QUARTERLY MEETING OF THE
STATE OF TENNESSEE
BOARD OF BOILER RULES
June 10, 2015

ELITE REPORTING SERVICES
AMBER A. THOMPSON, LCR
P.O. Box 292382
Nashville, Tennessee 37229
www.elitereportingservices.com
(615)595-0073

I. Call to Order
II. Introductions and Announcements
III. Adoption of the Agenda
IV. Assistant Chief's Report
V. Old Business (none)
VI. New Business: 15-09, 15-10, 15-11, 15-12, 15-13, 15-14, 15-15
VII. Open Discussion Items
*Reorganization of Rule 0800-03-03 - Moving Code Requirements into Tennessee Rules/Realigning State rules for ease of use by Installers and Owners
*Fall Conference Update
*Boiler Operator Training and Certification - Dave Baughman
IX. Rule Cases & Interpretations - There are no rule cases and interpretations
X. The next Board of Boiler Rules meeting is scheduled for 9:00 a.m. (CT), Wednesday, September 9, 2015, at the Department of Labor & Workforce Development office building located at 220 French Landing Drive, Nashville, TN.
XI. Adjournment

CHAIRMAN MORELOCK: Well, good morning, everybody. I have 9:00 o'clock, so I would like to call this meeting of the Tennessee Board of Boiler Rules in session.

And I want to welcome everybody here today. We've got a full room, and it's always nice to have visitors and good to see all of our inspectors.

And if you're a Tennessee state inspector, would you please just stand up for a minute so we can recognize you guys for all you do.

I understand you've been getting educated this week; is that right?

All right. Well, good. Good to have you.

Make yourself at home.

I'd like to continue on. If you don't have an agenda, they're on the back table. So please make yourself available to one of those so you can see what we're going to be covering today.

And as far as introductions go, I want to start with just a safety item. And that being, as we sit in this room today, the TOSHA room today, I just wanted to let you be aware that if we did have an emergency or some sort of natural disaster
occurring, that there are alarms that would sound
and that we would be directed by the security
personnel to either a safe location in this
building, or we would be directed to exit the
building on the Rosa Parks side to get to a safe
area.

As far as other announcements go,
Dr. Canonico is not with us today. He is home. His
wife is having some health issues, and so he,
understandably, stayed home with her today. So just
remember him and Ms. Colleen, and we’ll update you
as we know more about that.

Are there any other announcements that
anybody would want to make at this time?
(No verbal response.)
CHAIRMAN MORELOCK: All right. Then we’ll
move on to introductions.
And, Amber, I’ll begin with you.
THE REPORTER: I’m Amber Thompson. I’m
the court reporter here today.
MS. BENNETT: Carlene Bennett, Board
Secretary.
MR. CHAPMAN: Sam Chapman, assistant
chief.
MR. ROBINSON: Eugene Robinson, board
member.
CHAIRMAN MORELOCK: Brian Morelock, board
member representing unfired-pressure vessel owner
and users.
DR. JOHNSON: Glen Johnson, representing
mechanical engineers.
MR. BAUGHMAN: I’m Dave Baughman, boiler
member, representing owner/users.
MR. BAILEY: I’m Dan Bailey, legal counsel
to the board.
MR. PERRY: Steve Perry, state boiler
inspector.
MR. BARTON: Allen Barton, University of
Tennessee.
CHAIRMAN MORELOCK: Okay.
MR. HOLT: Tim Holt, state boiler
inspector.
MR. OSWALD: Jack Oswald, state boiler
inspector.
MR. WORD: Dallas Word, boiler inspector.
MR. SPANKLER: Tommy Spangler, boiler
inspector.
MR. SITZ: Sammy Sitz, boiler inspector.
MR. JACKSON: Neil Jackson, consultant.
MR. CROMWELL: Jerry Cromwell, boiler
inspector.
1 inspector.
MR. PETERS: Danny Peters, boiler
inspector.
MR. FLOWERS: David Flowers, combustion
and control solutions.
MR. HUFF: Del Hupf, boiler
inspector-in-training.
MS. BELL: Deonne Bell, boilers.
MS. RHONE: Deborah Rhone, boiler office
supervisor.
MR. SKEEN: Guy Skeen, Tennessee state
boiler inspector.
MR. DAVIDSON: Bob Davidson, boiler
inspector.
MR. SMITH: Jesse Smith, boiler inspector.
MR. DICKERSON: Richard Dickerson, boiler
inspector.
MR. KELLEY: Randall Kelley, boiler
inspector.
MS. DOWER: Jann Dower, Commissioner’s
office.
MR. KOSTADINE: Bob Kostadine, RR
Donnelley.
MR. HAMMOCK: Ricky Hammock, RR Donnelley.
MR. NEVILLE: James Neville, Neville
Engineering.
Mr. PURYEAR: Stefan Puryear, staff
engineer with Shaw Industries.
MR. LONG: Marcus Long, Boiler Supply
Company.
MR. FRAZIER: Kerry Frazier, chief
engineer at University of Tennessee.
MR. IWANYSZYN: I’m Joe Iwanszyn from
Cookeville Regional Medical Center.
MR. DULWORTH: James Dulworth, Cookeville
Regional.
MR. ENG: Richard Eng, Polysilicon Corp.
CHAIRMAN MORELOCK: All right. Well,
again, welcome, everybody.
Our next item on the agenda is to adopt
our agenda, so I hope everyone has had a chance to
look over it.
MR. ROBINSON: Motion made to adopt
agenda.
CHAIRMAN MORELOCK: Okay. I have a
motion.
MR. BAUGHMAN: Second.
CHAIRMAN MORELOCK: And I have a second.
Are there any additions, corrections to
the agenda?
CHAIRMAN MORELOCK: All right. Hearing none, then I will call for a vote.

All in favor say, "Aye."

(Affirmative response.)

CHAIRMAN MORELOCK: Opposed?

(No verbal response.)

CHAIRMAN MORELOCK: Abstentions, not voting?

(No verbal response.)

CHAIRMAN MORELOCK: All right. We have an agenda.

Next item on the agenda is assistant chief's report.

Mr. Chapman, I'll turn that over to you.

Mr. Chapman: All right. Thank you, Brian.

Okay. We did a number of inspections. For the state inspector was 3,012. Excuse me. Insurance agency did a total of 4,918. Giving us a total of 10,415.

We have a total of delinquent for state inspectors, 996. Insurance inspectors is 946. Giving us a total of 1,942.

Our number of code violation -- our violation found was 31. 17 is uncorrected at the moment. We did a 3 QC review and two boiler variance.

We have one new inspector that's covering the Montgomery County areas and surrounding area, and we have one in training.

At the moment, we're still looking for a chief at the moment.

Mr. Chapman: Thank you.

Any questions or comments?

Mr. Baughman: Sam, I'm sorry, would you go back over that delinquent list on what we've got, both insurance and... Mr. Chapman: Okay. Yes. For the state inspectors, we've got 996.

Mr. Chapman: Okay.

Mr. Chapman: Okay. For the insurance agents, we've got 946.

Mr. Baughman: 946, thank you.

Mr. Chapman: Yes. And -- which giving us a total of 1,942.

Mr. Baughman: Very good. Thank you.

CHAIRMAN MORELOCK: Okay. Any other questions?

(No verbal response.)

CHAIRMAN MORELOCK: All right. Very good.

Thank you.

Okay. Our next item on the agenda is old business, and we do not have any old business.

So moving on to item 6, which is new business. The first item that we're going to cover this morning is item 15-10, and that is going to be the University of Tennessee requesting a variance for two boilers.

So as just a matter of information, when it's your turn to come forward to present your items, please come to the public podium here. And for Amber's benefit, please speak up.

Whether you're presenting, asking questions, making comments, please speak to where she can hear you.

It's a big job trying to transcribe everything that we're saying, so just keep that in mind.

So introduce yourself. And also, as a point of information, every time we cover an item, I will ask for a conflict of interest. And if there are any conflicts of interest, that needs to be noted during the presentation of that item.

Mr. Barton: Good morning, gentlemen, ladies. I'm Allen Barton. I'm the HVAC superintendent at the University of Tennessee Health Science Center in Memphis. And we have several items on the agenda.

I guess we'll take one together. But our university, like I said, we're located in Memphis. We're a state university. We have almost 4,000 faculty and staff there, along with close to 3,000 students. The education emphasis is on healthcare. It's teaching and research. And our physical address there is on South Dunlap in Memphis.

The central energy facility located there at our general education building, the control room operates 16 high-pressure boilers. They actually look at them on our digital displays there, and -- but we're asking for a variance with these two here added. We have 11 total that we're going to ask for that variance, a renewal on the variances today.

CHAIRMAN MORELOCK: Okay. So, Mr. Barton, can I ask you a question?

Mr. Barton: Yes.

CHAIRMAN MORELOCK: I have reviewed all
four of the manuals. And so with a variance renewal, all the board is looking at is what has changed since the last approval of the variance. So that's why in our checklist we have you marked if it's a renewal. And if it's a renewal, we ask for a revision page to show what's changed since the last variance approval.

And so if the changes are strictly an editorial change, somebody's job title has changed, or a phone number has changed, then the boiler unit handles that and it doesn't need to come to the board. So I think one of the things that we wrestled with, with all four of these, is not having a checklist and not having revision pages, we didn't know what was coming before the board.

So if you can focus on each of these items, what is new, then we can -- as a board, we can act upon those new changes.

MR. BARTON: Well, basically, there's nothing new. Nothing has changed. We've had personnel changes over the years. Like I said, I'm a new hire there.

CHAIRMAN MORELOCK: Right.

MR. BARTON: But most of the administration that turned these books in to you for the variance renewal, they have retired or been promoted.

The director, he is still the director. That's why his name is still active on there as the person that's going to be responsible for overseeing the books.

CHAIRMAN MORELOCK: Okay. And that's Kenneth?

