · · · ·CHAIRMAN MORELOCK: Abstention, not
2· voting?
3· · · · · · · ·(No verbal response.)
4· · · · · · · · ·CHAIRMAN MORELOCK: Gentlemen, you
5· have a contingently approved variance.
6· · · · · · · · ·Our next new business item is 19-6.
7· West Tennessee Healthcare is requesting a variance
8· for two high-pressure boilers.
9· · · · · · · · ·Is there a conflict of interest for
10· this item?
11· · · · · · · ·(No verbal response.)
12· · · · · · · · ·MR. NEVILLE: I'm James Neville
13· with Neville Engineering representing West
14· Tennessee Healthcare North Hospital.
15· · · · · · · · ·MR. JONES: Mark Jones, West
16· Tennessee Healthcare.
17· · · · · · · · ·MR. HOLYFIELD: Kyle Holyfield,
18· West Tennessee Healthcare.
19· · · · · · · · ·MR. SELLERS: Doug Sellers, West
20· Tennessee Healthcare.
21· · · · · · · · ·MR. NEVILLE: North Hospital is
22· located in Jackson, Tennessee. They operate two
23· high-pressure boilers. Those boilers operate on
24· demand 24/7 furnishing high-pressure steam for
25· heat and sterilization for the hospital.
The site plan on page 2 shows the location of the remote station at the PBX office, and the boiler room is approximately 275 feet away.

The individuals that will be monitoring the remote station are the communication center information specialist or the patients access representative, one. Those are the two job descriptions that will be monitoring that remote station continuously.

The boiler attendants are classified as four different positions. The Maintenance Mechanic I, the Maintenance Mechanic II, the Maintenance Mechanic III, and the security officer.

It lists the boilers in Appendix A-1 as a Kewanee and a Cleaver Brooks, are the two boilers we're requesting a variance on.

As far as the training of the boiler attendants, who would like to discuss, as far as the training on your boiler attendants as far as the boiler operators?

MR. JONES: We currently operate a main campus across town that's under a boiler variance much like this one. And we're incorporating the training of both facilities.

This is a facility that West Tennessee Healthcare purchased last year, and we have incorporated the training of their people with ours, and we currently are on the annual rotation to just do them all, so the boiler attendants as well as the remote station people.

MR. NEVILLE: Are there any further questions?

CHAIRMAN MORELOCK: So do I have a motion to discuss this item?

MR. FOX: I'll make a motion to discuss.

MR. BAUGHMAN: Second.

CHAIRMAN MORELOCK: Okay. What comments do you have?

DR. HARGROVE: I do want to say, Mr. Neville, a much better, readable organizational chart.

MR. NEVILLE: Yes. I think the orientation is much better, and I think the color turned out.

CHAIRMAN MORELOCK: I have a comment. If you look at pages 9 and 10 of your emergency procedures, what you see on page 9 for time is that on Item 6, "if the remote attendant is unable to communicate with the boiler attendant within three minutes." And then when you go to page 10, which is your emergency procedure, you cut that back to one. And I know on some of the other manuals you've given that remote attendant two or three opportunities to try to make contact, a minute each that would add up to that total of two or three minutes.

MR. NEVILLE: Right.

CHAIRMAN MORELOCK: So just word that accordingly, however you want that to be.

MR. NEVILLE: We'll change that on page 9.

CHAIRMAN MORELOCK: What other questions do you have?

MR. BAUGHMAN: As far as personnel at the remote station, we're continuously staffed by a Communications Center Information Specialist or a Patient Access Representative I.

MR. NEVILLE: Yes.

MR. BAUGHMAN: Thank you. So there's one or other at the remote station, correct?

MR. NEVILLE: (Nods head.)
CHAIRMAN MORELOCK: Do I have a motion for this requested variance?

MR. BOWERS: Motion to approve, contingent on updating the manual and a visit from the chief.

DR. HARGROVE: Second.

CHAIRMAN MORELOCK: Okay. Any other questions or comments?

(Clarification: 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: Gentlemen, you have a contingently approved variance.

MR. NEVILLE: Thank you.

CHAIRMAN MORELOCK: Thank you.

Our next item is new business Item 19-7, TriStar Centennial Medical Center, requesting a variance for seven high-pressure boilers.

