

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

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

QUARTERLY MEETING OF THE
STATE OF TENNESSEE
BOARD OF BOILER RULES

September 14, 2022

CASSANDRA M. BEILING, LCR# 371
STONE & GEORGE COURT REPORTING
2020 Fieldstone Parkway
Suite 900 - PMB 234
Franklin, Tennessee 37069
615.268.1244

1 APPEARANCES:

2 Brian Morelock, Chairman
Owner-User Representative3 David W. Baughman
4 Owner/User Representative
Allied Boiler & Supply, Inc.
5 4006 River Lane
Milton, Tennessee 371186 Micah Lashley, Board Member
7 Insurance Representative

8 Chris O'Guin, Chief Boiler Inspector

9 Philip Hickerson, Assistant Chief Boiler Inspector

10 Thomas Herrod
Assistant Commissioner, State of Tennessee11 Chance Deason, Esq.
12 Legal Counsel, State of Tennessee13 Dewayne Scott
Deputy Commissioner, State of Tennessee14 Michelle Irion
15 Boiler Board Secretary, State of Tennessee16 Guest Appearances:
17 James Neville, Neville Engineering

18 Lindsey Norton, Cormetech

19 Steve Courson, Wacker

20 R. Duane Hoagland, Wacker

21 Marty Toth, ECS Consulting

22 Rohan Scafe, Rinnai

23 Michael O'Connor, Mo's Mechanical

24 STONE & GEORGE COURT REPORTING
25 Cassandra M. Beiling, LCR

A G E N D A

- 1
- 2 I. Call Meeting to Order
- 3 II. Introductions and Announcements
- 4 III. Adoption of Agenda
- 5 IV. Approval of the June 15, 2022 Meeting
Minutes
- 6 V. Chief Boiler Inspector's Report
- 7 VI. Variance Report
- 8 VII. Old Business
9 22-05 Cormetech
- 10 VIII. New Business
22-09 Wacker Chemical Corporation
- 11 IX. Rule Case & Interpretations
12 BI 22-04 Clearance Requirements for
13 Wall-mounted Tankless Boilers
- 14 X. Open Discussion Items
None
- 15 XI. Announcement of Next Meeting
16 Unless the Board decides otherwise, the
17 next regularly scheduled meeting of the
Board of Boiler Rules will be held 9:00 a.m.
18 on December 14, 2022, at the State of
Tennessee of Department of Labor and
19 Workforce Development building located at
220 French Landing Drive, Nashville,
20 Tennessee.
- 21 XII. Adjournment

22

23

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

1 * * * * *

2 CHAIRMAN MORELOCK: Good
3 morning, everybody. I want to welcome you to the
4 September 2022 Tennessee Board of Boiler Rules
5 meeting. I apologize for a little bit of a late
6 start, but with traffic and things that have been
7 going on, we're here. So I hope you've signed in
8 and I hope you've got an agenda. If you don't,
9 they're on the back table.

10 And so we will -- our first order of
11 business is to bring the meeting to order. And
12 I've done that. And so I will next go to
13 announcements. And we'll start with you.

14 MR. BAUGHMAN: Announcement?

15 CHAIRMAN MORELOCK: No.
16 Introductions.

17 MR. BAUGHMAN: Dave Baughman,
18 Allied Boiler, board member.

19 CHAIRMAN MORELOCK: Brian
20 Morelock, board member.

21 MR. LASHLEY: Micah Lashley,
22 Insurance Representative, board member.

23 MR. DEASON: Chance Deason,
24 counsel for the Boiler Unit and substituting for
25 Dan Bailey.

1 MR. SCOTT: Dewayne Scott,
2 Deputy Commissioner.

3 MR. HERROD: Tom Herrod,
4 Assistant Commissioner, WRC.

5 MR. O'GUIN: Chris O'Guin, Chief
6 Inspector.

7 MR. HICKERSON: Philip
8 Hickerson, Assistant Chief Inspector.

9 MS. IRION: Michele Irion, board
10 secretary.

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

13 MR. O'CONNOR: Michael O'Connor
14 with Mo's Mechanical.

15 MR. HOAGLAND: Duane Hoagland,
16 Wacker.

17 MR. COURSON: Steve Courson,
18 Wacker.

19 MR. ROBINSON: Clarence Robinson
20 with Rinnai.

21 MS. BEASON: Sharon Beason with
22 Rinnai.

23 MR. NOBLET: Michael Noblet with
24 Rinnai.

25 MR. SCAFE: Rohan Scafe, Rinnai.

1 MR. NORTON: Lindsey Norton,
2 Cormetech.

3 MR. NEVILLE: James Neville,
4 Neville Engineering.

5 MS. SCHMID: Callon Schmid,
6 Butler Snow.

7 MR. GROVE: Matthew Grove,
8 Department of Labor Workforce Development.

9 MS. XIXIS: Tia Xixis,
10 Department of Labor.

11 CHAIRMAN MORELOCK: Thank you.

12 As far as announcements go, a quick
13 safety tip: If there was a need for inclement
14 weather or something, security would take us to a
15 safe location in the building. And if we needed
16 to exit the building, they would help us out to
17 the Rosa Parks side of the building to a safe
18 area. So that's my safety tip for today.

19 That takes us on to Adoption of the
20 Agenda. And before we vote on that, we are going
21 to table the Chief Inspector's Report and the
22 Variance Report. We're still gathering data for
23 that, so we will add that to the December meeting.

24 Are there any other changes,
25 corrections, additions to the agenda?

1 (No verbal response.)

2 CHAIRMAN MORELOCK: All right.
3 Hearing none, do I have a motion to adopt the
4 amended agenda?

5 MR. BAUGHMAN: So moved.

6 CHAIRMAN MORELOCK: Do I have a
7 second?

8 MR. LASHLEY: I'll second.

9 CHAIRMAN MORELOCK: I have a
10 second from Micah. All in favor say "aye."

11 (Affirmative response.)

12 CHAIRMAN MORELOCK: Opposed?

13 (No verbal response.)

14 CHAIRMAN MORELOCK: Abstentions,
15 not voting?

16 (No verbal response.)

17 CHAIRMAN MORELOCK: We have an
18 approved agenda.

19 That will take us on to the approval
20 of the June 15, 2022 meeting minutes. I hope
21 you've had an opportunity to review those.

22 Do I have a motion to adopt the June
23 meeting minutes?

24 MR. BAUGHMAN: So moved.

25 CHAIRMAN MORELOCK: I've got a

1 motion. Do I have a second?

2 MR. LASHLEY: Second.

3 CHAIRMAN MORELOCK: I have a
4 second. Any questions, corrections, additions?

5 (No verbal response.)

6 CHAIRMAN MORELOCK: Hearing
7 none, I'm going to call the question. All in
8 favor say "aye."

9 (Affirmative response.)

10 CHAIRMAN MORELOCK: Opposed?

11 (No verbal response.)

12 CHAIRMAN MORELOCK: Abstentions,
13 not voting?

14 (No verbal response.)

15 CHAIRMAN MORELOCK: So we have
16 approved minutes.

17 That will take us to Old Business,
18 which is Item 22-05. Cormetech requests
19 consideration for approval of a variance to the
20 boiler attendant requirement.

21 And so if you'll come to the public
22 podium, please, and state your name and present
23 your item.

24 While they're doing that, is there
25 any conflicts of interest on this item from the

1 board members?

2 (No verbal response.)

3 CHAIRMAN MORELOCK: No? No
4 conflicts.

5 MR. NEVILLE: Good morning. I'm
6 James Neville with Neville Engineering.

7 MR. NORTON: Lindsey Norton with
8 Cormetech.

9 MR. NEVILLE: At the last
10 meeting, we presented the Cormetech boiler
11 variance proposal requesting a boiler variance for
12 two Air boilers, the LX150s. And at the time,
13 there was, as far as the controls that are on
14 those boilers currently, it's the RM7800L.

15 And we have some additional
16 information that we provided, two different
17 sheets. It should be a B-5 and B-6 for the
18 equipment on that.

19 For the -- this variance had six
20 remote panels that were located around the
21 Cormetech plant. Those panels, we show a diagram
22 on it, on page B-5, that shows a master panel that
23 those six will report to. And then we also show
24 an example of what the remote panel will look
25 like.

1 Also, on B-6 we're showing the --
2 this is the emergency -- I mean, the relay that
3 will be used at -- for each of those boilers at
4 the remote station.

5 If there are additional questions, we
6 could take additional questions.

7 CHAIRMAN MORELOCK: Do I have a
8 motion to discuss?

9 MR. BAUGHMAN: So moved.

10 MR. LASHLEY: Second.

11 CHAIRMAN MORELOCK: What
12 questions or comments do the board members have?

13 MR. BAUGHMAN: Both of you,
14 thanks for coming back. This is Dave Baughman.
15 Thanks for coming back and discussing this,
16 Lindsey and James.