MR. BARTON: Kenneth Bradshaw.

CHAIRMAN MORELOCK: Kenneth Bradshaw. He's still responsible for --

MR. BARTON: He's still responsible, yes.

CHAIRMAN MORELOCK: -- keeping the manual updated and implementing the variance; is that correct?

MR. BARTON: Yes.

CHAIRMAN MORELOCK: Okay. In looking through the four manuals, one of the things that struck me was on page 1 of each manual where it gives an introduction, as well as in the cover letters, you're saying that you have 16 boilers. But I read in these manuals that you have 12 boilers.

MR. BARTON: 12 boilers.

CHAIRMAN MORELOCK: And so, again, those -- you know, that technically constitutes a technical change. Because if you've added four boilers since the last renewal, we've not seen those if you're putting them under variance.

MR. BARTON: Well, we had a variance that was added to with a new building in December, and that was our in TRSP building.

CHAIRMAN MORELOCK: Okay. Okay.

MR. BARTON: And after speaking with one of the members, I made the change and sent you the change order --

CHAIRMAN MORELOCK: Right. Right. I saw that.

MR. BARTON: -- with the -- actually, combined the introduction. After I read them, I said, That's not right.

CHAIRMAN MORELOCK: Okay. Okay.

MR. BARTON: So then I sent that so we could correct the number of boilers we have and actually the physical locations of the boilers.

CHAIRMAN MORELOCK: Okay. Okay. So what you're telling the board is that in these four manuals there's no technical changes?

MR. BARTON: If you accept my introduction page there, no, there's not.

CHAIRMAN MORELOCK: Okay. So you will go back and revise these -- is there going to be one manual or four?

MR. BARTON: Well, we're going to have -- they're individual buildings, so we're going to put --

CHAIRMAN MORELOCK: You'll have four separate manuals.

MR. BARTON: So four separate manuals.

CHAIRMAN MORELOCK: So all the introduction pages and everything will be revised so they're all consistent?

MR. BARTON: Yes.

CHAIRMAN MORELOCK: Okay. Okay. So that was the biggest thing that I saw.

And then if you look at -- I apologize, Amber. I'm going to take this out of order for just a moment, just for the sake of the conversation.

If you look at the cover sheet in 15-11, it says that three new boilers are being installed. So that will need to be revised if they're already installed. What I'm saying is, just if they're out there, the manuals haven't been revised to reflect that, so -- okay?

MR. BARTON: Well, the one manual that we
had for the -- the two that were installed was for the translational science research, that was two of them.

CHAIRMAN MORELOCK: Okay.

MR. BARTON: So it was actually for one.

CHAIRMAN MORELOCK: Okay.

MR. BARTON: I'll have to make the revision for the one.

CHAIRMAN MORELOCK: And like in 15-12, for the Coleman Building, the introduction says to replace existing boilers with two new boilers and the projected completion date is March 2008, which we know has long since passed.

So, again, we just need to update the manuals so that when we read them they make sense.

MR. BARTON: I understand. I understand.

CHAIRMAN MORELOCK: Okay. All right. So if you're telling the board there's no technical changes to your variance, you've got 16 boilers under four variances; is that correct?

MR. BARTON: We have 16, but we're asking for 11 under the variance.


MR. BARTON: Because two are already under a variance and we have three that are manned 24 hours a day.

CHAIRMAN MORELOCK: So you will have five variances for 13 boilers; is that right?

MR. BARTON: Yes.

CHAIRMAN MORELOCK: Okay. Your manuals all need to reflect that so we'll know, okay?

MR. BARTON: Okay.

CHAIRMAN MORELOCK: Okay. All right. Okay. So I'm sorry, I just wanted to kind of get that -- that's going to set the tone for the rest of these items, so proceed on, or if you're done...

MR. BARTON: I'm basically done now with it.

CHAIRMAN MORELOCK: Okay.

MR. BARTON: But I've looked at -- like I said, the books, I knew they were -- they needed some tweaking.

CHAIRMAN MORELOCK: Okay.

MR. BARTON: So adjustments to them. And hopefully with, you know, this -- the introduction page I sent you will do a little explanation of what we have there now.

CHAIRMAN MORELOCK: Okay. And the reason -- of course, this is important for a lot of reasons, but Mr. Jackson, our deputy inspector, will come and do a site inspection for this renewal. And he's going to need to know -- you know, what he sees and what he reads has to match. You know, you need to -- what you're doing and what you've written that you're doing, all that needs to match. So that's what he needs to see.

Okay. All right. So are there any comments from the board?

MR. ROBINSON: No. Basically I had the same issues. The fact that you're using four manuals -- some of the information was not correct. The locations of the actual boiler as opposed to the title page on the manual didn't match.

MR. BARTON: Yes.

MR. ROBINSON: So if there was an audit to be performed, you wouldn't get to the right location. You had dates that were also out of place. It appeared as though the manuals were conceptual because the dates didn't line up with -- and some of the verbiage, as well, didn't line up with what the manual was saying. Since you didn't have a revisions page, we couldn't go back to make any determinations as to what had changed.

MR. BARTON: Yes.

MR. ROBINSON: So we're going to take the manuals independently, one by one, or -- Mr. Chairman?

MR. BAUGHMAN: Excuse me?

MR. BARTON: Yes.

MR. BAUGHMAN: When was it that you came on board?

MR. BARTON: Three months ago.


Well, you're getting it kind of indoctrination by -- I guess by fire with it.

MR. BARTON: Yes, I am.

MR. BAUGHMAN: Okay. So being that these manuals go back a ways, some of these boilers in different years, my concern is on whether any hardware has actually been updated.

In other words, some of this equipment, I think, is 2003. As any of us in the boiler industry
knows, these things don't last. There's obsolescence. New equipment has to go in. If the new equipment goes in, that needs to be reflected, I believe, in the manuals.

Being that you've been there three months, you may not be exactly privy to that information, but I ask the question if any hardware has been replaced due to failure or needing to upgrade or whatever the situation may be?

MR. BARTON: And I asked that also.

MR. BAUGHMAN: Good.

MR. BARTON: So far, we have plans to make changes, but not set -- for the paperwork I have found, I have not seen any changes since 2008.

MR. BAUGHMAN: Okay.

MR. BARTON: But we do have plans in the future for that.

CHAIRMAN MORELOCK: Certainly.

MR. BAUGHMAN: Okay. Good.

Well, and that will be upon the reinspection that they'll verify what models are listed in the variance renewals versus what you might actually have.

MR. BARTON: Right.

MR. BAUGHMAN: Every one of the manuals states University of Tennessee Memphis will install, and I'd like that just to be --

CHAIRMAN MORELOCK: Well, that goes with the revisions with these construction dates that are seven years and things like that.

MR. BAUGHMAN: Sure. But, yeah, I would just be interested on that end of it, and I'm sure it will get looked at along the way.

MR. BARTON: Yeah.

MR. BAUGHMAN: But I'm glad you're on the board with them and part of their team. I'm sure you're going to be a good asset for them.

MR. BARTON: I appreciate that. Thank you.

CHAIRMAN MORELOCK: Any other comments?

MR. JACKSON: Mr. Chairman.

CHAIRMAN MORELOCK: Yes, sir.

MR. JACKSON: Is there one primary contact for all locations that I can address?

CHAIRMAN MORELOCK: The manual -- the manual references --

MR. BARTON: Kenneth Bradshaw.

CHAIRMAN MORELOCK: -- Mr. Bradshaw, yes, Kenneth Bradshaw. So -- and if it needs to be you that -- that's an editorial change to the manual, so I mean, that's not a problem. But if it's Ken, you know -- so you decide who that main contact is going to be.

MR. BARTON: Well, all of us fall under Ken.

CHAIRMAN MORELOCK: Okay.

MR. BARTON: So if it goes to Ken, it's going to come down.

CHAIRMAN MORELOCK: Okay.

MR. BARTON: We can do that. We can make an editorial change.

CHAIRMAN MORELOCK: So, I mean, do you want it to be you? Does UT Memphis want it to be you?

MR. BARTON: I don't know. I'll ask Ken if he wants it off his shoulders.

CHAIRMAN MORELOCK: Okay. Well, Mr. Jackson just needs to know.

MR. BARTON: I will. We will let Mr. Jackson know.

CHAIRMAN MORELOCK: So he will know who to communicate with and all that.

And then the other part of that is you'll need to work through the boiler unit to schedule that. That's on you to schedule that with the state, okay?

MR. BARTON: Okay.

CHAIRMAN MORELOCK: Okay. Any other questions or comments?

MR. BAUGHMAN: Yes, sir. Going back through on the very last page, taking, let's say, 15-10, where it says operating manual logs, manuals were issued to, it just says, name, date, by. It's blank.

MR. BARTON: Yes.

MR. BAUGHMAN: Going to 11, operating manual log manuals are issued to Kenny Bradshaw, George Byars; date, blank.

And then 12 and 13, as you're looking at the same within that of operating manual logs, either blank or that some information. That, in itself, I'd like to have filled out just so that we know part of that, too. Just a note.