Is there a conflict of interest for this particular item?

(No verbal response.)

MR. NEVILLE: James Neville with Neville Engineering. I would like to present a boiler variance request for TriStar Centennial Medical Center located here in Nashville, Tennessee, an approximately 686-bed hospital.

The hospital operates seven high-pressure boilers. Those are operated on demand 24/7, seven days a week. They provide steam for space heating, potable water, heating, dietary equipment, sterilizers, and humidification as well.

There are two powerhouses that I would like to show you in the site plan, Figure 1 of the site plan. There's powerhouse 1 that there are three boilers in, and then powerhouse 2 is the newest powerhouse, which has four boilers. Pardon me. I show on E-1, that powerhouse 1 is with the four boilers and powerhouse 2 with the three boilers.

Mr. McFarland: And that new powerhouse is starting to into operation. We added four floors to the tower, 250,000 square feet, and so we added that powerhouse because, from the load perspective on both the chillers and the boilers, we needed the additional capacity, so we built the new powerhouse. And it should be totally in operation, probably, in the next month.

MR. NEVILLE: So the remote station is located at the security office, it will be located. So they're in the process of installing that remote station now.

MR. MCFARLAND: And it is hardwired.

MR. NEVILLE: As far as the personnel at the remote station, those are security officers or the security supervisor.

Those were the two that we're listing in that position.

As far as the boiler attendants on page 7, we list three different positions for that. That's the HVAC Tech I, HVAC Tech II, and the HVAC Tech III.

And Mr. McFarland can talk about the training of those, as far as to be qualified as boiler operators.

MR. MCFARLAND: Yeah. Our lead boiler operator has been with Centennial for 25 years. He takes care of a lot of the day-to-day training. And I'll be providing some training from the manufacturers of the new equipment we're getting. And then I'll be responsible for keeping -- continuing, on an annual basis, to do training for -- we don't have a whole lot of turnover in those classifications, but, you know, if we have new guys that come in or -- if they're like me, after a while, they need to be reminded about what their duties are. So I'll be taking care of that.

MR. NEVILLE: On page 10, we list the emergency procedures if the boiler was to go into alarm and the procedure for communicating with the boiler attendants. That's via radio or mobile phone.

MR. MCFARLAND: And the security office is manned 24 hours a day continually. If somebody has to go to the restroom or go to eat or be on break, they're relieved. There's never a time when that location is not manned, because, obviously, there's -- you know, the facility is so large that it stays busy 24 hours a day.

MR. NEVILLE: We list the boilers in Appendix A, the seven boilers, and we identify...
which one is in powerhouse 1 versus powerhouse 2.

MR. BAUGHMAN: Mr. McFarland, are you yourself responsible for implementing the provisions of the variance?

MR. MCFARLAND: Yes, I will be. MR. BAUGHMAN: So we'll need to make a change, then, to the current system description, because it gives that as --

MR. MCFARLAND: Well, that was -- MR. BAUGHMAN: -- Mr. Garret.

MR. MCFARLAND: Well, he is my supervisor, and he's the day-to-day.

MR. BAUGHMAN: Okay.

MR. MCFARLAND: He works for me, and then I've got 24 folks that work -- that he manages. And so I guess that's why we showed it like that. But does it need to be -- and does it need to say facility manager so in case some day I ever were to retire, then it wouldn't be...

MR. BAUGHMAN: I was just getting it clear in my own mind, so the answers to that, I don't know.

CHAIRMAN MORELOCK: Well, when you have a variance and it comes up for renewal in three years, if there's really no technical change to the manual, if you change some names and things like that, then the Boiler Unit can review that and approve that with you. It would be --

MR. NEVILLE: Right. That would just go to Mr. Chapman.

CHAIRMAN MORELOCK: So really, when it comes back to us, is if you're making a technical change to the manual, your control system, your boilers, your DAs -- well, not necessarily your DAs -- but anything that would be a technical change to the way you're doing your remote monitoring and operating your boilers, that would come back to us.

MR. MCFARLAND: Okay. Okay.

MR. BAUGHMAN: Thank you.

MR. BOWERS: The question I have, you have, I guess, the boiler operator or boiler attendant, he's the HVAC person, too, right?