17 So going back over the notes from
18 when it was presented previously to where we're
19 re-presenting now, one of the notes I had was
20 regarding the expanded enunciator and its
21 obsolescence. And I notice it's still in the
22 manual. C-5 still gives that as being -- under
23 Appendix B. Or maybe it's -- I've got a page of
24 C-5.

25 MR. NEVILLE: Right. So -- yes.

1 C-5 will be taken out. We will not be using the
2 expanded enunciator on this. We will be trying to
3 the -- the safety relays will be tied to the run
4 circuit of the boiler on this, as far as the
5 shutdown.

6 MR. BAUGHMAN: So we're still
7 using the 7800 series programmer.

8 MR. NEVILLE: That is correct.

9 MR. BAUGHMAN: Okay. Are you
10 replacing the enunciation -- the expanded
11 enunciator with the standard S7800A1142 keyboard
12 display?

13 MR. NEVILLE: (No verbal
14 response.)

15 MR. BAUGHMAN: There's got to be
16 a modbus, in other words, that this would tie
17 into. Otherwise, you're just tying into one alarm
18 circuit. So I would anticipate that it would be
19 replaced with that standard keyboard. But I just
20 wanted to make sure, in my own mind, that that's
21 the direction you guys are going.

22 MR. NEVILLE: Yes.

23 MR. BAUGHMAN: And that is?

24 MR. NEVILLE: Yes.

25 MR. BAUGHMAN: Okay. Very good.

1 So C-5, whatever else relates to that
2 will be taken out of this manual.

3 MR. NEVILLE: That is correct.

4 MR. BAUGHMAN: Okay. For our
5 records.

6 Within the e-stop itself, this is a
7 relay, correct?

8 MR. NEVILLE: That is correct.

9 MR. BAUGHMAN: So my issue with
10 that would be that if we've got a relay that fails
11 and that our e-stop is tied into a relay instead
12 of directly hardwired to the e-stop, if that's
13 something that's within our acceptance in our
14 rules for our variance, my thought was that the
15 e-stop had to be hardwired and not through a relay
16 itself.

17 I know our safety alarms alarm out
18 and can alarm through relay, but that the e-stop
19 itself had to be wired into the remote panel in a
20 hardwired mechanism. So if that's the case, then
21 would not be able to use this relay, but I'll
22 leave that open for discussion because I'm not
23 quite sure. That was just my interpretation of
24 the way the codes were set up.

25 And the only other thing I've got,

1 James and Lindsey, is under the boiler attendant
2 procedures, on 7, in particular, under training --

3 MR. NEVILLE: Page 7?

4 MR. BAUGHMAN: Yes, sir.

5 MR. NEVILLE: Okay.

6 MR. BAUGHMAN: -- is the
7 statement of: Number 1 boiler attendant shall be
8 familiarized with the emergency procedures through
9 frequent actuation of the alarm circuits for the
10 boilers.

11 Who is in charge of that training?
12 And that may be identified in another part of the
13 manual. But it doesn't identify it within that
14 statement there. And that would be a great place
15 to address it.

16 MR. NORTON: Combustion Controls
17 is the vender that I've been talking to about the
18 training, to come in and give all of our
19 maintenance personnel the proper training.

20 We will do recurring trainings
21 annually for all the attendants, anybody in the
22 plant that would be the personnel that would react
23 to the alarm and hit the e-stop.

24 MR. NEVILLE: As far as training
25 to the variance, is that what you're referring to?

1 Or are you talking boiler training?

2 MR. BAUGHMAN: No. I'm talking
3 about the training to the variance.

4 MR. NEVILLE: To the variance,
5 yes, sir. That would be handled by the facility's
6 project manager.

7 MR. BAUGHMAN: Is there anywhere
8 else in the manual that that is addressed that I
9 just missed?

10 MR. LASHLEY: And if so, can we
11 add a reference?

12 MR. NEVILLE: Yeah. I mean, we
13 can add the reference to that. Let's see. We
14 will add that line item under the training, under
15 boiler attendant procedure and for the remote
16 station.

17 MR. BAUGHMAN: And as a further,
18 who's responsible for that training also? In
19 other words, that training would be provided by
20 whoever may be there?

21 MR. NEVILLE: Right. Both of
22 those trainings are -- the facility's project
23 manager will be in charge of training both of
24 those individuals.

25 MR. BAUGHMAN: And to further

1 that, the next statement down just states that the
2 boiler emergency procedures shall be kept in the
3 boiler room and at the remote stations. New
4 personnel assigned to boiler operations will be
5 required to read and be familiar with these
6 procedures.

7 It doesn't necessarily say that they
8 will be trained in those procedures. It just says
9 they need to read them and be familiar.

10 MR. NEVILLE: Well, that last
11 sentence says "documentation log of the training
12 shall be kept on file," so...

13 MR. BAUGHMAN: Yes. I just have
14 a problem with reading and being familiar versus
15 actual training. So I didn't know quite how to
16 word that. It just didn't sound like -- I wanted
17 to make sure that somebody wasn't going to be just
18 giving an emergency procedure and say read this
19 and be familiar with it and not necessarily be
20 trained. I do understand the training log, and
21 you've got a sample of it back here in the back.

22 MR. NORTON: We will train any
23 new hires, you know, through their orientation
24 like we would with a lockout/tagout or art flash,
25 so forth. They would go through that training

1 when they first hire in and then, of course,
2 reoccur annually.

3 MR. BAUGHMAN: So you operate --
4 I'm sorry. Go ahead, James.

5 MR. NEVILLE: We can change the
6 wording on that sentence under training. You
7 know, it's under the training paragraph, but we'll
8 reiterate the training is the intention there.

9 MR. BAUGHMAN: You bet. I just
10 want to make sure that what is written and what is
11 happening are all congruent and on the same page.

12 MR. O'GUIN: Chris O'Guin, Chief
13 Inspector.

14 Just, I guess, to make you feel a
15 little more comfortable, when we go, we do
16 unannounced visits for a variance inspection. And
17 if they announce that we're on site, there will be
18 no inspection that day, and so we'll come back
19 another day unannounced and we'll make sure nobody
20 knows we're on site. Only the boiler operator
21 will know. That way we can test the remote
22 station and make sure they are following
23 procedure.

24 MR. BAUGHMAN: Thank you, Chief.

25 So in this 24-hour schedule, I take

1 it, 24/7, are there ever security personnel that
2 are in charge of going and making the checks on
3 the boilers, or is that part of their duties?

4 MR. NORTON: Well, I believe
5 it's the four-hour -- we'll be doing the checks
6 every four hours. It will be maintenance
7 personnel. And then at shift change, they'll do
8 the test at each station and make sure they're
9 still operating, still shut down the boilers.

10 MR. BAUGHMAN: But there won't
11 ever be security personnel that will have any
12 responsibilities on remote monitoring?

13 MR. NEVILLE: No, sir. The
14 production associate is our individual, so
15 there's not a...

16 MR. BAUGHMAN: Where is your
17 remote monitoring station located?

18 MR. NEVILLE: There are six of
19 those stations, and we show it on page 2 of the
20 site plan. So they are located strategically
21 around the production facility.

22 MR. BAUGHMAN: I'll just make
23 one comment that even with my glasses, I find
24 Figure 1 on the site plan hard to read. Maybe my
25 other compadres can read it, but I really --

1 MR. NEVILLE: We can put that on
2 11 by 17 and make it bigger.

3 CHAIRMAN MORELOCK: That would
4 be good.

5 MR. BAUGHMAN: Yes. Because I
6 cannot actually see --

7 MR. NEVILLE: We can make it a
8 fold-out.

9 MR. BAUGHMAN: Okay.

10 MR. LASHLEY: I can see, but I
11 only see five.

12 MR. DEASON: Excuse me for a
13 second. Could you -- it would be a whole lot
14 better if you would wait until the other person
15 stops talking before you start going back and
16 forth.

17 MR. BAUGHMAN: So if you would,
18 please, James, can you just identify on the small
19 drawing that we've got where the six remote panels
20 are at?

21 MR. NEVILLE: Right outside the
22 boiler room is the sixth one, so that's -- I think
23 that's -- I mean, it's a short line, so you're
24 probably missing that. So right outside the
25 boiler room and then if go around counter

1 clockwise, it would be two, then, on the left
2 side. Six is in the warehouse, I guess.

3 MR. BAUGHMAN: And all these are
4 remote panels and not just e-stops?

5 MR. NEVILLE: That is correct.
6 And it's the remote panel that -- so it has the
7 enunciator flashing indicator just like we show in
8 this diagram.

9 MR. BAUGHMAN: So on these
10 alarms, I see on the remote panel -- so if -- so
11 there's a master panel and a remote panel. Where
12 is the master panel located?