CHAIRMAN MORELOCK: All right. And, I mean, you know, all your manuals are going to have to be very consistent; your organizational charts, your job titles, the operational plans, your plant diagram, your piping diagrams, you know, you just need to be very consistent. And that's the thing...
<table>
<thead>
<tr>
<th>Page 25</th>
<th>Page 26</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. with you having five manuals, right? You're going to have five instead of those four, right? Because you've got those two.</td>
<td>1. started abbreviating it on page 1. It took me from page 1 to page 2 to get to the abbreviation so I knew where I was going, so put that on page 1.</td>
</tr>
<tr>
<td>2. MR. BARTON: Yeah.</td>
<td>2. Correct the log, your boiler log, from two hours to four hours. On one of the manuals, you had the correct four hour if the variance was approved, but then on the rest of them you had two hours.</td>
</tr>
<tr>
<td>3. CHAIRMAN MORELOCK: So all five manuals will need to be kind of gone through with a fine-tooth comb to make sure they all agree with each other. That's the danger of putting the same information in multiple locations.</td>
<td>3. Put the actual distance on the site plan for each control room to the boiler for each manual. You had no numbers. You had -- I had seen a note, and I wanted to talk for discussion, you said that the reset for the boiler should be at a minimum of a thousand feet. Is that some type of…</td>
</tr>
<tr>
<td>4. But, yeah, I mean, that's going to be your biggest task, is making sure all that stuff reads correctly and compliments each other. Any other questions? Comments?</td>
<td>4. MR. BAUGHMAN: For the emergency room boiler shut off?</td>
</tr>
<tr>
<td>5. (No verbal response.) CHAIRMAN MORELOCK: All right. MR. ROBINSON: Are you prepared to take a vote?</td>
<td>5. MR. ROBINSON: Yes.</td>
</tr>
<tr>
<td>6. CHAIRMAN MORELOCK: All right. Well, if we are, somebody needs to make a motion.</td>
<td>6. MR. ROBINSON: I thought it was at a point of egress in the boiler room itself.</td>
</tr>
<tr>
<td>7. MR. ROBINSON: Let me add just some of my editorial comments that I noticed during my review. Again, it's going to be important to include a revision page in each manual. I noticed you had the general educational building listed on page 2, and then you actually started abbreviating it on page 1. It took me from page 1 to page 2 to get to the abbreviation so I knew where I was going, so put that on page 1.</td>
<td></td>
</tr>
<tr>
<td>9. MR. ROBINSON: It would have been -- it's under the -- I think the Hawk.</td>
<td>9. DR. JOHNSON: My reading of this is this is not specifically to comply with the state law, but rather it's the specification for the sale of this boiler, that it could operate up to a thousand feet.</td>
</tr>
<tr>
<td>10. CHAIRMAN MORELOCK: 15-10 or -- now.</td>
<td>10. CHAIRMAN MORELOCK: That's the limit of the equipment.</td>
</tr>
<tr>
<td>11. MR. ROBINSON: Oh, I'm looking at 10 right now.</td>
<td>11. DR. JOHNSON: Yeah, the limit of the equipment. Where it operates is up to the rules that we may have.</td>
</tr>
<tr>
<td>12. CHAIRMAN MORELOCK: Okay.</td>
<td>12. MR. ROBINSON: Right. But the only thing I'm questioning, Dr. Johnson, is, say, for an event, it's an impedance issue, okay?</td>
</tr>
<tr>
<td>13. MR. ROBINSON: But I think it was in all of them.</td>
<td>13. DR. JOHNSON: I don't think there's any doubt that these manuals are -- as you said, you said they are conceptual. They don't actually represent these specific conditions that's exist for any of this stuff.</td>
</tr>
<tr>
<td>14. CHAIRMAN MORELOCK: Okay. Yeah, here it is on C-10.</td>
<td>14. And I think that's a serious shortcoming if we were -- at this point, if we were to approve it, it would have to be contingent on getting all of these things fixed.</td>
</tr>
<tr>
<td>15. MR. ROBINSON: Yeah, is it C-10? Thank you.</td>
<td>15. MR. ROBINSON: From a technical standpoint, I'd have to look that up. I don't know</td>
</tr>
<tr>
<td>16. CHAIRMAN MORELOCK: It's Item T.</td>
<td>16. DR. JOHNSON: From a technical standpoint, I'd have to look that up. I don't know</td>
</tr>
<tr>
<td>17. MR. ROBINSON: Remote resetting of the safety lockout via momentary push button, remote reset switch can be placed up to a thousand feet from the programmer control. Can you see that light, anybody? I don't know. I'm just asking the question.</td>
<td>17. MR. BAUGHMAN: From a technical standpoint, I'd have to look that up. I don't know</td>
</tr>
<tr>
<td>18. MR. ROBINSON: Remote resetting of the safety lockout via momentary push button, remote reset switch can be placed up to a thousand feet from the programmer control. Can you see that light, anybody? I don't know. I'm just asking the question.</td>
<td>18. MR. ROBINSON: Remote resetting of the safety lockout via momentary push button, remote reset switch can be placed up to a thousand feet from the programmer control. Can you see that light, anybody? I don't know. I'm just asking the question.</td>
</tr>
<tr>
<td>19. MR. ROBINSON: From a technical standpoint, I'd have to look that up. I don't know</td>
<td>19. DR. JOHNSON: I don't think there's any doubt that these manuals are -- as you said, you said they are conceptual. They don't actually represent these specific conditions that's exist for any of this stuff.</td>
</tr>
<tr>
<td>20. MR. BAUGHMAN: From a technical standpoint, I'd have to look that up. I don't know</td>
<td>20. And I think that's a serious shortcoming if we were -- at this point, if we were to approve it, it would have to be contingent on getting all of these things fixed.</td>
</tr>
<tr>
<td>21.</td>
<td>21. And I think that's a serious shortcoming if we were -- at this point, if we were to approve it, it would have to be contingent on getting all of these things fixed.</td>
</tr>
<tr>
<td>22.</td>
<td>22. And I think that's a serious shortcoming if we were -- at this point, if we were to approve it, it would have to be contingent on getting all of these things fixed.</td>
</tr>
<tr>
<td>23.</td>
<td>23. And I think that's a serious shortcoming if we were -- at this point, if we were to approve it, it would have to be contingent on getting all of these things fixed.</td>
</tr>
<tr>
<td>24.</td>
<td>24. And I think that's a serious shortcoming if we were -- at this point, if we were to approve it, it would have to be contingent on getting all of these things fixed.</td>
</tr>
<tr>
<td>25.</td>
<td>25. And I think that's a serious shortcoming if we were -- at this point, if we were to approve it, it would have to be contingent on getting all of these things fixed.</td>
</tr>
</tbody>
</table>
MR. BAUGHMAN: One thing I'll add to that is that this remote reset of safety lockup via momentary push button, that is actually on the programmer itself. The programmer is located on the boiler burner, so that controller is not going to be remotely mounted, except maybe in the boiler room itself off of the burner or what have you, but it's not going to be in the guard station or what have you. So it's not -- it's actually, typically, on the display module or on the programmer itself. So they're not going to remotely monitor -- or remotely locate that to another position, I believe.

What we'd be looking at is a -- an emergency room E-stop can be virtually anywhere, but this will be part of that 7800 Series programmer. Which I don't believe they're going to have anywhere else because it's got to be reset in the boiler room itself. It can't be reset from the guard shack.

MR. BARTON: I don't know that this would be in CSD-1.

MR. ROBINSON: So the hold mode buttons on -- sets off the boiler, allows three minutes for a period of conditioning before the communication interface transmits an alarm. If the hold button condition is corrected within three minutes, the burner is allowed to restart automatically, ignore alarm is transmitted.

The way I read that, it seemed like the control for the boiler was maintained inside the remote monitoring station and the hold button was part of that circuitry.

MR. BARTON: So what are you asking?

MR. ROBINSON: No, it's not in CSD-1.

So turn to page 2, note 5, paragraph 5.

MR. BAUGHMAN: On C-11?

MR. ROBINSON: 10.

MR. BAUGHMAN: 10. Okay.

MR. ROBINSON: So the hold mode buttons do -- sets off the boiler, allows three minutes for a period of conditioning before the communication interface transmits an alarm. If the hold button condition is corrected within three minutes, the burner is allowed to restart automatically, ignore alarm is transmitted.

The way I read that, it seemed like the control for the boiler was maintained inside the remote monitoring station and the hold button was part of that circuitry.

MR. BARTON: So what are you asking?

MR. ROBINSON: I don't know. So when I saw the reset, I said -- well, I was uncertain. Can you help me?

MR. BARTON: When you have a condition right there, you can hold the button, which will keep something from happening.

MR. ROBINSON: Inside the monitoring?

MR. BARTON: At the boiler itself, you have the control panel.

MR. ROBINSON: Sure. Okay.

MR. BARTON: The digital monitoring system, you would never let somebody sit there and hold a button while you're down there by that boiler. I wouldn't.

MR. ROBINSON: Let me ask you this: Is the reset button independent of the monitoring station?

MR. BARTON: Yes.

MR. ROBINSON: Good.

MR. BARTON: It's just a shutoff button, yes?

MR. ROBINSON: Hard lockout?

MR. BARTON: Yes. And like I said, it's part of this series -- this program control series here.

MR. ROBINSON: Okay.

MR. BARTON: Even though you have a program, you still have manual controls out here at the boiler itself.

MR. ROBINSON: Sure. Will shut it down.

CHAIRMAN MORELOCK: No. These five items are just microprocessor features --

MR. ROBINSON: Okay. Fine.

CHAIRMAN MORELOCK: -- which is mounted close to the boiler. Correct.

MR. ROBINSON: That's what I wanted to hear. Okay. Distance.

You mentioned a log for training. And I know that everybody in Shelby County is licensed operators.

MR. BARTON: Yes.

MR. ROBINSON: That really warms my fuzzy.

And I'm sure Dr. Canonico, if he was here, he would be very overwhelmed. But could you also include a log, an actual signature log in the date of the training for visual viewing inside the manual? You make the statement that it's documented, but you don't provide the log.

MR. BARTON: It wasn't in these that you have.

MR. ROBINSON: No, sir.

MR. BARTON: It is in the new ones.

CHAIRMAN MORELOCK: Okay.

MR. BARTON: You know, we have them. I have copies of them. Now we have the copies of them, and I apologize if they wasn't sent to you. But we do have the date, the time, the person that actually did the training, it's all there.

MR. ROBINSON: Okay. Include the lines -- the leader lines on the org chart for reporting. You've just got the blocks.