MR. MCFARLAND: Yes.

MR. BOWERS: You have a lot of boilers there, two different boiler rooms, and you talked about the daily attendant having responsibilities. There's a lot of responsibility for that many boilers. You're talking about the water test, you're talking about the low-water cutoffs. And then you have two different boiler rooms that are separated. How do they divide that up, whose responsibilities --

MR. MCFARLAND: We are staffing the new boiler room completely separate. It's going to have -- because we do have 24-hour-a-day coverage in the existing powerhouse now. In saying that, obviously, at this point, we're not monitoring the boilers every 20 minutes because those guys -- he's got a large area to take care of.

And the new boiler house will be -- will have somebody in it 24 hours a day, just like the existing boiler room does.

MR. BOWERS: So you have a main operator who does the water tests --

MR. MCFARLAND: Yes.

MR. BOWERS: -- who does the daily functions?

MR. MCFARLAND: Yes.

MR. BOWERS: So he won't get pulled away for working on air conditioning?

MR. MCFARLAND: No, sir.

MR. BOWERS: So what's his primary responsibility?
boiler house.

MR. BAUGHMAN: And we have not ever had an existing variance at this location?

MR. MCFARLAND: No, sir. It's interesting, isn't it? I was surprised.

MR. BAUGHMAN: Yeah. Well, one of the boilers was a 2011, and the new ones are 2017. That's all right. I'm glad we're getting it attended to.

MR. MCFARLAND: Well, yeah. And, you know, in my experience, I was a regional engineer for HCA for 15 years. And even going across the country, it was a little surprising to me how many locations. You know, the states were kind of implementing it at different times, and I think that's what controlled it.

A lot of times, there was no pressure from the boiler board to do it in some of those states. But it's good. I'm excited that we're finally doing it. Sometimes it takes y'all saying something to get the hospital to do something, too, because this is going to be a fairly large expenditure. So they're a little reluctant just to do it if they don't get some kind of statement that they need to.

locations. So even if an alarm happened at both powerhouse 1 and 2 at the same time, there are still people that can respond to -- multiple people that can respond to either powerhouse.

CHAIRMAN MORELOCK: And so both powerhouses are going to be pretty much equally staffed, correct?

MR. MCFARLAND: Yes.

CHAIRMAN MORELOCK: So it's not like you're taking operators out of the first powerhouse to help with the second one. They're going to have two completely staffed powerhouses. And that's part of that large expenditure that the hospital is looking at.

MR. MCFARLAND: Exactly.

CHAIRMAN MORELOCK: Any other questions?

(No verbal response.)

CHAIRMAN MORELOCK: Do I have a motion for this variance?

MR. BAUGHMAN: So moved, contingent upon site visit and acceptance by the chief.

CHAIRMAN MORELOCK: And updating the manual as needed per the Tennessee Board's comments. Okay. Do I have a second?

MR. BOWERS: Second.

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

(No verbal response.)

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

(Affirmative response.)

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

MR. TOTH: Hello. My name is Marty
Toth. I'm with ECS Consulting. It feels like a little deja vu since there's been such a big gap there.

I am here representing Parkwest Medical Center out of Knoxville, Tennessee, for a new issuance to a boiler remote variance.

I would like to introduce my partners here. We've got Dejan Veljkovic, who is the service facilities manager, and Jeff Benson, who is a corporate director of engineering.

And so what we have -- at Parkwest, currently, we have four high-pressure boilers, two fire-tube 200-horsepower, and two fire-tube 300-horsepower Cleaver Brooks boilers. And we also have a deaerator, a pressurized deaerator, all of which are registered and inspected with the State of Tennessee.

Just to preface, you will notice in the manual that the actual panel itself has room for a future addition. We are in the process of installing another 200-horsepower Cleaver Brooks boiler. That will be brought before the Board once that has been completed and added to.

The boilers in question are monitored remotely at the security dispatcher room.

Currently, the security dispatch has three individuals that man that post. We also have certified boiler attendants that work for the engineering department. Mr. Veljkovic will also be a certified attendant, as you've seen in the manual, along with his team leader, and on down through the actual facility service technicians, and, also, the security dispatch.