13 MR. NORTON: Just outside the
14 boiler room.

15 MR. BAUGHMAN: Okay. Thank you.
16 And the other five are the remote panels?

17 MR. NORTON: Yes, sir, that's
18 correct.

19 MR. BAUGHMAN: What kind of
20 alarm -- I see a Boiler 1 alarm and Boiler 2
21 alarm, R and R. What kind of alarms are those?

22 MR. NORTON: I'm not sure the
23 brand that they were spec'g out for those controls
24 is, but there'll just be an enunciator, there'll
25 be a flashing light, and then a horn. Two,

1 actually. Well -- yes. Two, actually, for each
2 station, for each boiler.

3 MR. BAUGHMAN: Okay. And on the
4 remote panel itself?

5 MR. NORTON: Yes, that's
6 correct.

7 MR. BAUGHMAN: Okay. So each
8 remote panel will have an audible alarm and a
9 visual alarm?

10 MR. NEVILLE: Yes.

11 MR. BAUGHMAN: Are the remote
12 panels acting as e-stops also?

13 MR. NEVILLE: Yes.

14 MR. BAUGHMAN: And the master
15 panel that's right outside of the boiler room
16 itself, it acts as the e-stop also.

17 MR. NORTON: That's correct.

18 MR. BAUGHMAN: And I'm noticing
19 it says local e-stop, and then another -- so
20 there's a boiler room e-stop and then a local
21 e-stop and then another button that says local
22 e-stop, so I was a little confused on all that.

23 The one e-stop outside of the boiler
24 room would need to be wired in such to shut both
25 boilers off, if I'm not mistaken, and do that

1 hardwired --

2 MR. NEVILLE: Yes.

3 MR. BAUGHMAN: -- instead of
4 going back through a relay.

5 Okay. I'll hold for right now.
6 Thank you.

7 CHAIRMAN MORELOCK: So on
8 pages 7 through 9 -- this is Item 37 on the
9 checklist -- our tests performed at the boiler,
10 you may want to add some detail to that as to what
11 is to be performed at the boiler.

12 And then on Item 42 of the checklist,
13 it discusses having a placard showing emergency
14 procedures. It wouldn't hurt to have a picture of
15 that placard. That would also help you with the
16 training to the manual as well.

17 MR. NEVILLE: We can add that.

18 MR. BAUGHMAN: Okay.

19 CHAIRMAN MORELOCK: Does this
20 boiler have a deaerator?

21 MR. NORTON: I don't believe so.

22 CHAIRMAN MORELOCK: Okay. That
23 answers that question, then. Thank you. That's
24 all the comments I have.

25 Micah, do you have any comments?

1 MR. LASHLEY: I think I'm good
2 at the moment.

3 CHAIRMAN MORELOCK: Any other
4 questions or comments?

5 MR. BAUGHMAN: Yes. I'll
6 continue.

7 CHAIRMAN MORELOCK: You go right
8 ahead.

9 MR. BAUGHMAN: So on I-4,
10 Number 36 of the remote monitoring checklist, it
11 says, Does the manual include a test of A through
12 G?

13 It does list G Other, but it doesn't
14 state what the "other" is, and I couldn't find
15 "other" on pages 7 through 9 where it's discussed.

16 But it says it includes a test of the
17 boiler water column under Item B, and it says yes.

18 I would ask how that is performed.

19 MR. NORTON: I'm not sure of the
20 instrument that they use in there currently, but
21 that is their -- I believe it's their 15-minute
22 checks that they're currently doing the boiler
23 checks. It's called the -- I'm not sure of the
24 name of what they call that now.

25 MR. NEVILLE: Now, this is a

1 Miura boiler, so I believe that's the answer
2 there.

3 MR. BAUGHMAN: Okay. That's the
4 answer, is there is no water column on this
5 boiler.

6 MR. NEVILLE: Right.

7 MR. BAUGHMAN: But yet under
8 here, it says boiler water column, does it include
9 test of? And you checked yes. So I've got a bit
10 of an issue with that inasmuch as there's no water
11 column on this boiler. And you would either put
12 not applicable or what have you.

13 And then my question is, how are you
14 performing a positive check of the low-water
15 cutoff in that same regard? And below that, check
16 of the water in the boiler sight glass, you put
17 yes. And there is no boiler water sight glass.

18 So those answers are not accurate,
19 which is the issue that I have in filling this
20 checklist out.

21 MR. NEVILLE: I believe those
22 should be not applicable because of this boiler
23 type.

24 MR. BAUGHMAN: Well, to an
25 extent. The positive check of the low water still

1 needs to be performed. And you have a Miura
2 boiler, so you know the issues of it having random
3 low-water sensor issues. So that needs to be an
4 integral part of how do you check it and making
5 that as part of your procedures. Because it does
6 need to be checked, and it does have the ability
7 to be checked, just not through a water column and
8 so forth with it.

9 So that being addressed,
10 specifically, because it is a Miura boiler, can be
11 done; it's just not -- it's just not quite
12 addressed right in the checklist, is what I was
13 getting at.

14 So, you know, it's a Miura boiler,
15 but I want to make sure that we address those
16 things as they came up.

17 This system is still not installed,
18 correct?

19 MR. NORTON: That's correct.

20 MR. BAUGHMAN: Okay. When is it
21 anticipated to be installed?

22 MR. NORTON: I just submitted
23 the AR for the electrical to be ran, and
24 apparently, combustion is just now working on the
25 diagrams and the drawings for the electrical

1 system itself. They didn't want to proceed any
2 further. They couldn't provide us a price for the
3 engineering until they made sure what our variance
4 was going to state and what it was going to
5 require. So they were waiting for us to get
6 approval before they went any further with their
7 side of it.

8 MR. BAUGHMAN: Fair enough. So
9 along the way, what I would say is that we need to
10 make a change to the e-stop to where it's
11 hardwired in instead of going through a relay,
12 whether that constitutes a change or not of its
13 hardware. Being that they haven't installed it
14 yet, I think they can make the revisions
15 personally and then address the other items that
16 we talked about.

17 I'm good. Thank you.

18 CHAIRMAN MORELOCK: Any other
19 questions or comments?

20 MR. LASHLEY: No, sir.

21 CHAIRMAN MORELOCK: Hearing
22 none, do I have a motion for this variance?

23 MR. LASHLEY: I make the motion,
24 yeah.

25 CHAIRMAN MORELOCK: So Micah

1 makes the motion to approve?

2 MR. LASHLEY: Yes. To approve
3 but with the additions that we discussed.

4 CHAIRMAN MORELOCK: Absolutely.
5 So we have a motion to approve this variance
6 contingent on the revisions to the manual based on
7 the comments at the Tennessee board meeting today,
8 as well as a successful site visit from the Boiler
9 Unit.

10 MR. BAUGHMAN: Second.

11 CHAIRMAN MORELOCK: Okay. I
12 have a second. Any further questions or --

13 MR. O'GUIN: Before you call the
14 vote, y'all are going to require the remote
15 station to be hardwired and not using a relay,
16 correct, in this motion?

17 CHAIRMAN MORELOCK: That's
18 correct, yes, sir.

19 MR. O'GUIN: Thank you.

20 CHAIRMAN MORELOCK: Good
21 comment. Any other comments?

22 MR. BAUGHMAN: The other
23 contingency was, as we talked about, that expanded
24 enunciator was not going to be utilized. They
25 would be utilizing the other Honeywell display

1 module with a modbus for its communication.

2 MR. LASHLEY: And with the
3 further explanation to training.

4 MR. BAUGHMAN: I second that.

5 CHAIRMAN MORELOCK: Okay. Any
6 more comments or questions?

7 (No verbal response.)

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

11 (Affirmative response.)

12 CHAIRMAN MORELOCK: Opposed?

13 (No verbal response.)

14 CHAIRMAN MORELOCK: Abstentions,
15 not voting?

16 (No verbal response.).

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

19 MR. NEVILLE: Thank you.

20 MR. NORTON: Thank you.

21 CHAIRMAN MORELOCK: Thank you.

22 All right. That concludes our old
23 business.

24 Moving on to new business, we have a
25 new business item, 22-9, Wacker Chemical

1 Corporation requests a variance in the internal
2 inspection interval for state-regulated pressure
3 vessels from a two-year internal inspection
4 requirement.

5 If you will come forward and
6 introduce yourselves, and then you can present
7 your item.

8 And while they're getting set up,
9 does the Board have any conflicts on this item?

10 (No verbal response.)

11 CHAIRMAN MORELOCK: There are no
12 conflicts for this item.

13 MR. COURSON: Hi. My name is
14 Steve Courson. I'm the director of process safety
15 and mechanical integrity for Wacker North America.
16 And with me today...