MR. BARTON: Okay.
MR. ROBINSON: Again, confirm the actual address for each location for each manual. And the reason being is, because that's -- and I'll bring this to the board just for discussion, normally you -- on the header of the manual, you will have an actual location in which, I'm sure, you're getting your mail, the boilers are located, et cetera. But in this case, like I think -- let's see. Let's look at 15-10. Okay. 15-10, the header says it's 19 South Manassas; and the second page on the introduction shows that it's at 8 Dunlap.

MR. BARTON: Again, sir, I apologize for that.

MR. ROBINSON: No, no, no. No apologies.

MR. BARTON: I understand. I mean, that's why I sent you an update with the introduction and I combined the two and made them correct.

MR. ROBINSON: So in other words, the discussion is to make the addresses consistent with what's -- where the boilers are located. Okay.

MR. RAUGHMAN: Yes.

DR. JOHNSON: It's the cancer research building that's at 19 South Manassas, but this complex is on Dunlap.

MR. ROBINSON: Right.

DR. JOHNSON: And so it's -- you know, it would be clearer. But you have this issue of where is the person of responsibility and I assume that Bradshaw is at this Dunlap location.

MR. ROBINSON: Correct. I agree. So the question again -- and I'll restate it.

DR. JOHNSON: Well, that's for them and not for me. But yeah -- but this just -- I mean, this says where this thing is going to be, is my interpretation of this. This is the manual that goes to 19 South Manassas and this is the manual that goes to 901 Monroe, et cetera. So I think that's why they did that.

MR. ROBINSON: Exactly.

CHAIRMAN MORELOCK: Because the boilers -- some of the boilers are located in specific buildings.

MR. ROBINSON: Right. Whereas normally I would --

DR. JOHNSON: And it does give that in that introduction. It says, where these boilers are located is in the cancer research facility, which on the front cover says cancer research facility is located here.
then it's good for Neil to know that when he shows up that if he goes to Dunlap, he's going to be in your office. And he goes to 19 South Manassas, he's going to be where the boilers are.

MR. BARTON: He sure is.

CHAIRMAN MORELOCK: Right, so...

MR. ROBINSON: Bingo. There you go.

Okay. Okay.

DR. JOHNSON: Obviously that should be clearer because it was a subject for misinterpretation.

CHAIRMAN MORELOCK: Well, I can appreciate that, but we have the same problem at our facility.

Yeah.

MR. ROBINSON: Make the corrections to all the past tense dates and statements.

MR. BARTON: On 15-12, you had the incorrect statute references. It should be 68-122 -- dash 122.

Oh, you had just did it on the introduction page, so you're okay. You can get away with that one.

CHAIRMAN MORELOCK: Where is that?

MR. ROBINSON: Right here.

CHAIRMAN MORELOCK: Yeah, yeah, yeah.

You're right. You're right.

MR. ROBINSON: You had 68, chapter 20.

Typo page 1 and 4 at the tops and bottom.

I'm going to move on to 15-13. Just on the equipment log, the boiler National Board numbers look like they may be transposed, maybe. The first one, I think it was 8856 and the other one was 55 and 54, and I think you had a 3 somewhere in there, an oddball. Yeah, the first one 8858, 8356, and 8357, but then they're all the same units in succession, so just verify that.

CHAIRMAN MORELOCK: That would be more on the manufacturer than them, though.

MR. ROBINSON: It is.

CHAIRMAN MORELOCK: That's who assigns the number.

MR. ROBINSON: No, I don't think that's the manufacturer. I think it's a typo.

CHAIRMAN MORELOCK: Okay.

DR. JOHNSON: He's looking at the NB.

CHAIRMAN MORELOCK: You're talking about National Board numbers, right?

MR. ROBINSON: Yeah. I think it's a typo.

DR. JOHNSON: Yeah. And it -- somebody misinterpreted it. Eight-foot-three is what you're suggesting?

MR. ROBINSON: Yeah.

CHAIRMAN MORELOCK: Oh, okay. Yeah, yeah.

MR. ROBINSON: He's saying it could be 8356, 8357, and 8358. And maybe that 858 is a typo.

CHAIRMAN MORELOCK: Yeah.

DR. JOHNSON: So it's good to check.

CHAIRMAN MORELOCK: It could be from the manufacturer. I've seen that a lot, too.

DR. JOHNSON: They do -- the Tennessee numbers are in succession.

CHAIRMAN MORELOCK: Yeah, they are. All right.

MR. ROBINSON: Log F1 on 13, I'm pushing the edge, but the add water column daily tests. Right at system test, just add daily water column test.

That's all I have, sir.

MR. BAUGHMAN: Eugene.

MR. ROBINSON: Yes, sir.

MR. BAUGHMAN: Are you referring to a positive check of the low water cutoff?

MR. ROBINSON: Yes. Yes.

MR. BAUGHMAN: Okay. I think that may need to be clarified, because a water column may be interpreted differently if we make it positive check of the low water cutoff.

MR. ROBINSON: I have no problem with that. Positive check.

MR. BARTON: And when they do the blowdown, I mean, we get an alarm. That's when we're checking low water, when they do a manual blowdown, too. But we also visually check every day, so I can add that to it.

MR. ROBINSON: Yes, sir. Thank you.

MR. BAUGHMAN: Allen, that's a -- an alarm is one thing, but making -- that's a positive check of an alarm. Actual positive check of the low water cutoff, is it shutting the burner off?

MR. BARTON: Yes. Well, that's what happened. We have the stationary engineer sitting there looking at our digital display and we have the roving engineer there performing these tests.

MR. BAUGHMAN: Sure.

MR. BARTON: And they do document that.

MR. BAUGHMAN: There is times when a shunt is used just to check the alarm circuit. And that checks the alarm circuit, it doesn't necessarily shut the burner off.
MR. BARTON: I understand.

MR. BAUGHMAN: Okay. I've got one other thing to bring to you also, Allen, and it's under the training of operating personnel on page 8. And it's the last paragraph, that the refrigeration and AC operations supervisor be responsible for all aspects of training, so forth and so on. That person would be -- as far as personnel, who would that be?

MR. BARTON: Well, that would be George Byars now, but under me, so I guess that would be me now.

MR. BAUGHMAN: Okay. So that's a revision that we'll have in there. So HVAC operator supervisor is now under yourself, and you'll be responsible for all aspects of training and so forth. So under that definition also, then you've got a superintendent, a super of HVAC services and operations, which is above yourself?

MR. BARTON: No, that's me.

MR. BAUGHMAN: That's you also.

So I'm looking at the organizational diagram on E1 that shows director of facilities, then it shows super of HVAC services and operations.

MR. BARTON: Well, again, with -- the director of facilities is Kenny Bradshaw.

MR. BAUGHMAN: Okay. That's a revision that we'll have in there. So HVAC operator supervisor is now under yourself, and you'll be responsible for all aspects of training and so forth. So under that definition also, then you've got a superintendent, a super of HVAC services and operations, which is above yourself?

MR. BARTON: No, that's me.

MR. BAUGHMAN: That's you also.

So I'm looking at the organizational diagram on E1 that shows director of facilities, then it shows super of HVAC services and operations.

MR. BARTON: Well, again, with -- the director of facilities is Kenny Bradshaw.

MR. BAUGHMAN: Okay.

MR. BARTON: And then me.

MR. BAUGHMAN: Okay. And then you again?

MR. BARTON: No, I'm going to give that to George.

MR. BAUGHMAN: So now we'll go to George?

MR. BARTON: George Byars, yes.

MR. BAUGHMAN: Then the operators roving and so forth?

MR. BARTON: Yes.

MR. BAUGHMAN: Okay. So then on the next page, E2, mechanical services dated December of 2014, we've got Kenny, and we've got operator supervisor. Which is going to change, then, to yourself?

MR. BARTON: Yes.

MR. BAUGHMAN: Okay. And then it also says that the operator supervisor also serves as senior plant operator and remote monitoring operator. Which will be yourself also?

MR. BARTON: No. We're going to change this chart.

CHAIRMAN MORELOCK: Okay. I think that's your point.

MR. BARTON: We'll revise the chart.

MR. BAUGHMAN: Okay.

CHAIRMAN MORELOCK: That's your point. It does -- you know, you've got two -- you've got a simplified organizational chart on E1 and then a more general on E2. And again, all those job titles and all those blocks need to line up with the words in your manual. That's the critical part.

MR. BAUGHMAN: Okay. And I just wanted to bring that to the attention just so it didn't get passed over, but it needed to be reorganized.

CHAIRMAN MORELOCK: Yeah. And we counsel this to all the folks that bring manuals to us. You know your process, but we don't. And so when we read it, you know, we have some disconnects, and so it helps to -- it actually helps for somebody that doesn't know your organization to review it because they'll see what you can't see after a while.

MR. BARTON: Oh, I understand.

MR. BAUGHMAN: Thanks, Allen.

MR. BARTON: Thank you.

CHAIRMAN MORELOCK: Any more comments?

(No verbal response.)

CHAIRMAN MORELOCK: All right. Now that we've had all the discussion, is there any conflict of interest?

(No verbal response.)

CHAIRMAN MORELOCK: Okay. Is this for all four items, 10, 11, 12, and 13?

MR. BAUGHMAN: I would say if --

MR. ROBINSON: Agreed.

MR. BAUGHMAN: You're agreeing? Okay.

Yeah, so all four items.

CHAIRMAN MORELOCK: Everybody in agreement of that?

MR. ROBINSON: Second.

CHAIRMAN MORELOCK: Okay. I have a second.

So what you can do, Allen, is take all these comments, revise your -- really, even though it's not on the agenda, you really need to look at all five of your manuals. That one is not on the agenda. Make sure they're all consistent and
everything like we've discussed. Schedule the
inspection through the boiler unit with Sam and
Neil, and our approval today is contingent upon
Deputy Inspector Jackson's review of your site and
then agreeing that what he sees matches what's in
the manual, okay?

MR. BARTON: Yes, sir.

CHAIRMAN MORELOCK: All right. Anything
else?

(No verbal response.)