Again, these are -- and I know that the Board is very aware of this, having a boiler attendant, somebody that is certified as a boiler attendant, on site 24/7, these people will be qualified as such. There will be a point in time during the weekend that there will be an engineering department boiler attendant on call, and the service -- or security dispatcher will serve as the boiler attendant.

In the case of an alarm, there will be -- the process will still go as it reads. The e-stop will be pressed, the security dispatcher, who is a boiler attendant, will report to the boiler room to ensure there are no adverse conditions. That attendant will not try to restart the boiler. They will call in an engineering department boiler attendant to come in and investigate.

And I'm open for any questions that you may have.

CHAIRMAN MORELOCK: Motion to discuss?

MR. BAUGHMAN: So moved.

CHAIRMAN MORELOCK: Second?

MR. BOWERS: Second.

CHAIRMAN MORELOCK: Okay. What comments do you have?

MR. TOTH: And if I may add, you are going to see one editorial change in the illustration of the remote panel that's being constructed. The location of that remote panel has been revised, and it is located in the security dispatch room on the lower level of the hospital, versus what you show in your book.

As you can see from the site plan, the security dispatch room is almost literally below the boiler room, very close in proximity from the boiler room itself. The e-stops are hardwired directly from the boilers to the e-stops. The hospital does have a Medisys system, but that is not part of the boiler variance.

MR. BAUGHMAN: So on that remote panel, Marty -- we've talked about it in the other manuals -- it says "Note: Mounted at security station in east wing hospital building."

MR. TOTH: Again, as I alluded to, that is mounted in the security dispatch on the lower level. And that has been revised on the copy and will be submitted to the chief inspector's copy for inspection.

MR. BAUGHMAN: The cover letter states that this is a new issuance. But in our checklist it shows modified and renewal.

MR. TOTH: That would be a mistake on my part. It is a new issuance.

MR. BAUGHMAN: Thank you.

CHAIRMAN MORELOCK: Other questions?

(No verbal response.)

CHAIRMAN MORELOCK: I just have the same comment I had on the last one.

MR. TOTH: Org chart?

CHAIRMAN MORELOCK: Yes. As far as just identifying who the boiler attendants are and the remote monitors.

MR. TOTH: I smile, Mr. Chairman,
because during our pre-meeting, Mr. Veljkovic says, "It doesn't show the boiler attendant or remote attendant." So I've got to give him a pat on the back.

CHAIRMAN MORELOCK: Good eye.

MR. TOTH: There you go. Good job.

CHAIRMAN MORELOCK: What other questions does the Board have?

MR. BAUGHMAN: So on the site plan, the first floor, page 13, Figure 1, so I was looking at Boiler Number 1 and Boiler Number 2, and then where the DA and Number 3 and Number 4 is. But I was looking at just the accessibility into that room and looking at -- there's a stairwell, it looks like.

MR. TOTH: Yes. And the accessibility into that room, please note that between Boiler 1 and Boiler 2, that is not a solid wall. That is a walkway through there with just columns. There is accessibility that is a walkway that comes from the space where you see "mechanical room." There is, also, coming from the emergency generators there in the 351. So there's multiple sites of egress and ingress with, also, the required e-stops in place.

MR. BAUGHMAN: At each point of egress?

MR. TOTH: At each point. And, again, there are modifications that we are doing at this time with regard to the capital investment of the new Number 5 boiler that we're going to make sure that everything is updated appropriately.

MR. BAUGHMAN: Where is Number 5 proposed to go in at?

MR. TOTH: Number 5 will be right next to Number 3 and Number 4, right where it reads boiler room. Number 5, again, is a 200-horsepower, so it's smaller. Attention has been made where the controls of that boiler are accessible that we do allow for the requirement clearance between the two boilers and the wall.

MR. BOWERS: And ventilation?

MR. TOTH: Ventilation, we've got plenty of that.

CHAIRMAN MORELOCK: Other questions or comments?

(No verbal response.)

CHAIRMAN MORELOCK: All right. Hearing none, do I have a motion for this variance?

MR. BAUGHMAN: So moved, contingent.

MR. TOTH: Contingent upon the org chart and contingent upon the diagram, which has already been made.

CHAIRMAN MORELOCK: Contingent on the comments made by the Tennessee Board today and a successful site visit from the Boiler Unit.