17 MR. HOAGLAND: I'm Duane
18 Hoagland, process safety and mechanical integrity
19 manager for the Charleston, Tennessee site.

20 MR. COURSON: So a little bit --
21 I wanted to start out with a little bit of our
22 background. Again, I'm the regional director of
23 process safety and mechanical integrity. I have
24 33 years in chemical operations experience with
25 15 years as a chemical operator.

1 I spent 18 years in process safety
2 roles with a focus on mechanical integrity. Most
3 of that time was with General Electric Plastics/
4 SABIC in Mount Vernon, Indiana. And I joined
5 Wacker in August of last year, so I've been there
6 just a little over a year and a month.

7 Cody Reason was actually the PSM
8 manager in MI, manager for Charleston. He's
9 recently moved to the regional team to work with
10 me. He was going to be here today but
11 unfortunately, I have him working on something
12 else in another place.

13 But again, he started a greenfield
14 project and built the whole PSM project program
15 for a multi-billion dollar ethylene plant down in
16 Lake Charles, Louisiana. So we brought him to the
17 team. And then recently, just this month, Duane
18 has joined our team and taking Cody's spot as the
19 PSM manager and MI manager for the Charleston
20 facility. I had the pleasure of working with
21 Duane at SABIC previous to this.

22 So a little bit about the
23 organizational changes. And I'm bringing this --
24 I wanted to bring this to light with, you know,
25 the issues that Charleston has had in the past,

1 that there is a big focus on process safety and
2 mechanical integrity.

3 So the positions that -- with the red
4 text are all new within the last year and a half
5 of people that have come in. The ones with the
6 red boxes around them are actually new positions
7 that they have created to help, you know, with the
8 mechanical integrity programs out there.

9 Next slide, please. So our mutual
10 purpose today was to come in and talk about our
11 program, specifically about the two sections in
12 the boiler rules of the unfired pressure vessel
13 inspections.

14 A little bit about our process. We
15 make an ultrapure polysilicon which is -- it's
16 designed and used in a lot of semi-conductors, and
17 so contaminants in this product are very
18 detrimental to being able to have a successful end
19 use.

20 So the thought was the design of the
21 process was noncorrosive, per the design. But
22 unfortunately, when I came in, you know, I'm
23 thinking, okay, we've got things, hydrochloric
24 acid and trichlorosilanes which, as a safety
25 professional, are pretty corrosive in my world.

1 So the thought of it being noncorrosive to the
2 design came into play, and did we do our due
3 diligence and make sure that we looked at all of
4 those?

5 And what we found is there is one
6 damage and corrosion mechanism, is moisture, but
7 the only time that we really experienced that is
8 when we shut the systems down and opened it up.
9 So during normal operations, I would say we're as
10 close to noncorrosive per design as we can be.
11 But it's when we do these abnormal conditions is
12 when we actually are being detrimental to our
13 equipment out there in the field.

14 We measure -- to be ultrapure, we are
15 measuring moisture content and pick up moisture
16 content in our product well below the levels that
17 would ever cause us to have a damage or a
18 corrosion initiation in the process during normal
19 operation.

20 So again, our concern is, you know,
21 when we come down, then we open these things up,
22 getting it clean enough to make sure that there's
23 no residual material in there that could start a
24 corrosion mechanism, localized corrosion
25 mechanism, in a certain area.

1 With that, you know, there was --
2 we've been to the Board several times in the past
3 talking about our program and how we were going
4 to -- what we were doing. And I just want -- as
5 coming in new, I saw that this was some unfinished
6 business, and I was wanting to come to the Board
7 with a proposal.

8 Next slide, please. So our challenge
9 is, again -- the biggest one is it introduces our
10 failure mechanism that we're worried about. We --
11 by opening these things up, we create an
12 environment susceptible to starting corrosion on
13 our -- you know, we've got a large number of
14 vessels that are under the state regulations. And
15 keeping those within the two-year internal
16 inspection cycle presents its own challenges at
17 that level.

18 And then from my side, as a process
19 safety professional, if I remove from the MI side
20 of things, is the frequent start-ups and shutdowns
21 also increases the risk to our community because,
22 as we know, one, it can lead to our damage and
23 corrosion mechanisms, and two, abnormal conditions
24 when we're operating is when a lot of process
25 safety incidents happen, during these abnormal

1 start-ups and shutdowns.

2 So what are we doing to try to
3 support this frequency change? So we took all of
4 our damage and corrosion mechanisms studies and we
5 reevaluated those. We went through them in
6 detail. We've done 309 vessels since the start of
7 the year and did an evaluation on the results of
8 those testing to what the damage and corrosion
9 mechanisms are showing us, and it's been very
10 positive results there.

11 We've got an ongoing validation.
12 This project that we started this year, we plan to
13 have all 832 completed by third quarter of 2023.
14 So that would be within the two-year period that
15 all of these would be completed. And again, we'll
16 do this same evaluation of every one of those.
17 Once we get the results from our testing, we'll
18 compare that to the damage and corrosion mechanism
19 reports and make sure that we're seeing what we
20 expect to see based on the design of the
21 equipment.

22 And then we want to reduce the
23 susceptibility to corrosion mechanisms by the
24 opening of the equipment. So during this project,
25 we used a part of API510 as doing external

1 inspections in lieu of opening it up and doing a
2 true internal inspection. So a lot of NDE, a lot
3 of advanced NDE to support this.

4 Next slide, please. So how did we
5 plan the process? We did all of data gathering on
6 all of our fixed equipment, the pressures,
7 temperatures, the metallurgy service, et cetera,
8 were all captured. We went through working with
9 an engineering firm, a couple of engineering
10 firms, of going through all of the pertinent
11 literature nowadays; what can we do, what's the
12 best way to evaluate these.

13 Again, we did our damage mechanism
14 reviews, and then again, we followed Section
15 56.5.2(b) of the API510 for the external in lieu
16 for some of the vessels. So there's a portion of
17 them we did that; there's a portion we did the
18 actual true internal inspection.

19 Next slide, please. So our damage
20 corrosion mechanisms, the ones that were corrosive
21 fluids, again I've talked about hydrochloric acid;
22 caustic. And we had these others that are
23 trichlorosilanes, silicon trichloride, potassium
24 carbonate and boiler feedwater. We don't expect
25 those to be above the 5ml per year corrosion rate,

1 again, as long as we're in the normal operation
2 and we're not introducing moisture into the
3 system. When you introduce moisture into the
4 system, the chlorisilanes and the -- would have a
5 problem.

6 So our inspection summary today, you
7 know, a lot of our systems are -- we've got
8 redundant pieces of equipment out there, so we've
9 got several distillation columns that are doing
10 the exact same service in the exact same service
11 conditions, multiple reactors, you know, heat
12 exchangers, filters, and such.

13 So this project was started out on a
14 smaller scale of making sure that we got a
15 representative sample of all of those so that we
16 can kind of look at what we would expect to see in
17 the sister vessels. And since that original and
18 the timing getting moved back before we could get
19 here, we've kept that process going, again, and
20 got up to the 309 that we've seen.

21 You know, all of our external
22 inspections are due, and I thank Inspector
23 Spangler for his diligence down there in working
24 with us to make sure, you know, that we're keeping
25 up to date. And again, the 309, we have done that

1 comparison to the damage and corrosion mechanisms.

2 Out of the 309, we've only found 3
3 that the indications don't match what we expected
4 from our damage and corrosion mechanisms. All 3
5 of them can be easily explained.

6 The first one we had an upset
7 condition. It was a heat exchanger that had
8 carbon tubes in it, and they cracked a tube. We
9 got hydrochloric acid into our water. We found
10 some thinning on the vessel, so we ended up having
11 to replace the head, replace the shell. Again,
12 purely nothing to do with the normal process. It
13 was a failure of the carbon tube.

14 The other two were exactly what we've
15 been talking about. We found localized small
16 areas where we had corrosion that wasn't there
17 that was due to having a deposit of the material
18 there that got moisture in it when we opened the
19 system up, causing this localized corrosion area
20 with a higher concentration there, or a higher
21 loss, metal loss.

22 Next slide. So I brought along a few
23 example slides of what we've done, so --

24 Next slide, please. Again, this is
25 one of our preheaters. We did the normal

1 thickness testing in the normal areas, but then we
2 also went and used phased array and auto UT
3 techniques in certain areas on these just to get a
4 better -- a larger area versus just the TMLs. So
5 we were looking at areas, working with the
6 engineering firm and, hey, where would the areas
7 that we would be highly susceptible to having the
8 corrosion? And we did this larger view of those
9 areas. And again, all this information comes
10 back.

11 You know, all the readings are still
12 within the mil tolerances of when these vessels
13 were built. So we're six years into operation
14 now. We're not seeing major corrosion in the
15 systems.