CHAIRMAN MORELOCK: All right. I'm going
to call the question. All in favor say "aye."

(Affirmative response.)

CHAIRMAN MORELOCK: Opposed? Abstentions,
not voting?

(No verbal response.)

CHAIRMAN MORELOCK: All right. You have
four manuals that are contingently approved upon
site inspection.

MR. BARTON: Thank you, gentlemen.

CHAIRMAN MORELOCK: Thank you. You're a
brave man to come after three months. Tell them
they need to give you an award or something.

MR. BAUGHMAN: Three months' experience.

CHAIRMAN MORELOCK: That's right.

MR. BAUGHMAN: Gee whiz.

CHAIRMAN MORELOCK: Okay. That will cover
So our next item is 15-14, Cookeville
Regional Medical Center requests a variance renewal
for two boilers located at 1 Medical Center
Boulevard, Cookeville, Tennessee.
So, gentlemen, if you'll introduce
yourselves.
And before I forget, is there a conflict
of interest?

(No verbal response.)

CHAIRMAN MORELOCK: All right. Hearing
none, y'all may proceed.

MR. NEVILLE: I'm James Neville of Neville
Engineering, representing Cookeville Regional
Medical Center.

MR. IWANYSZYN: And I'm Joe Iwanyszyn from
Cookeville Regional Medical Center.

MR. NEVILLE: Today we are requesting the
renewal to a variance that was three years old.
Previously, we were on Revision 6 of the checklist,
so in Appendix 15, we listed the changes. And these
changes are mainly an update to checklist Revision 9
and some additional information in the job
descriptions in Appendix G, as far as different
duties for under the variance.

There have been no hardware changes to the
variance, so this is just a renewal of the approved
variance.

CHAIRMAN MORELOCK: Okay. Any questions?

MR. ROBINSON: I've got two comments.

CHAIRMAN MORELOCK: Okay.

MR. ROBINSON: Does PVX have a definition
on page 4?

MR. NEVILLE: We can add one.

CHAIRMAN MORELOCK: What is it?

MR. NEVILLE: It's a phone.

MR. IWANYSZYN: It's an operating -- it's
the main operating station where all the calls come
in to.

MR. ROBINSON: Okay.

MR. IWANYSZYN: It's, you know, central
monitoring.

MR. ROBINSON: Page 5, paragraph 1, you're
saying that if the remote station personnel leave
for any reason, they can be gone -- go ahead.

MR. NEVILLE: Which page are we referring
to?

MR. ROBINSON: Page 5.
<table>
<thead>
<tr>
<th>Page 49</th>
<th>Page 50</th>
<th>Page 51</th>
</tr>
</thead>
<tbody>
<tr>
<td>paragraph 22, per the 20-minute rule.</td>
<td>MR. ROBINSON: The boiler log.</td>
<td>MR. NEVILLE: Right. And for clarification, you would like that every shift or once a day? What is the frequency on that?</td>
</tr>
<tr>
<td>CHAIRMAN MORELOCK: Yeah. And --</td>
<td>MR. NEVILLE: The boiler monitor log?</td>
<td>MR. BAUGHMAN: Consistency is what gets mandated to prove that there's no negligence of attendance or maintenance of that device. So whatever it may, it needs to be on a consistent basis. Not every facility has the availability to shut the burner down, go through the recycle and bring back up. So it's really individual with in the facility on what is able to be checked. Biggest thing it is, if it's checked once a day, be consistent with that. If it's checked once every other day or once a week, be consistent in that check.</td>
</tr>
<tr>
<td>MR. NEVILLE: We can make that change.</td>
<td>MR. NEVILLE: And right now, we have a water level check. Can I just add a note in the -- say, note 7 on that page, that -- a positive check for low water. That's what it references?</td>
<td>MR. ROBINSON: Just so you know, as a reference, we do not -- they say recommended, CSD-1 says daily.</td>
</tr>
<tr>
<td>CHAIRMAN MORELOCK: And you referenced that in another section of the manual.</td>
<td>MR. ROBINSON: Perfect.</td>
<td>MR. NEVILLE: Daily. So I believe the facility has been --</td>
</tr>
<tr>
<td>MR. ROBINSON: You do.</td>
<td>CHAIRMAN MORELOCK: Is that practical to check it every day?</td>
<td>CHAIRMAN MORELOCK: Is that practical to check it every day?</td>
</tr>
<tr>
<td>MR. NEVILLE: Right.</td>
<td>MR. ROBINSON: That's all.</td>
<td>MR. ROBINSON: Thank you, Mr. Neville.</td>
</tr>
<tr>
<td>CHAIRMAN MORELOCK: So if you just copy that over, it will satisfy that. Because you make reference that you will attend the boiler, per Rule 22.</td>
<td>MR. NEVILLE: So you're referring to -- I think it's, F1?</td>
<td>MR. IWANYSZYN: And the only reason why --</td>
</tr>
<tr>
<td>MR. ROBINSON: Two more.</td>
<td></td>
<td>if you guys don't mind if I interject.</td>
</tr>
<tr>
<td>Are you ready?</td>
<td>MR. ROBINSON: The boiler log.</td>
<td>CHAIRMAN MORELOCK: No.</td>
</tr>
<tr>
<td>MR. NEVILLE: Yes.</td>
<td>MR. ROBINSON: The boiler monitor log?</td>
<td></td>
</tr>
<tr>
<td>MR. ROBINSON: It's -- Boiler Number 3 is not installed yet?</td>
<td>MR. NEVILLE: The boiler monitor log?</td>
<td></td>
</tr>
<tr>
<td>MR. IWANYSZYN: No, sir.</td>
<td>MR. ROBINSON: Okay. Boiler log tests, could you add positive -- how would you like to see that, David?</td>
<td></td>
</tr>
<tr>
<td>MR. ROBINSON: Okay.</td>
<td>MR. BAUGHMAN: Positive check of the low water cutoff.</td>
<td></td>
</tr>
<tr>
<td>MR. NEVILLE: Yes.</td>
<td>MR. ROBINSON: That's all.</td>
<td></td>
</tr>
<tr>
<td>MR. ROBINSON: Two more.</td>
<td>MR. NEVILLE: So you're referring to -- I think it's, F1?</td>
<td></td>
</tr>
</tbody>
</table>
| Are you ready? | | }

Elite Reporting Services * (615) 595-0073 49.52
www.EliteReportingServices.com
Page 53

1 really be good if it -- you know, the frequency
2 could be minimized as much as possible because I
3 like your comment, recommended, that's wonderful.
4 MR. ROBINSON: Yes. Yes.
5 MR. IWANYSZYN: So it would really be good
6 to know for sure what is permissible, so that when
7 an inspector comes we're not outside the bounds of
8 what the board recommends.
9 CHAIRMAN MORELOCK: Well, all we're doing
10 is telling you what the rules are. It's not our
11 rule. It's either ASME or the State of Tennessee.
12 MR. IWANYSZYN: All right. Thank you.
13 Good point.
14 CHAIRMAN MORELOCK: So it's not our wish,
15 we're just telling you what the -- what the national
16 codes say and what the Tennessee law and rules say
17 so...
18 MR. BAUGHMAN: And, Joey, I'll add to
19 that.
20 Since '95 when the National Board started
21 recording incidences, the two leading causes of
22 incidents each year within boilers are low water,
23 operator error/poor maintenance. And so that's why
24 there's a high level given towards the low water
25 entity of things. And I understand the mechanical

Page 54

1 end of it and by all means the frequency of cycling
2 and so forth, but that's why that being looked at
3 and being advised upon.
4 MR. IWANYSZYN: Thank you.
5 CHAIRMAN MORELOCK: Well, and just a point
6 of information, how many times have you had that
7 very scenario that you've told us happen?
8 MR. IWANYSZYN: Several.
9 MR. ROBINSON: On your controller?
10 CHAIRMAN MORELOCK: Yeah. How many times
11 has it been -- you know, you've had one boiler down,
12 start one up and it goes down? How often does that
13 happen?
14 MR. IWANYSZYN: Very seldom, but it does
15 happen. And for me -- Okay. I am -- I'm sorry.
16 I'm just too passionate. I love people and I love
17 the patients, and I just don't want to see anything
18 transpire that --
19 CHAIRMAN MORELOCK: Oh, sure.
20 MR. IWANYSZYN: So I guess I'm always
21 Mr. Plan B and sometimes Plan C. I can't help it.
22 I just -- I'm on that edge all the time, so I'm
23 always trying to be...
24 CHAIRMAN MORELOCK: So what would be your
25 contingent plan so that you can sleep at night and

Page 55

1 not have to worry about somebody being cold?
2 MR. IWANYSZYN: Just my contingent, what I
3 would request --
4 CHAIRMAN MORELOCK: Yeah.
5 MR. IWANYSZYN: -- is if we ever have an
6 emergency where one system is down, that if we could
7 waive that cycling of shutting it down until we get
8 the other one repaired, that's the only thing I ask.
9 Because again, it always has that potential if it
10 does cycle, what if it don't come back up? What do
11 I do? Because --
12 CHAIRMAN MORELOCK: Well, and the way you
13 handle that is you talk to that gentlemen right
14 there. Because his job not to shut down every
15 business in the state of Tennessee, but his job is
16 to keep us all safe.
17 MR. IWANYSZYN: Can I please have your
18 card? I really would. I think it's a great
19 conversation.
20 MR. CHAPMAN: I will get you my card.
21 MR. IWANYSZYN: Thank you, gentlemen. I
22 really appreciate that.
23 CHAIRMAN MORELOCK: Because if you look
24 through the rules and the law, especially in the
25 NBIC, and it says, jurisdiction as required or looks

Page 56

1 in the law for you to contact the boiler unit,
2 that's why they're there. We've went -- with us
3 being East men, we've went to the board with some
4 issues and they've worked with us through those to
5 have continued safe operation in less than ideal
6 conditions and that's what you're talking about.
7 MR. IWANYSZYN: And I always make it a
8 point to go through the NBIC, always. That's our
9 requirement, period.
10 CHAIRMAN MORELOCK: Okay. Very good.
11 MR. JACKSON: Mr. Chairman --
12 CHAIRMAN MORELOCK: Yes.
13 MR. JACKSON: One of my pet things, I
14 guess you could say, is when I do the inspection, I
15 don't pick low water. I pick one of them messages
16 that says it will shut the boiler down. And that's
17 normally what I'll check. So they're going to be a
18 problem with them also, verifying they work.
19 MR. BAILEY: So that the transcript is
20 clear, will you give your name to the reporter?
21 MR. JACKSON: Neil Jackson, consultant.
22 CHAIRMAN MORELOCK: So if Neil comes and
23 does a site inspection and he wants to see that, is
24 that going to be a problem for you to -- because all
25 those fault codes and all those things that are in
your manual, he can pick any one of those and say, I want to see this happen. That's why they're in the manual so...