MR. TOTH: Can you please tell me, what was there anything else besides the org chart? What was the other thing -- and the diagram that's already been done?

CHAIRMAN MORELOCK: Well, the question about the new issuance, which you've already taken care of.

MR. TOTH: Yes, thank you. That was it.

CHAIRMAN MORELOCK: Okay. Do I have a second?

MR. FOX: Second.

CHAIRMAN MORELOCK: Okay. Any questions or comments.

(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: Gentlemen, you have a contingently approved variance.

MR. TOTH: Thank you.

CHAIRMAN MORELOCK: Thank you.

So that will take us to Item 9 on our agenda, open discussion items. And Deborah Rhone will provide us a number of -- the number of inspections being performed at Wacker Polysilicon.

MS. RHONE: Yes. That was during the discussion, during the December board meeting, with the number of inspections performed at Wacker was 362 inspections, were performed in 2018.

There are a total of 764 vessels located at Wacker. And thus far for 2019, there have been 74 inspections completed at that location.

CHAIRMAN MORELOCK: Very good. Any questions about that? Mr. Bowers was the one that was very good on asking questions, that you've got...
764 vessels and how many are being inspected. So thank you for bringing that to the Board's attention, as well as our visitors, and it looks like we've got numbers that are more in line with what you would expect for inspections on that facility. So that's very good.

MR. BAUGHMAN: Deborah, that was 74 completed to date?

MS. RHONE: Yes, to date.

MR. BAUGHMAN: So for the first quarter, we've done 74. So for everything to get up and going, we've got to pick up the pace for the rest of the quarters, I guess. If we did that many per quarter, we're --

MS. RHONE: No, no, no. The total for 2018 was 362 for the entire year.


CHAIRMAN MORELOCK: Okay. Any more questions about that?

(No verbal response.)

CHAIRMAN MORELOCK: All right. Our next discussion item is Doris Barnett will provide a quarterly update on the boiler computer system and Jurisdiction Online.

MS. BARNETT: Good afternoon. As you know, I'm the IT liaison for the Jurisdiction Online. And we're working to move boilers into Jurisdiction Online sometime later this year. The really good plus about this system to me is the fact that everybody will be on the same system for tracking inspections, and, also, it will allow online payments and emailing of invoices. Those are both huge items we've been looking to do for quite a while.

Right now, we are still doing some requirement gathering, some scope planning, but we've also started on doing the reporting and letters and such that be coming out of JO. Of course, they don't have the date to back it up at this moment. It's still in the test system. Sam and Chris have given you the numbers for the various pieces we're working with.

The JO system will allow us to track delinquent past-due inspections, which we don't have an enormous number of those compared to how many live boilers we actually have, active boilers. It will also give us a good way to track code violations and compare those to delinquents.

I don't know if -- I didn't hear you, Sam, say how many actual active boilers we've got. We've got close to 71,000, if I'm not wrong on that number.

MR. CHAPMAN: Active boilers, 70,736.

MS. BARNETT: So, very close to 71,000.

Our anticipation is that, working with JO, it will be a more user-friendly system that will have more accurate data. The data itself is accurate in our current system. It's just that sometimes reporting doesn't agree from one screen to another. And we're looking to have that corrected. That was an old audit finding, and we want to correct anything that was outstanding from any of our audits.

We're also looking forward to being able to sending invoices by email. Currently, we can't, although the Unit is very proactive in gathering email information so that when we do move into JO, that will be a top priority.

We don't have any estimate now on how many of those will be emailed. I know that in the elevator system we put in last year, it's approximately 20 percent are being emailed. And that's just simply because we don't have the email information.

We are also reviewing the files to make sure our units file an SOP and noting where we can improve our audit findings.

We had an outstanding question. I believe Mr. Toth was the one that asked the question about does JO allow automatic payments. No. I said I would check on that, and I did. And there is no option at this time to allow the automated payments to come out. The payments can be made online; they just cannot be automated to be taken out.

MR. BOWERS: Can they do credit card payments?

MS. BARNETT: Yes. I believe we do Discover, MasterCard, Visa, and American Express. They can also use a check -- go online and use a check in the same way you can do it with other institutions. We just don't allow the automated.