16 Next slide. Again, this is one of
17 our evaporators for absorption. Again, we did the
18 same phase array, some automatic UT, you know,
19 everything. Again, all of these are staying right
20 within the mil tolerances. We're just not seeing
21 any of those.

22 Next slide. Here is one of our
23 carbon steels that has -- actually, has
24 trichlorosilane in it. You know, again, all the
25 readings and everything are -- we're not seeing --

1 you know, it's all matching just exactly what we
2 would expect to see at the worst cases in our
3 damage and corrosion mechanisms.

4 I think the -- oh, one more. So this
5 is one of our columns. So we've got, again,
6 these -- yeah, next slide. This is one of our
7 distillation columns. And if you've ever been to
8 the site, you know we've got a couple of rows of
9 these out there.

10 You know, again, if I look at my next
11 inspections, you know, if we look at what the
12 API510 would allow us, you know, it's saying that
13 we would do the next one, you know, in ten years.
14 We're wanting to do some stuff at the five-year
15 mark just to get more data points again. But
16 again, if I was following API510, these would all
17 be acceptable to go to, you know, continue on a
18 ten-year frequency.

19 Next slide. So this is one that we
20 actually opened up. And, you know, this is one of
21 these unique ones that is really a challenge.
22 Luckily, we had this thing out of service. It
23 takes about 35 days to prep this vessel to even be
24 able to take the lid off to prevent having a
25 potential for introducing corrosion.

1 This one, we had it out. We did all
2 the purges. We got the testing and found out we
3 were in good shape. We kept nitrogen on it so
4 that we wouldn't introduce moisture. I actually
5 did a drone, like, flew a drone around inside this
6 thing.

7 You can see here the level we run.
8 So where the rag layer -- what I call, as an old
9 operator, the stuff that kind of floats on the
10 stop, you can kind of see that. That's staining
11 there, but again, there's no corrosion. It's just
12 staining of the metal.

13 The next slide. And again, you can
14 see all the grinding in the well. Everything is
15 still like we put this thing in service. This has
16 been in service six years, and this is what it
17 looks like today.

18 Next slide. So my proposal is is I
19 would like to take and adopt more of an API510
20 inspection frequency and move these inspections
21 for the internals out and continue down this path
22 of data gathering and get the longer inspection
23 frequencies to then more support a longer look
24 into an RBI-type program.

25 I think, again, if we -- with our

1 monitoring of the moisture content in our product,
2 which we do, and if it gets high, we shut down and
3 have to figure out where it is, because we can't
4 produce our product. With the results of these
5 and the ongoing, you know, I would like to propose
6 that we can follow a -- up to a ten-year
7 inspection frequency on these and get these spread
8 out over a longer time period and, again, gather
9 more data going forward at longer frequencies.

10 Thank you.

11 CHAIRMAN MORELOCK: Thank you.

12 Do I have a motion to discuss?

13 MR. LASHLEY: I make a motion to
14 discuss.

15 CHAIRMAN MORELOCK: I have a
16 motion.

17 MR. BAUGHMAN: Second.

18 CHAIRMAN MORELOCK: I have a
19 second.

20 What questions or comments do you
21 have for this particular item?

22 MR. LASHLEY: I'll lead off.
23 Micah Lashley.

24 You had a heat exchanger with your
25 cracked tube. That was one of your three. We're

1 looking at less than 1 percent failure rate. The
2 most concerning was the cracked tube inside the
3 heat exchanger. Were you able to determine that
4 that tube was cracked prior to internal
5 inspection?

6 MR. COURSON: They did start
7 seeing some indications, which is what led them
8 out to go look at it. Unfortunately, the problem
9 with this in this area is the amount of
10 hydrochloric acid there did some damage pretty
11 quickly to that area at those concentrations. So
12 again, it was noted that we had a problem, and by
13 the time we were out there looking at it, it was
14 already deteriorating quickly, so we had to take
15 it out of service and do the repairs.

16 MR. LASHLEY: And those are
17 redundant? That's redundant equipment, the heat
18 exchangers?

19 MR. COURSON: Actually, this one
20 shut us down. Yeah, we were down for a good
21 period of time there on this one.

22 MR. LASHLEY: Is there a plan
23 for redundancy?

24 MR. COURSON: I'm hoping that
25 they're going to have a plan for redundancy. It

1 didn't completely shut us down but it slowed down
2 operations because we couldn't run that specific
3 HCL column -- or HCL system. We got a second one
4 that we were running, so we were at reduced rates.

5 CHAIRMAN MORELOCK: Other
6 questions, comments?

7 MR. LASHLEY: No comments yet.

8 MR. BAUGHMAN: Thanks for the
9 presentation, too. I'm glad that you guys are
10 here.

11 You say the 309 vessels have been
12 recently inspected. So do you guys -- and when we
13 say recently inspected, are they inspected by a
14 commissioned inspector? Are these inspected
15 in-house, or what's the -- who is the inspector
16 that's inspecting these 309?

17 MR. COURSON: We actually hired
18 MISTRAS, which is our company that does our NDT
19 inspections for this type of work. And we've also
20 used Acuren for some inspections that we did on
21 other vessels out there during this time. And we
22 rely on their AIs and everything to review the
23 information and get it back to us, that then went
24 to the engineering firms to do the evaluation
25 against our damage and corrosion mechanism.

1 MR. BAUGHMAN: So we've got 832
2 vessels total.

3 MR. COURSON: Uh-huh.

4 MR. BAUGHMAN: You've got 309
5 which have been recently inspected.

6 MR. COURSON: Yep.

7 MR. BAUGHMAN: The 832 is
8 expected to be completed third quarter of 2023. I
9 don't know how many Mr. Spangler is doing a day.
10 How many do you anticipate he does a day? I
11 estimated ten but that's my own estimation.

12 MR. COURSON: Yeah. He's there,
13 I think about every other week for pretty much a
14 day or so at a time, and they do several on his
15 inspection cycle.

16 MR. BAUGHMAN: I was just
17 looking at the number of weeks that Mr. Spangler
18 is out there. We're looking at, if he worked a
19 four-day week and ten per day, he's at
20 approximately 20 weeks to be out there at Wacker
21 itself. And he's just doing the external
22 inspections.

23 MR. COURSON: Right.

24 MR. BAUGHMAN: But that's --
25 again, Mr. Spangler is great and he's doing really

1 well to do that.

2 The equipment went into service 2016.
3 The plant has been shut down at different times.

4 MR. COURSON: That's correct.

5 MR. BAUGHMAN: So in that
6 period, we've not been running constantly since
7 2016.

8 MR. COURSON: Correct.

9 MR. BAUGHMAN: So out of that,
10 how long has the plant actually been running?

11 MR. COURSON: The description --
12 or the main part of the polysilicon side -- so
13 there's two parts. You've got the polysilicon
14 side and you've got the fumed silica side. The
15 fumed silica side was the one that's been down for
16 almost two years. The polysilicon side was only
17 down for the repairs from when they had the
18 hydrogen incident. So.

19 I don't know exactly how long that
20 time frame was, but it's been probably running for
21 five years or more of the six years for the main
22 parts that have this, other than the fumed silica
23 side, which does have some HCL over there, but
24 this -- the poly side has got the bulk of the
25 equipment.

1 MR. BAUGHMAN: So as we look at
2 the corrosion -- and you follow why I'm asking,
3 because we haven't been running constantly
4 throughout. And in my notes, I just had, how long
5 has the equipment actually been in service?
6 Determining the baseline, how has the baseline
7 been established, how are we going to establish
8 the baseline and so forth? And those are the
9 questions that come up on it.

10 So with that, thank you. I'll defer
11 back over to other questions.

12 CHAIRMAN MORELOCK: So my
13 comments are just brief. But the interesting
14 thing about this process is doing a traditional
15 inspection does more damage than good. Because
16 when you introduce air to this process, it causes
17 corrosion. And that is their only corrosion
18 mechanism, is when you open the equipment for
19 inspection.

20 So with our rules the way they are,
21 it puts them a little bit in a bind of trying to
22 satisfy the State and do their due diligence to
23 keep the equipment from corroding.

24 So this is my thought, is that right
25 now you are maintaining certificates of inspection

1 on a two-year period. And I think those should
2 continue because it's mandated by the rule and the
3 law.

4 You're using NDE methods that are
5 accepted by all the codes and standards for doing
6 NDE and other processes to measure the thickness
7 of your pressure boundary. So my thought is --
8 and it's just a thought. Somebody else is going
9 to have to make a motion on what we do here, but I
10 know you've talked about you would like to extend
11 the frequency out to ten years. But if you did
12 that, what would you do at the end of that
13 ten-year period different than what you're doing
14 now?