MR. IWANYSZYN: In the process, we'll be able to function in that manner.

CHAIRMAN MORELOCK: Okay. So would that be a problem if we asked for that?

MR. IWANYSZYN: Well, if you go back on your question -- I'm sorry. On your question, again, are you saying if one unit is down right now or if both of them are functioning properly?

MR. JACKSON: To me it makes no difference. You've got a variance request and I'm just verifying that variance is operable, so I don't know when I go there whether both boilers are up, one is down or open or what. I'm there to make an inspection of your variance program.

MR. IWANYSZYN: So I guess that's a great discussion with you, sir. In regards to when you get into that condition when you have one down, do you take that option and do you take that option to shut that other unit down where it doesn't start, can you have nothing for your facility and I'm just --

MR. NEVILLE: During that inspection, that's an inspection that would be called on by the facility. At that moment, if there was a condition like that, I think you would request that, you know, that inspection be delayed, a day, a week, whenever parts come in to repair both boilers.

CHAIRMAN MORELOCK: Right.

MR. ROBINSON: Most clients that I've visited that have had dual boilers and had a process that couldn't afford a shutdown of anything, they would bring up the second boiler if it wasn't online and they would perform the test based on the redundancy of that secondary boiler, so -- but I'm sure Mr. Jackson will -- you know, if you've got two units and you've got one down and one operating, that he would allow you to bring up the second boiler. You go ahead and make the test. Then shut one down, shut the other one off. But most of my clients, I've never had one refuse to perform that test.

DR. JOHNSON: I think it's really important also to point out that the purpose for all of this testing is public safety and that is it better for people to be cold or is better for there to be a boiler explosion if there were failed equipment? Because this stuff isn't just to make sure that you have a boiler that's working, it's to make sure that you have boilers that are safe.

So there's no conflict there. And what this group's purpose should be is to facilitate your success to assure safety and warmth or for whatever other reason you might use your boilers. It's -- this is not about the convenience of making you prove that your stuff works. It's about guaranteeing the public safety and the safety for you hospital.

MR. IWANYSZYN: I agree.

MR. ROBINSON: Yeah. You don't want to find out it doesn't work.

DR. JOHNSON: Yeah. I would rather know that it didn't work and you have the evacuation, if that's what it came to, although I think the probability of that is very low.

CHAIRMAN MORELOCK: Well, and as you can see, proper planning is very important for success.

MR. IWANYSZYN: Agreed.

CHAIRMAN MORELOCK: And a contingency plan is also --

MR. IWANYSZYN: Yes, sir, I agree.

CHAIRMAN MORELOCK: Any other comments?

MR. BAUGHMAN: Yes, sir. Under personnel responsible for remote monitoring, it's there again on page 5, number 1, remote station personnel.

Remote station will be continually staffed by switchboard operators. Personnel monitor virtually everything, but there again, the switchboard operators, I would hope that these people would be in place for quite some time, by all means. But as we get down to -- there's no listing of personnel that I've seen -- and you may clarify this for me to identify who we've got as personnel available as boiler attendants.

MR. IWANYSZYN: It would be 15.

MR. BAUGHMAN: 15, very good. Okay. And
the person responsible again for training those
personnel is the plant facilities supervisor?

MR. IWANYSZYN: Yes, sir.
CHAIRMAN MORELOCK: I.e.?
MR. IWANYSZYN: James Dulworth.
MR. IWANYSZYN: You knew I would bring
him.
MR. DULWORTH: Supervisors run the world
so...

MR. BAUGHMAN: Very good. Good call.

Good. So in our manual, we will have a listing of
those -- or you'll have in your manual listing of
those personnel with numbers and so forth?

MR. NEVILLE: Yes. I mean, on page 7 and
then Appendix G, it lists all their job descriptions
and responsibilities.

MR. BAUGHMAN: I understand that. I'm
talking about physically listing those people and
numbers out. I understand the job description and
so forth.

MR. NEVILLE: Yes. So in the -- on page
7, number 2, the boiler attendant is scheduled by my
plant facilities supervisor and that schedule is
posted in the maintenance shop. So those 15
individuals know when their schedule is by posting
in the maintenance shop.

MR. BAUGHMAN: Gotcha. Do those personnel
need to be in the manual or not or is that
sufficient?

CHAIRMAN MORELOCK: I think the
switchboard operator --

MR. NEVILLE: Well, they are in the manual
as far the training log. So once the training log
is filled out as far as their individual names will
show up in the training log.

MR. BAUGHMAN: Gotcha.
CHAIRMAN MORELOCK: So you don't want to
list it. We've went through that.

MR. NEVILLE: Right.

CHAIRMAN MORELOCK: You want job title,
not names, because they're revising their manual all
the time.

MR. NEVILLE: That's correct.

MR. BAUGHMAN: And in our manual variance
training log that we've got on H1 again is a blank
log.

CHAIRMAN MORELOCK: That's an example.

MR. BAUGHMAN: Example, okay.

MR. NEVILLE: They haven't been trained to
this manual yet. They've been trained to the
existing manual and that's being kept at the
facility.

MR. BAUGHMAN: Very good.
CHAIRMAN MORELOCK: It's just like having
a National Board form and --

MR. NEVILLE: This would be a --

MR. BAUGHMAN: Okay.

MR. NEVILLE: You know, anyone that was
trained in this manual, they will go in that list
that be kept out at the facility.

MR. BAUGHMAN: Very good, James.
CHAIRMAN MORELOCK: Now what Mr. Jackson
will review will be the actual document.

MR. NEVILLE: Copy at the facility.

MR. BAUGHMAN: Very good.

CHAIRMAN MORELOCK: This is just for our
benefit to say that they do have a log.

MR. BAUGHMAN: I gotcha. Thank you very
much.

CHAIRMAN MORELOCK: Any other questions or
comments? All right. Now that we've got -- oh,
yes, sir.

MR. DAVIDSON: I'm Bob Davidson, state
inspector for that area. I have a question. I'm
not sure how this is all written, but if you're
worried -- you've got one boiler down and you don't
want to test the other one because you're afraid if
you do and it doesn't come back up and you can't
really test it, so when you're in that situation,
wouldn't you want to go back to the 20-minute rule
and have an attendant in the boiler room until the
other one is back up and running? Then, this way
you've got somebody physically there looking at the
gauge flex. These things will drive fire in a
heartbeat, you know. And I know how fast a plant
will suck the boiler room dry of steam. And if it's
that critical, I think you should go back to the
20-minute rule when the other boiler is down.
That's just my suggestion. I don't --

CHAIRMAN MORELOCK: Well, and not to speak
for Joey, but I think his initial scenario was if he
had a boiler that was operating properly, the other
one was just down because they didn't need it and
then Mr. Jackson comes in and goes, I want you to do
a low water shutoff and shut this boiler down and he
does that and he tries to bring his other boiler up
and he has a problem, that's his scenario. Your
scenario would be a little different if he had --
because if he had a boiler that he was afraid to
start up, that's a whole different conversation.

MR. DAVIDSON: Or it can't start because it's a down for a bad part.

CHAIRMAN MORELOCK: That's true. And again, that goes back to his planning for the inspection so that he's got two viable boilers so he won't put himself in that situation, you know.

Now, but to your point, if he did have a boiler operating and another one is down for maintenance and then his good one is going down, again, that's another conversation, so...

MR. NEVILLE: I mean, the 20-minute rule may be a better option to operate that --

CHAIRMAN MORELOCK: Yeah. And that would be what you would have to do under that circumstance, that's right.

MR. ROBINSON: Exactly.

CHAIRMAN MORELOCK: Good, good question.

Good conversation.

MR. ROBINSON: Very good comment.

CHAIRMAN MORELOCK: Anything else?

I've got a few. Now that we've covered all the substantive comments, I've got the nitpicky ones.

The only thing I have is in your revision you say that you've updated Appendix G to show boiler variance duties which you've shown on each of the job descriptions by adding a paragraph at the end of those, correct? Boiler variance duties at the end of all those job descriptions?

MR. NEVILLE: Right. And on some of them --

CHAIRMAN MORELOCK: You've updated the skills on some of that as well?

MR. NEVILLE: Yes. That is correct.

CHAIRMAN MORELOCK: That is part of the revision?

MR. NEVILLE: Correct.

CHAIRMAN MORELOCK: Okay. All that is fine and dandy, but revision date on all these job descriptions are 12/1/2007 and 12/1/2008, so you need get them reapproved for the current date that you've revised them to.

MR. NEVILLE: I see.

CHAIRMAN MORELOCK: And that's all I have. So anything else?

All right. I need a motion as to how the board is going act on this item.

MR. BAUGHMAN: I would move approval upon inspection and the revisions being updated in the manual.

CHAIRMAN MORELOCK: Okay. Okay. Second?

DR. JOHNSON: Second.

CHAIRMAN MORELOCK: I've got a second.