MR. BOWERS: So when do you think -- is there a record kick-off date as far as
when you think you’ll be actually going online
when inspectors can start using it?

MS. BARNETT: Right now, we anticipate that we will have -- as of the next board meeting, which is, I think, June 12th, we should be in the last stages of testing and ready to go live either the last week or so in June or early July. I'm personally pushing for just after Independence Day.

MR. BAUGHMAN: What issues have you found, to date, that you can share with us?

MS. BARNETT: Right now we don't have any issues that we can share, because we don't have the system where we're actually able to go in and test. We're still doing the investigation and discussions.

DR. HARGROVE: Are there similar or other types of systems like this, maybe in other regions or states or what have you?

MS. BARNETT: There are several of the jurisdictions throughout the states that have Jurisdiction Online. There are also other applications in use. We went with Jurisdiction Online because it is the only application that has boilers, elevators, and amusement devices.

MR. BOWERS: North Carolina uses it. I know Alabama uses it. Mississipp, I think they use JOL.

MS. BARNETT: I believe Alabama and Illinois are also in there.

MR. BOWERS: Georgia, I think they may --

MS. BARNETT: That is correct.

Georgia and South Carolina, for sure. They're on my notes.

CHAIRMAN MORELOCK: Any other questions of Doris?

(NO VERBAL RESPONSE.)

CHAIRMAN MORELOCK: Thank you for the report.

MS. BARNETT: Thank you. Have a great afternoon.

CHAIRMAN MORELOCK: That takes us to Item 10.

MR. TOTH: Mr. Chairman?

CHAIRMAN MORELOCK: Yes.

MR. TOTH: Do we have an opportunity for any questions to the Board, or is that something we needed to discuss beforehand?

CHAIRMAN MORELOCK: What we like to do is we added this discussion item topic. So if you would, basically, get on the agenda by saying this is an item or items that you would like to discuss, and then that will --

MR. TOTH: -- that have come up during --

CHAIRMAN MORELOCK: Yeah. What we like to do is we added this discussion item topic. So if you would, basically, get on the agenda by saying this is an item or items that you would like to discuss, and then that will --

MR. TOTH: How about items that have come up during this meeting of discussion?

CHAIRMAN MORELOCK: Well, then, by all means I'll give you some time right now if you want to talk about it.

MR. TOTH: If you don't mind.

Just to kind of go back to where we talked about the steam generators. I had an opportunity to take a look. I was mistaken. It wasn't 2005. It was actually '92. It was truly the first board case that has been documented. It was BC9206. And what that's relating to, it is relating to steam generators and high-temp high-pressure boilers.

So as the board members know, the differentiation between a high-pressure steam boiler and a high-pressure water boiler has to do with steam, anything over 15psi of steam. And water is going to be anything that exceeds 160psia water or 250-degrees Fahrenheit.

So what that board case did was answer the question, did a steam generator, such as a Clayton boiler that had no fixed water level be required to be attended per the rule. And the response was for steam boilers, yes; for water boilers or more specifically to that board case, it was hot oil heaters, whereas --

CHAIRMAN MORELOCK: Fluid vaporizers?

MR. TOTH: Fluid vaporizers, right.

And so that was the intent, the question for that. So hopefully, that answers your question to that.

The other question I have, and it's a bit of a concern and it was brought up during one of the variances, is when we talk about the boiler operator, but in the realm of what we're discussing here, boiler attendant and boiler monitor, and recognizing I want to get assurances that we're going down the proper road here, or at least I am with my client, is that you can have individuals that are given the responsibility of taking whatever readings that are out there, as
long as you still have someone that is a qualified attendant on site. And the question comes up, we have a certain situations where you may have a security guard or you may have, in our case, a security dispatcher that's been given the responsibility as a boiler attendant. They need to be trained as a boiler attendant, not just a monitor.

And it kind of confused me a little bit, because I heard that there were some shifts where we just had boiler monitors, but they are also qualified to be the operator that's required by the law.

MR. BAUGHMAN: Well, even recently, we've had, I want to say, a nurses station, and that nurse could work in the position of a boiler attendant, when, in fact, she's a boiler monitor.