15 MR. COURSON: Well, the plan
16 would be that by extending these out, we would,
17 one, be able the level load across a longer period
18 of time, which then would be able to do a better
19 job of production planning to say that, hey, we
20 need to do true outages and be able to get -- to
21 do a true internal inspection of these by having
22 the longer periods and durations of outages to
23 where we can plan this to where we can go inside
24 more vessels without -- and having the time to
25 prepare those vessels.

1 So by extending it over this time
2 period, the first cycle will -- on many of these
3 vessels will be on a shorter duration and then
4 getting another set of data using these advanced
5 NDE methods until we can get these out to a true
6 outage planning, which is a difficult concept with
7 the way this process is.

8 So that was my hope, is that for the
9 309, that we could go ahead and do this. And then
10 for the others, we could continue this process,
11 and we would follow the same thing if we found
12 things in our damage and corrosion mechanisms that
13 were -- or found corrosion that was outside of
14 what we expected, then we would follow the, you
15 know, 579 or fitness for service, and we would
16 reduce those inspection cycles back to be able to
17 monitor these on a basis.

18 But I would like to look in more of
19 them that we can actually look in. Some of our
20 vessels, it's just not prudent to be able to get
21 somebody inside of them due to their size and
22 configurations.

23 CHAIRMAN MORELOCK: So doing the
24 certificate inspections every two years and using
25 UT and the methods that you presented to the

1 Board, as long as you're not seeing corrosion,
2 what other reasons would you need to have to do
3 that ten-year inspection where you would actually
4 open the equipment up?

5 MR. COURSON: Again, it would
6 just give us another data point of being able to
7 see what the actual interior, especially on some
8 of the ones that have got other equipment inside
9 of it, you know, such as trays and stuff like that
10 is how the hardware and other things inside of it
11 are actually holding up to the -- so it could
12 benefit us in that way of seeing potential other
13 problems that wouldn't have any effect on our
14 pressure boundary, but would have affect on how we
15 operate the plant.

16 CHAIRMAN MORELOCK: So doing
17 advanced UT, how many spots are you shooting in
18 your two-year inspection?

19 MR. COURSON: Well, on this
20 project, there was, like, four to five. Depending
21 on the size of the vessel, you know, it could be
22 many more. I don't have the exact data for each
23 vessel, but the smaller vessel, you're not going
24 to have as many. The bigger vessels we've got --
25 and that's why I kind of had some of the examples

1 that, you know, some of them had four or five
2 spots that we looked at and some of them had six
3 or seven that we did the larger advanced NDE on.

4 MR. O'GUIN: If we've got data
5 supporting that the vessels are not subject to
6 corrosion internally, then by TCA code, we're not
7 required to do an internal anyway.

8 CHAIRMAN MORELOCK: Well, I do
9 agree, but we already know that if they open the
10 vessel, it's going to immediately start corroding,
11 so we do have a corrosion mechanism.

12 MR. TOTH: Mr. Chairman?

13 CHAIRMAN MORELOCK: Mr. Toth.

14 MR. TOTH: Marty Toth, ECS
15 Consulting. Mr. Chairman, in the past, we've had
16 companies come before the Board that have done an
17 RBI, risk based inspection, or fit-for-service
18 report.

19 Why would this company not be in the
20 same position as those companies that perform
21 those NDEs on those vessels that they have to show
22 that there has not been excessive corrosion,
23 therefore supporting their claim, therefore not
24 having to open those vessels?

25 And as for the additional internals

1 that are not part of the pressure boundary or the
2 pressure vessel itself, that would be at the
3 company's discretion to perform those internals as
4 necessary or as they see fit based on that.

5 And they would then have the
6 opportunity to appear before the Board on an
7 annual business, as other companies have, to
8 present their findings. Thank you.

9 CHAIRMAN MORELOCK: Thank you.
10 So, Mr. Toth, to his point, he put the words in
11 your mouth. I didn't. So that's good. But in
12 all seriousness, you could -- I'm not telling you
13 what to do, but you could come to the Board every
14 two years with your recent inspection data and
15 provide a report to the Board and to the State of
16 Tennessee. We do have other companies that do
17 that with different but similar inspection plans
18 to allow them to extend beyond the internal
19 requirement.

20 And so it's not our job to tell you
21 how to do that, but we can tell you that we do
22 have examples of that where you can come to the
23 board with a report on your risk-based inspection
24 program that you're implementing.

25 MR. COURSON: Thank you.

1 CHAIRMAN MORELOCK: Any other
2 questions or comments?

3 (No verbal response.)

4 CHAIRMAN MORELOCK: So
5 gentlemen, what is your preference?

6 MR. COURSON: So question on
7 the -- so we're taking, again, this project
8 looking at the current state of the equipment
9 after a five-year operation. What would the Board
10 like to see? Another set of results in two years
11 or on the next inspection cycle of these to say,
12 okay, now I've got seven years; can I move this
13 out? Or can we request that we do it on a
14 five-year since we've got inspection data for
15 these 309, supporting that we're not seeing the
16 corrosion mechanisms after five years?

17 CHAIRMAN MORELOCK: Well, that
18 plays to Chief O'Guin's statement that basically
19 what you're saying is that if you have enough data
20 over time to basically say this process is
21 noncorrosive; however, we have to have special
22 procedures in place when we do service equipment
23 so we don't introduce corrosion. So that could be
24 your proposal.

25 And then when you do that external

1 inspection, whether it be every two years when you
2 renew the certificate or as you build data, if you
3 keep showing us the same numbers over a period of
4 time, well, obviously, that's redundant. So we
5 want to make sure we're not wasting your time.

6 But I can't build your program. You
7 have to build your program and then we'll review
8 it. So like I said, I don't want to put words in
9 your mouth. I'll let you build that program.

10 MR. COURSON: Okay.

11 CHAIRMAN MORELOCK: But that's
12 what your options are.

13 MR. COURSON: Okay.

14 CHAIRMAN MORELOCK: Any other
15 questions or comments?

16 (No verbal response.)

17 CHAIRMAN MORELOCK: So do you --
18 where do we go from here? What's your proposal?

19 MR. COURSON: Well, based on our
20 inspection findings of the 309, I would like to
21 propose that we move those to at least a five-year
22 frequency. And then what we'll do as we complete
23 the remaining of the 832, at the end of that
24 process, we'll come back and we'll review those
25 results. For the three that are there, we'll

1 remain on a two-year frequency for those until we
2 build more data and have the data to support it.

3 CHAIRMAN MORELOCK: Okay. And
4 so let's say we approve that, and then when you
5 get to that five year, if you open it up and
6 there's damage, then what?

7 MR. COURSON: Then I would have
8 to apply the fitness for service and the
9 principles around it, and I'd have to reduce that
10 inspection frequency.

11 CHAIRMAN MORELOCK: Okay.

12 MR. COURSON: That's part of
13 our -- that's already part of our program, is that
14 when we see those, we run the fitness for service,
15 and then we set the inspection frequencies based
16 on half-life of the remaining vessel.

17 CHAIRMAN MORELOCK: That's
18 correct. So do I have a motion?

19 MR. BAUGHMAN: I still have one
20 question. And I appreciate that.

21 So out of these 309, I'm interested
22 to know, were they on the inside or the poly side?

23 MR. COURSON: It was both.

24 MR. BAUGHMAN: Okay. So we've
25 got some that have run two years longer than

1 others.

2 MR. COURSON: Yeah.

3 MR. BAUGHMAN: Approximately.

4 MR. COURSON: Approximately.

5 MR. BAUGHMAN: So how do we
6 figure that or does that figure into our equation
7 at all? And I'm just asking because we've got
8 more on some than others.

9 CHAIRMAN MORELOCK: Well, again,
10 I mean, they can propose something and we have the
11 option to either support it or not support it,
12 basically.

13 So we've not made a motion on
14 anything yet. We're just having good
15 conversation. So really, you know, what is the
16 Board's thoughts?

17 MR. BAUGHMAN: And I just want
18 to be clear on what exactly you're looking at
19 proposing or what you've stated presently, is that
20 you would like to take these 309 vessels, move
21 them to the five-year cycle presently.

22 MR. COURSON: Presently, yes.

23 MR. LASHLEY: I have a another
24 question. Going back to your statement that some
25 of these vessels were operating for two years

1 long, they all have the recommended API inspection
2 frequency of '33 or '32; is that correct, 2032?

3 MR. COURSON: Yeah.

4 MR. LASHLEY: So even the ones
5 that are two years old made it to that ten-year
6 threshold?

7 MR. COURSON: Yes.

8 MR. LASHLEY: Okay.

9 MR. COURSON: All the ones that
10 are presently covered under the PSM standard,
11 definitely, we have the ten-year requirement as
12 well.

13 MR. TOTH: Just a curiosity. So
14 those vessels that have not operated for two
15 years, do they have the potential of moisture
16 building up in those vessels since they were
17 dormant?