Okay. So we are going to vote to approve this renewal based on the revisions as noted in the minutes and by a successful site inspection by Deputy Inspector Neil Jackson.

Are there any other comments? Hearing none, I'm going call for the vote. All in favor say "aye."

(Affirmative response.)

CHAIRMAN MORELOCK: All opposed?

Abstentions, not voting?

(No verbal response.)

CHAIRMAN MORELOCK: All right, gentlemen, you have an approved renewal.

MR. NEVILLE: Thank you.

MR. IWANYSZYN: Thank you.

CHAIRMAN MORELOCK: Okay. Our next item is a 15-15 with Shaw Industries. They're requesting a variance for three boilers located at plant 10 in Decatur, Tennessee.

Are there any conflicts of interest with this item? All right. Hearing none, gentleman, introduce yourself and proceed.

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

MR. PURYEAR: I'm Stefan Puryear with Shaw industries.

MR. NEVILLE: Shaw Industries Plant 10 is a yarn spinning mill, located in Decatur, Tennessee, employing approximately 200 employees. Currently they operate three high-pressure boilers under the requirements of Chapter 800-3-3. These boilers operate on demand, 24 hours per day, seven days per week furnishing high-pressure steam for their process. The location of the -- in Site Plan 1, Figure 1, the location of the remote station is approximately 295 feet from the boiler room. Now, the remote station will be continuously staffed by the shift supervisors in that remote station location.

And the individuals that will be monitoring the boiler, we list four different positions. The boiler utility, mechanic 3, the shift supervisor, and the Superba shift supervisor. Those four positions.

We would like to take any question you have with our variance.
CHAIRMAN MORELOCK: Okay. Questions or comments? Do y'all have any?

MR. NEVILLE: I do have one additional thing I need to bring up. This was a new hire at the facility as far that's responsible for the boilers. Thompson Harrison -- this would be on page 1 -- is the new plant engineer, and that position had not been filled when this variance was written. So Thompson Harrison and his phone number (423)413-3805 will be added to the variance.

MR. BAUGHMAN: And he will be the --

MR. NEVILLE: He's the plant engineer.

CHAIRMAN MORELOCK: Plant engineer, thank you.

Thompson Harrison?

MR. NEVILLE: Thompson Harris.

MR. BAUGHMAN: Harris.

MR. NEVILLE: H-A-R-R-I-S.

MR. BAUGHMAN: Thank you, James.

CHAIRMAN MORELOCK: Okay. Any other comments?

I just have a few.

MR. NEVILLE: Okay.

CHAIRMAN MORELOCK: Let me find my page. I've got -- on page 5 under training, it's the last sentence. It says, these supervisors shall be responsible for training all incoming personnel. And who is that supervisor? According to the org chart, it's either the shift supervisor or the Superba shift supervisor; is that correct? You've got two trainers?

MR. NEVILLE: I believe it will be the shift supervisor is the position. We'll make that clarification there.

CHAIRMAN MORELOCK: Okay.

MR. PURYEAR: We would have two of those.

MR. NEVILLE: Two shift supervisors or --

MR. PURYEAR: Well, yes.

MR. NEVILLE: Right. But it will be one -- well, you know, the position really should say the shift supervisor so...

CHAIRMAN MORELOCK: So for like the twisting department, the shift supervisor for that will be training all of those people and then for the Superba folks, it will be their shift supervisor; is that correct, for training?

MR. PURYEAR: I believe so, yes.

CHAIRMAN MORELOCK: Okay. Yeah, just clarify that. And again -- well, not -- on page 7 under training, item 1 where it talks about boiler attendant training, it discusses -- it says that the plant facility supervisor will be responsible for training the boiler attendants. And so I don't see a block on the organizational chart for a plant facility supervisor.

MR. PURYEAR: Yeah. That's going to be Thompson.

CHAIRMAN MORELOCK: Okay.

MR. NEVILLE: Yes. We're going to update that to the plant engineer.

CHAIRMAN MORELOCK: Okay. That will be fine. Just show that on organizational chart as well. Well, he's -- yeah, Thompson is already on the org chart.

MR. NEVILLE: Right.

CHAIRMAN MORELOCK: Okay. Again, just bear in mind that your fault code lists, Mr. Jackson has free rein to pick any of those. So make sure it's a list that you're comfortable with.

MR. NEVILLE: Yeah. Right. And this is the new Hawk 4000 control system.

CHAIRMAN MORELOCK: Okay. That's all my comments.

Dr. Johnson's concern was on page 7 under training, item 1 where it says, through frequent actuation of alarm circuits. That's how they're testing. That's not -- that's not your mode of testing. You're not --

MR. NEVILLE: Right.

CHAIRMAN MORELOCK: You've got specific testing requirements, so that was his question so...

MR. NEVILLE: Okay.

CHAIRMAN MORELOCK: Any other comments?

MR. BAUGHMAN: And this is for a renewal, correct?

CHAIRMAN MORELOCK: This is new.

MR. NEVILLE: No. This is a new variance, page 3.

MR. BAUGHMAN: Well, I guess on my cover letter, it says, cover letter request for variance renewal from yourself and in our agenda it says, request a variance for three boilers.

MR. NEVILLE: I guess on the back page should be the variance request letter.

MR. BAUGHMAN: Gotcha. I was looking on your front cover here.

MR. ROBINSON: On the transmittal.

MR. NEVILLE: Transmittal.

MR. BAUGHMAN: On your transmittal, so I was just a little confused on that. But I was --
that's what we do, is we make things clear as mud for us.

CHAIRMAN MORELOCK: Yeah. The record states it's a new and the cover letter does.

MR. BAUGHMAN: So my question would be since this is a new, and our boilers start out at 1978, how long has been the plant been in operation?

MR. PURYEAR: You know, this plant belonged to another company, I believe, when Shaw bought it and that was before my day, and I've been there since 1988.

MR. BAUGHMAN: Okay.

MR. PURYEAR: It may have been a Barwick Plant yarn mill or something like that of Salem possibly. But I've seen blueprints that date back to the early '70s for that particular facility at that location. We've enlarged it a lot.

MR. BAUGHMAN: Gotcha. But the boilers go to '78 to '87 to '92. So it's been a progression of some additional --

MR. PURYEAR: Yes, sir.

MR. BAUGHMAN: But they've been operating all this time under the Rule 22?

MR. NEVILLE: (Nodding head affirmatively.) Right, the 20-minute rule.

MR. BAUGHMAN: The 20-minute rule. I'm sorry. Is that correct?

MR. NEVILLE: Those boilers have been operating, as far as being monitoring every 20 minutes as far as you know? Maybe they are now?

MR. PURYEAR: Am I under oath?

MR. BAUGHMAN: Well, that's okay. I understand. That's okay.

MR. ROBINSON: Speak up a little louder.

MR. BAILEY: She can put you under oath.

MR. BAUGHMAN: That's a loaded question.

I'm sorry.

MR. NEVILLE: I thought you guys knew how we operated. In the last few years, there's been an increase in trying to comply with the state's wishes.

MR. BAUGHMAN: Sure. And my concern, and we've discussed it many times with the board, is that there's training that's associated to the variance manual, not so much training that's associated to the operations of the boilers themselves. And so all in all, this all goes hand in hand, we've got the manual and we've got the variance to work with. But I'm also interested, just from the standpoint of being that we're all in this together, that boiler training and so forth be carried on beyond the manual itself.

One thing I'd like to know is -- and I didn't see the -- and it may be in here, the -- well, yes, it is. I'm sorry.

Are we operating a DA or just an atmospheric water -- feedwater system?

MR. PURYEAR: It's a DA.

MR. BAUGHMAN: It's a DA. Okay.

One of the things -- and it is not part of our manual, not part of our requirement, but it's come to light in recent years, the DA gets overlooked. And it's got the potential for death, injury, or destruction also, and it needs to have a high level of inspection and oversight on it also.

MR. PURYEAR: I do NDIs on that thing every five years.

CHAIRMAN MORELOCK: Super. All right.

Thank you. I appreciate that.

MR. BAILEY: If I may, for the record, what is a DA, or for us uninitiated?

MR. BAUGHMAN: Yes, sir. It's a -- DA stands for deaerator. It's a pressure vessel. It's -- typically it's got steam that's added to the vessel to get rid of oxygen and to preheat the boiler feedwater.

MR. PURYEAR: Nondestructive test.

CHAIRMAN MORELOCK: Check for wall thickness.

MR. BAILEY: Okay.

CHAIRMAN MORELOCK: You limit the amount of oxygen in the steam and it protects your boiler tubes.

MR. BAILEY: It's just that everybody doesn't understand these acronyms.

CHAIRMAN MORELOCK: Right. That's right.

That's why it's good to ask questions.

MR. BAUGHMAN: Yes, sir. Thanks.

CHAIRMAN MORELOCK: So, yeah, the National Board, NBIC, has recommendations on what the oxygen content of your boiler feedwater should be so you can protect the boiler tubes.

MR. BAILEY: Okay. Thank you.

CHAIRMAN MORELOCK: Any other questions, comments?

All righty. Go ahead.

MR. ROBINSON: I'm going to maintain my consistency, add water column positive testing to
and our owner-users in the State of Tennessee don't. So we have included references within our rules so that when people read these specific requirements, they will know what code rule supports what's in Rule 800-3-3.

So that's our desire here, to go through this exercise, and we're pretty far down the road. If you've not seen a copy of it, we can get you a copy of a clean draft. We're still working on that. And we have gone through most of the board members' comments. And today, with much patience, we're going to go through Eugene's comments. And we're going to take a few minutes to do that. He's been very gracious to let other agenda items bump him for almost a year now, so we apologize for that. But we had some pressing items that needed to be passed.

So with that, we're just going to start going through these comments. And you may not have anything in front of you, but if you hear something and you have a question, feel free, again, to participate in the conversation. So I'm working off of -- Eugene provided us comments on November the 10th of 2014, and we're working off of the same revision of the draft for the revised rules. And I'm just going to go through each of Eugene's comments, and I will read the boiler unit's response. They've responded to Eugene's comments. And then I've added some comments as well, and then we'll open it up for discussion until we complete the review of these comments.