MR. TOTH: Sure. And that's where the understanding -- and my client that was here listened to that and says, "Well, hey, if they're just talking about a boiler monitor, can't we do this?"

I said, "I think you're kind of missing it. I want it to be put clear, and maybe the best thing for me to do before the June meeting is to submit a board interpretation and let you actually put it down in writing, because that is concerning. When we hear that, then they say, "Oh, well, they don't have to go through the proper training. They can just be somebody I'm going to show them what gauge to look at." Not under the variance. That's not it's intent.

MR. BOWERS: What's wrong with the term "boiler operator"? I mean, that's a term we've used over the years, and now we've got boiler attendant, which is kind of a blurred -- what is the attendant. Is he just a person who can come in there and take readings or is it a person who knows how to do what they need to do, low-water cutoffs, they need to do a water test, they need to do --

MR. TOTH: And they've been trained to --

MR. BOWERS: It's very blurred when you use the word "attendant." Some people think "attendant" is "monitor." Some people think "attendant" is "operator."

CHAIRMAN MORELOCK: But Harold, I think some of that comes from -- you know, Shelby County had certified boiler operators. And we've gone down that road of could we do that for the whole state and it's -- we've made a little bit of ground on it but not, and so the boiler attendant is somebody that doesn't have a certification but they've been trained to operate that boiler.

MR. TOTH: And if I may add to that. And the question has come up before this body before when they say, "Well, who certifies them?" Well, within the rules and regulations of the State of Tennessee, the certification is the responsibility of the owner/user. So when we answer that question, you'll see that they're, in other words, Parkwest Medical Center certified boiler attendant.

And to allude to your question, Mr. Bowers, when we get it under a certain definition, we can call it whatever we want as long as that manual stipulates what those responsibilities are.

One of the things that we've seen from years past is that blurred line between the word "attendant" and knowing that we have a remote attendant and we have a boiler attendant. And they have different qualifications, but they could also serve both roles as long as they are so qualified.

MR. BAUGHMAN: Well, even getting down, as we go further and you get to analyzing the 20-minute rule and the lack of some wording that needs to be in there to qualify -- as you said, the opener is the one that qualifies -- well, then it gets to be will the owner -- so it's a building, and that building is owned -- actually, it's a leased facility and it's owned by a real estate consortium out of Chicago, let's say. So as we qualify the word by the owner, is it the owner of the equipment or is it the owner of the building? Because in a lease facility, the boiler is part of the building itself. So at some point in time, we can go through and have some more, probably, clarification needed to help in this whole analysis process.

MR. TOTH: Yeah. I don't want to get my hand slapped for interrupting.

Great question. The thing is, when we look at it, we look at the rules and regulations, calling it an owner/user, just like the representation. It's the owner/user, owner or user, okay, not an owner/user company. We've had that discussion for about three hours 12 years
We won't do that again. But it is whoever is not just owning it. Maybe they owned it and operated it, but really it's who is operating it, who has got the ultimate responsibility for it. So when we look at the 20-minute rule -- and this is where we've talked about this for decades about what can we do about boiler operators or what can we do about more qualifications. When I explain it to people, if we require you to go look at that boiler every 20 minutes, that can be an individual that is taking a look and taking readings every 20 minutes, making sure that the boiler is not about to shake off of its foundation, as long as we're doing it every 20 minutes.

When we go into a situation where we're talking about boiler variances and spreading that out for four hours, we need to have some people that are a lot more qualified. And, you know, somebody that does a lot of training as you do, Mr. Baughman, we like to see people more qualified, people come to our classes, and you're, like, wow.

MR. BAUGHMAN: And so recently, we've run into two boilers that were operating under the variance and both of them had -- one had blown the site glass out of the rear and was throwing heat out and it'd catch on fire, and the other one had blown a gasket on the door, and there again, was throwing that fire and heat right out. And so that whole question came about, and my recommendation to them was, "You've got this four hour, but that doesn't mean you're mandated to check it just once every four hours.

MR. TOTH: That's right. That's right. It's a documented check, isn't it?