18 MR. COURSON: That part of the
19 process doesn't have the chlorisilanes over there,
20 so it's even less susceptible to the corrosion
21 mechanisms over there.

22 MR. TOTH: And then a following
23 up to that, Mr. Chairman.

24 So you're saying five years. So does
25 that mean they would receive an external/internal

1 in that five-year period, or will they still
2 receive that external every two-years and then
3 short side that third inspection, that third
4 certificate to where they would -- it would only
5 really be a yearlong before they did an internal?

6 Hopefully, that made sense, what I
7 meant.

8 CHAIRMAN MORELOCK: Well, what
9 it could end up meaning would be the two-year
10 external for the certificate, that's in the rule
11 and law. So how you divvy up your internal
12 through advanced UT, that's on you. But the
13 certificate is two years. You know that.

14 Now, you can take advantage of that
15 certificate inspection to do that external if you
16 want to do that while you're doing the external
17 for the --

18 MR. COURSON: Yeah. We weren't
19 planning on any changes to the two-year external.

20 CHAIRMAN MORELOCK: Okay. But
21 again, you let us know what you want to do and
22 we'll vote it.

23 And I guess the other thing I would
24 recommend is whatever frequency you do put this
25 on, that you would come to the Board in that

1 interval and report periodically the status.

2 MR. COURSON: Absolutely.

3 CHAIRMAN MORELOCK: Okay?

4 MR. COURSON: Yeah.

5 CHAIRMAN MORELOCK: So I'm
6 trying every way in the world not to say this is
7 what you should do.

8 MR. COURSON: So the plan would
9 be is, then, we would take the 309, and if it
10 makes more sense, we can look at the in-service
11 date and how much time it ran, and we would move
12 it to that frequency. That would take care of the
13 fume silica side that had been down. So if
14 they've only ran four years, then we would move it
15 to a four-year frequency, because we've got data
16 that supports that we're noncorrosive in four
17 years.

18 Then we would come back to the Board
19 at the end of that four years with the results of
20 those inspections. For the ones that are on the
21 other side, we can look at the amount of run time
22 they've been in and set the frequency based on
23 their actual run time and the fact that we aren't
24 seeing corrosion mechanisms in place during that
25 interval. And then we would, again, bring those

1 back and we would keep the two-year inspections,
2 external inspections, as is, because I think
3 that's a good program.

4 CHAIRMAN MORELOCK: Okay. So is
5 the Board clear of what they're proposing, or do
6 you have any questions?

7 MR. BAUGHMAN: I still have a
8 question.

9 And so if we move forward with
10 approving these 309, we're taking it that these
11 309 have been inspected -- we're taking their word
12 that there's no issues with anything. We've
13 not -- in other words, typically, we're looking at
14 a report that shows these inspections have been
15 performed. We're jumping ahead without looking at
16 any of this information, and taking it as what
17 they're stating.

18 CHAIRMAN MORELOCK: Well, what
19 I'm thinking is they would need to provide us a
20 report at the next meeting or in December, and
21 then on that frequency, that the Boiler Unit and
22 the Board agrees to.

23 MR. BAUGHMAN: I guess my --
24 from what they're saying, they want us to vote on
25 approving the five-year cycle on these 309 today

1 without us looking at any of those reports,
2 mechanisms and so forth for evaluation; is that
3 correct?

4 CHAIRMAN MORELOCK: So what we
5 could do is if the Board so desires, and the
6 Boiler Unit, you could come to the December
7 meeting with that report and then we could vote it
8 then.

9 MR. COURSON: Okay.

10 CHAIRMAN MORELOCK: And that
11 would give you time to put your plan together, how
12 you're going to report it, the frequency, bring it
13 to the Board in December, make your presentation,
14 and then we'll vote it.

15 MR. COURSON: Okay. I think
16 that's acceptable.

17 CHAIRMAN MORELOCK: Is that
18 agreeable with the Boiler Unit?

19 MR. O'GUIN: (Nods head.)

20 MR. COURSON: And we may have
21 more than 309 by then, because we're having an
22 outage in October, and I'm planning on knocking
23 out some more.

24 CHAIRMAN MORELOCK: All right.
25 So with that said, we'll table this item for vote

1 in December, and if you'll come back and have your
2 plan and report ready to present, then I think
3 we'll be in good shape.

4 MR. COURSON: All right. Thank
5 you very much.

6 CHAIRMAN MORELOCK: Thank you.

7 MR. BAUGHMAN: Thanks, guys.

8 CHAIRMAN MORELOCK: Okay. That
9 takes us to -- so that takes care of new business.

10 MR. BAUGHMAN: Shall we take a
11 break?

12 CHAIRMAN MORELOCK: Oh, yes.
13 That's a fine idea. Let's take a ten-minute
14 break.

15 (Recess observed.)

16 CHAIRMAN MORELOCK: All right,
17 everybody. Let's resume.

18 Our next item is rule cases and
19 interpretations, and we have an interpretation
20 BI 22-04, Clearance Requirements for Wall-mounted
21 Tankless Boilers. And this will be a discussion
22 item today.

23 So who's going to present that?

24 (No verbal response.)

25 CHAIRMAN MORELOCK: Or I can.

1 Are you going to do it?

2 MR. O'GUIN: You can. I was
3 looking, because I had Board Cases noted.

4 CHAIRMAN MORELOCK: Oh, yeah.
5 So is it a Board Case or Board Interpretation?

6 MR. O'GUIN: There's currently a
7 Board Case out there on it. We were writing this
8 one to more or less amend part of the other one.
9 So it should be a Board Case, I think.

10 CHAIRMAN MORELOCK: Okay. I'll
11 change the "I" to a "C." So it's BC 22-04. Duly
12 noted. All right.

13 So the Statement of Need for this is,
14 The staff of the Tennessee Boiler Unit is
15 requesting a ruling by the Tennessee Board of
16 Boiler Rules to allow tankless hot water supply
17 boilers of wall-mounted, stacked, and modular
18 design to be exempt from the installation
19 clearance requirements of Rule 0800-3-3-.08(4)(a).

20 Background: With advances in
21 technology and design, the boiler industry has
22 seen hot water supply boilers coming into the
23 market that are mounted on walls. These
24 low-pressure boilers have either been labeled
25 and/or listed by a nationally registered testing

1 agency. In the case of those boilers 200,000 BTU
2 per hour and greater or those boilers with
3 combined 200,000 BTU per hour or greater, the
4 boiler is required to be stamped ASME and
5 registered with the National Board.

6 Inquiry: Is it required for a
7 low-pressure hot water supply boiler be designed
8 and installed as a wall-mounted unit to adhere to
9 the minimum clearance of at least one-and-one-half
10 feet clearance requirements set forth in
11 Rule 0800-3-3-.08(4)(a) or the Tennessee Boiler
12 Rules and Regulations? Except for the
13 wall-mounted side set forth in Rule 0800-3-3-.08
14 under Board Case 06-23.

15 The reply: It is the opinion of the
16 Tennessee Board of Boiler Rules that the tankless
17 wall or rack-mounted, low-pressure hot water
18 supply boilers that are designed accordingly may
19 be exempt from the clearance requirements of Rule
20 0800-3-3-.08(4)(a) as follows:

21 One, wall and rack-mounted tankless
22 boilers. This installation will include the
23 phrase "per manufacturer recommendations for
24 clearance."

25 Two, the boiler nameplate, and where

1 applicable, code stamping is in view or as stated
2 in Rule 0800-3-3-03(23), the following shall be
3 legible to the unaided eye: Manufacturer Name or
4 Certifying Agency, Input Rating of BTU per hour,
5 Maximum Allowable Working Pressure, Manufacturer
6 Serial Number or NBIC Code Number and Year of
7 Manufacture.

8 Item three, the boiler's safety
9 relief device shall be accessible by the
10 inspector. The operation and testing lever shall
11 not be obstructed by the installation of another
12 unit or mounting surfaces or piping. The relief
13 device shall be visible to the unaided eye and
14 have the following information available: Size,
15 Set Pressure, Manufacturer and Code Stamping and
16 BTU per hour.

17 Four, the installer should indicate
18 if the boiler is wall-mounted, on the permit
19 application submitted for permission to install,
20 to ensure manufacturer recommendations have been
21 utilized at minimum.

22 Item five, boilers that exceed
23 400,000 BTU per hour are required 36-inch
24 clearance as per 0800-03-03-.08(4)(a).

25 Six, the Chief Inspector or his designee

1 has the discretion to require more clearance if
2 needed for inspection purposes.

3 So what are your questions, comments,
4 remarks?

5 MR. BAUGHMAN: Mr. Chairman,
6 offhand, this is in regards to hot water supply
7 boilers, i.e., hot water heaters, domestic. It
8 doesn't apply to hot water boilers, as such, as
9 far as hydronic heating boilers. So this is
10 specifically allowing tankless hot water supply
11 boilers, which hot water supply and hot water
12 heating water heaters, so to speak, have different
13 clearance requirements.

14 And so I guess I had a question on
15 defining if we're talking about both domestic hot
16 water heater, i.e., hot water supply boilers and
17 hydronic heating boilers for building heat. The
18 differentiation on that comes when it exceeds the
19 400,000, the hot water heaters still have their
20 own clearance requirements and are exempt in some
21 respects from the TCA codes versus the hot water
22 hydronic heating boilers. So I wanted to make
23 sure that we separated that identification in
24 here.

25 CHAIRMAN MORELOCK: Any other

1 discussion or questions?

2 MR. TOTH: Back in 2006, I know
3 the code Board Case was put out that this is
4 looking to amend. And one of the questions that I
5 have is on BC 06-23. It does exempt the wall side
6 of a wall-mounted heater.

7 So is the intent to relieve the
8 clearance requirements from side to side? And if
9 that is, it makes sense.

10 Back as Chief O'Guin alluded to,
11 technologies have changed. Okay? We see that all
12 the time. That's why we implemented years ago
13 board cases and interpretations to help in this
14 type of area.

15 I think this is a great leap forward
16 to support BC 06-23. The question I do have is
17 when we talk about -- I see the word "rack" up
18 here, "wall-mounted" and "rack." And I want to
19 make sure that the clarity on that, is it -- are
20 we talking about the same thing as a stacked water
21 heater or something of that, or are we talking
22 about a rack coming off the wall? I just wanted a
23 little bit more clarity on that. Thank you.

24 MR. O'GUIN: Would you-all
25 suggest we do some definitions as far as hot water

1 supply boiler and what a rack is? Just for the
2 ones who don't know, the rack is -- you know,
3 you'll see them sitting in the middle of the
4 floor, and they'll have ten instantaneous water
5 heaters on them; five on this side and five on the
6 opposite side. So they're pretty much mounted
7 back to back.

8 MR. TOTH: Whereas, the
9 difference would be the stacked type, maybe in the
10 case of a coil finned water heater where they
11 would have one below and then one above it in a
12 stacked formation. I just wanted to make sure
13 that we're all clear on that.

14 CHAIRMAN MORELOCK: Well, and to
15 add to your comment, something that our Boiler
16 Unit has been aware of for many years is that you
17 could put this modular hot water heater in and
18 it's until 400,000 BTU per hour, but then they
19 come in later and add modules to it, which is
20 basically adding more of those to the point to
21 where you exceed 200,000 BTU per hour, and now
22 you've got a hot water heater that really should
23 have been designed for ASME code and stamp.

24 MR. SSAFE: Rohan Ssafe, Rinnai.
25 So we talked about wall-mounted tankless water

1 heaters and racks. But there's also free-standing
2 racks, as well, where you may have multiple water
3 heaters back to back, side by side on a
4 free-standing rack that's installed in a
5 grease-based mechanical. So I was just wondering
6 if there's any distinctions for those water
7 heaters as well.

8 MR. O'GUIN: We pretty much
9 covered that in line 1. It will apply to all of
10 the above.

11 MR. O'CONNOR: Michael O'Connor,
12 Mo's Mechanical, LLC. And one of the things that
13 we're discussing, as far as manufacturers'
14 recommendations, thinking of some of the
15 manufacturers, we deal with a vast variety of
16 them. Some of their clearances really ought to be
17 looked at and use common sense and let the Deputy
18 or Chief, at their discretion, like you're saying,
19 be able to utilize that.

20 There's one in particular that tells
21 you you can have one inch of clearance to the
22 electrical connection. And it gives you a note.
23 It says before installing multiple heaters, ensure
24 you connect all your electrical wiring before
25 setting the next heater.

1 If you follow the national electrical
2 codes, normally, you're going to have to have some
3 type of clearance for the access to be able to
4 access that port or that connection.

5 CHAIRMAN MORELOCK: What is that
6 typical clearance from NFPA?

7 MR. O'CONNOR: I would guess to
8 be 24 inches. I don't know the exact, but I
9 think -- it's been a long time -- I heard
10 24 inches. Kind of like a breaker box. You
11 wouldn't want to put a boiler right in front of
12 the breaker box because then they wouldn't be able
13 to access that breaker. And I think it was
14 24 inches that we researched for a particular
15 restaurant.

16 CHAIRMAN MORELOCK: That's
17 interesting. That's very interesting. Thank you
18 for the comment.

19 What other questions or comments?

20 MR. O'GUIN: Chairman, I have
21 one possible revision. I'll ask for the Board's
22 clarity on it. For the inquiry, is it required
23 for a low-pressure hot water supply boiler to be
24 designed and installed as a wall-mounted unit to
25 adhere to the minimum clearance of at least

1 one-and-a-half-feet clearance requirements set
2 forth in Rule 0800?

3 The Rule 0800 is the three feet,
4 unless I'm not thinking clearly on this. That
5 should be Board Case 06-23, which is what refers
6 to these units for 18 inches. Do y'all agree with
7 that?

8 MR. BAUGHMAN: Just a
9 clarification, Chief, on hot water supply boilers,
10 slash, hot water heaters, we have a three-foot
11 requirement clearance on hot water heaters?

12 MR. O'GUIN: If you go to 0800,
13 it's three feet. You'd have to go to the board
14 case and it goes down to 18 inches. But anything
15 over 400,000 is required 36 inches.

16 MR. BAUGHMAN: Over 400,000.
17 Okay. Thank you.

18 CHAIRMAN MORELOCK: Any other
19 questions, comments?

20 (No verbal response.)

21 CHAIRMAN MORELOCK: What we'll
22 do is we'll take all this and make any necessary
23 revisions and try to have it ready to vote in
24 December.

25 Did you have a comment, Mr. Toth?

1 MR. TOTH: I just wanted to make
2 sure that we're clear on it. It's actually, if
3 I'll not mistaken, unless it's changed,
4 Chief O'Guin, it should be 200,000 for the State.
5 So anything over 200,000, which would include what
6 we call hot water heaters or hot water supply
7 boilers, if I'm not mistaken, unless that has
8 changed. But that's only in the state of
9 Tennessee, unlike the requirements for ASME, which
10 is 400,000. So we may want to make sure if that's
11 changed or not.

12 MR. O'GUIN: I'm thinking it's
13 400 for the 36-inch clearance, unless you've
14 got --

15 MR. TOTH: Yeah. It's --
16 actually, if we go back and look at 06-23, it
17 indicates 200,000.

18 MR. O'GUIN: Okay.

19 MR. TOTH: So obviously, I know
20 what Chief O'Guin is talking about, which is CST-1
21 requirements, so on and so forth, but because the
22 State of Tennessee will actually inspect below
23 that and register that, I think that that's why it
24 was down to 200,000. Thank you.

25 CHAIRMAN MORELOCK: Thank you.

1 MR. BAUGHMAN: Mr. Toth, you
2 referenced CSD1 requirements. Those aren't
3 applicable to hot water heaters themselves,
4 correct?

5 MR. TOTH: You're absolutely
6 correct. Hot water supply or hot water heaters
7 are covered under another code that is not
8 referenced to our rules and regulations. That is
9 correct.

10 CHAIRMAN MORELOCK: Any other
11 comments or questions?

12 (No verbal response.)

13 CHAIRMAN MORELOCK: All right.
14 Hearing none, we will take this input and try to
15 have this ready for a vote at the December
16 meeting.

17 Thank you for your comments and
18 input. It's very much appreciated.

19 Getting back to our agenda, our next
20 item is Open Discussion Items. We did not have
21 any for this meeting. That takes us to
22 announcements of the next meeting.

23 The next regularly scheduled meeting
24 of the Board of Boiler Rules will be held at
25 9:00 a.m. on December the 14, 2022, here at the

1 State of Tennessee Department of Labor and
2 Workforce Development Building.

3 And my last item on the agenda is
4 adjournment. So thank you-all for coming. And if
5 you have to travel back home and work, wherever,
6 travel back safe and we'll see you in December.
7 Thank you.

8

9

END OF THE PROCEEDINGS.

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

1 C E R T I F I C A T E

2 STATE OF TENNESSEE)

3 COUNTY OF WILLIAMSON)

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

6

7 That the within is a true and accurate
8 transcript of the proceedings taken before the
9 Board and the Chief Inspector or the Chief
10 Inspector's Designee, Tennessee Department of
11 Labor & Workforce Development, Division of
12 Workplace Regulations and Compliance, Boiler Unit,
13 on the 14th day of September, 2022.

14

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

19

20 IN WITNESS WHEREOF, I have hereunto set my
21 hand this @ day of October, 2022.

22

23

24

25

Cassandra M. Beiling, LCR# 371
Notary Public State at Large
My commission expires: 3/10/2024