MR. BAUGHMAN: Yes. And so, you know, those are things that -- we never have that discussion because, there again, it's not part of our end of it. But we, as confident boiler people and in the safety end of it, want to have that conversation saying even though this thing is giving you the mandate that you can check it once every four hours, it's recommended that we check it more often than that. And I know we don't ever really have that discussion because it's not part of this. And although we discuss things that aren't part of this, as it is, but I would love to continue that mindset of not necessarily checking the boiler just once every four hours.

MR. TOTH: And to that, the client out in Chattanooga -- yes, the checklist, the requirements say once every four hours; their choice is to do it once every two hours. That's what they do.

And I encourage this body to continue to recommend that to the people that appear before it. We know it's every four hours. I highly recommend more often than that.

MR. BAUGHMAN: Well, you guys came out of a Navy background. And the number of times you check a boiler within that operational period versus what we're doing in the industry -- but I think we're heading in the right direction.

MR. TOTH: Thank you for the time.

CHAIRMAN MORELOCK: Very good.

DR. HARGROVE: I would add that in the context of the different titles, because I was looking at that, the importance of the job description between boiler monitor, the technician and a couple of other different titles that we all saw with regard to, you know boiler operations.

So for companies like Neville's and yours, that kind of advice to your client is, I think, critical for this Board.

MR. TOTH: And I do encourage that. That's a very good recommendation, Dr. Hargrove. Because I recommend that when I sit with my clients -- and I imagine James says the same thing where his -- is to let's call it -- what is it for you? Don't let me tell you what you call that individual. You tell me. And then I will consult you and advise you if that fits within the framework of what we're looking for.

And so when we -- I get those, you know, they say, "I'm a service technician," okay, that's why we define, you know, who is a boiler attendant, which area does that fall under. And so then you will see "service technician" as being a boiler attendant and put into the job description and put into the org chart, and things of that nature, or in the glossary of terms.

CHAIRMAN MORELOCK: And so it's a balancing act for the Tennessee Board of Boiler Rules in the fact that the engineer or the boiler operator or the service provider in this, we want to do define everything. But as Mr. Bailey will tell you, if we're not careful, somebody could come and...
say, "Well, you're excluding me from competing
with the products that I have to do the same
thing. So the ASME and the National Board are
both aware of that. That's why when you read
their requirements, people are saying, "Well, you
know, it ought to be more prescriptive," and it's,
like, you just -- you can't do that.

MR. TOTH: Right.

CHAIRMAN MORELOCK: So this is
where we need to work as taking out discussion
items. I think, you know, after what we've
learned today, we need to take another look at the
checklist and maybe to give it an update. And so
we can add that as discussion items and eventually
an active item for future board meetings.
And again, you know, I encourage
people to take advantage of this discussion topic
because it's really helpful to just have a good
open discussion. It gets recorded so people can
even read what we discussed.

So yes, your beautiful suit will be
forever mortified -- but I'm having too much fun
with that. But the long story short is, it is
good to have these conversations.

MR. NEVILLE: For the record, I do

have some information on 19-2, the University of
Tennessee Health Science Center. All of those
boilers are hardwired currently, and the new one
will be hardwired as well.

CHAIRMAN MORELOCK: Okay. Good.

Thank you for that update.

Anything else?

(No verbal response.)

CHAIRMAN MORELOCK: All right. All
hearts and minds cleared and we'll go to Item 11,
which is adjournment. And the next meeting will
be Wednesday, June 12th, here at the Department of
Labor. And I hope you-all have a very enjoyable
spring. Thank you.

END OF THE PROCEEDINGS.

CERTIFICATE

STATE OF TENNESSEE |
COUNTY OF WILLIAMSON |

I, Cassandra M. Beiling, a Notary Public
in the State of Tennessee, do hereby certify:

That the within is a true and accurate
transcript of the proceedings taken before the
Board and the Chief Inspector or the Chief
Inspector's Designee, Tennessee Department of
Labor & Workforce Development, Division of
Workplace Regulations and Compliance, Boiler Unit,
on the 13th day of March, 2019.

I further certify that I am not related to
any of the parties to this action, by blood or
marriage, and that I am in no way interested in
the outcome of this matter.

IN WITNESS WHEREOF, I have hereunto set my
hand this 3rd day of May, 2019.

Cassandra M. Beiling, CCR, LCR# 371
Notary Public State at Large
My commission expires: 3/15/2020
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