So Eugene's first comment is concerning page 2, paragraph (a), and that is the definition of an electric boiler. And Eugene's comment was that the -- to add ASME Section IV and then the preamble for boiler.

And so the boiler unit agreed that that should be included. My response to that was: Here's what the whole definition reads as of right now in the draft: Electric boiler means a power or heating boiler in which the source of heat is electricity. See ASME Code, Section I, PEB-2 and Section IV, Preamble.

And that was added to the November 10th, 2014, proposed revision, which is our current revision. So any comments or questions about that definition?

Does that satisfy your comment, Eugene?

MR. ROBINSON: Yes.

CHAIRMAN MORELOCK: Okay. Any other
comments?
(No verbal response.)
CHAIRMAN MORELOCK: All right.
MR. BAUGHMAN: Are we -- sorry.
CHAIRMAN MORELOCK: Go ahead.
MR. BAUGHMAN: Are we going to go through -- is this just a draft, or are we going to do any kind of approval as we go through on a line item?
CHAIRMAN MORELOCK: Well, what we're going to do is, we're going to clear all the comments, issue a clean draft, and try to have that ready for an action item on the agenda in one of the upcoming quarterly meetings.
MR. BAUGHMAN: Okay. Good.
CHAIRMAN MORELOCK: Because, really, we need to make sure that we get a clean draft out to everybody so they can read it.
Okay. The next comment is on page 4, paragraph (16). And this is the definition of department. Eugene's comment was: Verify a title with new proposed changes, Tennessee Department of Labor and Workforce Development Division of Workplace Regulations and Compliance, Boiler Unit. The boiler unit's response says: Yes, that change.
So my reply to that was: If you read the current version, Item 16, department means the Tennessee Department of Labor and Workforce Development Division of Workplace Regulations and Compliance, boiler unit.
And so that's -- we've incorporated that change.
So is that good?
MR. ROBINSON: Yes, sir.
CHAIRMAN MORELOCK: Any questions or comments on that?
(No verbal response.)
CHAIRMAN MORELOCK: Okay. The next one is on page 5, concerning lined potable water heater. Eugene's comment was: A request to add ASME Section IV, Part HLW.
The boiler unit's response was they agreed to add ASME Section IV, Part HLW, and Tennessee Boiler Rules and Regulations.
So the current revision, then, for paragraph 2 on page 8 would read: Boilers and pressure vessels shall bear the National Board stamping -- and National Board is abbreviated to NB because we've already defined the acronym -- and the manufacturer's NB number as registered with the NB -- which would be National Board -- the copy of the Manufacturer's Data Report signed by the manufacturer's representative and the National Board commission inspector employed by the third-party inspection agency shall be filed with the chief inspector when the boiler or pressure vessel is shipped into the state for installation.
And so the boiler unit's response to that was also include if the boiler or pressure vessel has been repaired or altered by a Board Certificate Holder, it shall bear the National Board stamp. The rest of the above statement is accurate.
So like I just stated on page 5, paragraph 25, the National Board is defined by the assigned acronym, National Board. So changing that to NB is fine.
And then I went on to state that: I disagree with the boiler unit's first response and agree with Dr. Canonico's comment about not adding Section IV to this particular paragraph since this paragraph is stating requirements for boiler and pressure vessels in general, not a specific reference to Section IV. The definitions and the code references for boiler and pressure vessels are listed in Tennessee Rule 0800-03-03.01 definitions, and references ASME Section IV correctly there.
To further address the boiler unit's second response, repairs and alterations by a National Board Certificate Holder are already addressed 0800-03-03.07. And then as far as repairs and alterations to statements concerning repairs and NBIC and bear the NB Stamp are here.
So the current paragraph will stand as it is in the 11/14/2014 version, with the exception of...
changing National Board to NB. And we also added
where it says chief inspector, to also add, or chief
inspector's designee.

So to read that, it says -- if this is
under construction standards in .03: Boilers and
pressure vessels shall bear the NB stamping and the
manufacturer's NB, as registered with NB. A copy of
the Manufactured Data Report signed by the
manufacturer's representative and the NB commission
inspector employed by a third-party inspection
agency, shall be filed with the chief inspector or
chief inspector's designee when the boiler or
pressure vessel is shipped into the state for
installation.

So is everybody okay with that?
Will that satisfy your comment as well,
Eugene?

MR. ROBINSON: Yes, it will.
CHAIRMAN MORELOCK: Okay. Any questions
or comments about that?
I know we're kind of reading this to you
and you're, like, oh. You know, it's like being in
school, I know. I'm sorry.

MR. BAILEY: Mr. Chairman, if I may. And
this may be a little nitpicky, but as you -- for the
record, as you read these rules, if there's
quotations, you know, and commas and then at the end
of a sentence, period --
CHAIRMAN MORELOCK: Okay. I can do that.
MR. BAILEY: -- it makes it a lot cleaner
in the record...
CHAIRMAN MORELOCK: I can do that. Thank
you. Thank you very much.

Okay. Our next comment from Eugene is on
page 8, paragraph 4, parenthetical A. Power popping
external to power boilers from the boiler to the
first stop valve of a single boiler, comma, and to
the second stop valve in a battery of two,
parenthetical, numerical 2, or more boilers, comma,
is subject to the requirements of the ASME Code,
comma, power boilers, comma, Section I, period. The
design, comma, fabrication, comma, installation and
testing of valves and piping shall be in accordance
with ASME B 31.1, period.

The boiler unit's response was to
reinstate, parenthetical National Board, as they are
the accreditation body for the repair for pressure
vessel relief -- or for pressure relief devices,
period.

The boiler unit recommended and agreed
with that. Additionally, the phrase, parenthetical
chief inspector, should also include or chief
inspector's designee parenthetical.

So my comment was to show that revision in
paragraph 3, parenthetical B to read as: Only the
holder of a valid certificate of authorization for use of the,
parenthetical VR Stamp, comma, or an owner-user's
maintenance organization approved by the chief
inspector, comma, may repair safety or safety relief
valves, period. An owner-user maintenance
organization shall be limited to repairing such
valves for its own use, period.

The boiler unit's response was just
strictly ASME 31.1? I thought I heard you say B?
CHAIRMAN MORELOCK: Yeah. We can add --
we need to add B.
MR. ROBINSON: Good call.
CHAIRMAN MORELOCK: That's a good call.

So, Amber, where I stated ASME, 31.1,
period, we need to insert -- it should read ASME,
space, capital B, 31.1, period.

That is a good catch.
MR. ROBINSON: Yes, thank you.

CHAIRMAN MORELOCK: So we will include
that in the next draft of this revision.
Next comment is on page 11, paragraph 3,
parenthetical D. This is pertaining to safety
appliances. That's the heading for the paragraph.
And Eugene's comment states -- stating the
paragraph, it says: Only the holder of a valid
certificate of authorization for use of the,
parenthetical VR Stamp, comma, or an owner-user's
maintenance organization approved by the chief
inspector, comma, may repair safety or safety relief
valves, period. An owner-user maintenance
organization shall be limited to repairing such
valves for its own use, period.

The boiler unit's response was to
reinstate, parenthetical National Board, as they are
the accreditation body for the repair for pressure
vessel relief -- or for pressure relief devices,
period.

The boiler unit recommended and agreed
with that. Additionally, the phrase, parenthetical
chief inspector, should also include or chief
inspector's designee parenthetical.

So my comment was to show that revision in
paragraph 3, parenthetical B to read as: Only the
holder of a valid certificate of authorization for use of the National Board parenthetical, VR Stamp,
comma, or an owner-user's maintenance organization approved by the chief inspector or chief inspector's
designee, comma, may repair safety or safety relief
valves, period. An owner-user maintenance
organization shall be limited to repairing such
valves for its own use, period.

That's been added to the current 11/10/14
draft that we have.

Any comments or questions about that?
MR. FINKS: Do you want to abbreviate
National Board as NB in that paragraph?

CHAIRMAN MORELOCK: We certainly can, but
the boiler unit specifically wanted to reinstate the whole spelling. So, I mean, whatever your preference is.

MR. FINKS: Okay. I was just, clarifying -- trying to clarify.

CHAIRMAN MORELOCK: And I agree. So do you want National Board or NB?

MR. CHAPMAN: NB.

CHAIRMAN MORELOCK: NB, okay. So we will make that change.

Okay. Thank you, Mark. That was a good comment.

MR. FINKS: You're welcome.

CHAIRMAN MORELOCK: Okay. Our next comment is on page 37, paragraph 12, to repairs and alterations. Paragraph A is going to provide a scope of what is considered repairs and alterations. So I will read that.

So reading paragraph 12, repairs and alterations, paragraph A, any welded code repair or any alteration shall be performed by organizations holding a valid, parenthetical, capital R, stamp, period. If the repair or alteration is performed in this state, parenthetical capital R, stamp, hyphen, holder shall have a current State of Tennessee Boiler Erectors and Repairers Contractor's license, period.

Boiler unit's -- or Eugene's comment to that is that to reinstate National Board, as they are the accreditation body for making repairs. The boiler unit's response, agreed, that National Board should be reinstated, as the board is the accreditation body. Because the license reads State of Tennessee Department of Labor and Workforce Development, comma, State Board of Boiler and Pressure Vessel Rules for Licensing Boiler and Pressure Vessel Erector, comma, and Boiler and Pressure Vessel Repair and, slash, or Alteration Contractors.

So my response to that is, this is what's been added to the current proposed draft. Repairs and alterations under paragraph 12. Then paragraph A, any welded code repair or any alteration shall be performed by organizations holding a valid -- and based on our last comment, we're going to change National Board to NB -- to a valid, capital NB, parenthetical, capital R, stamp, period. If the repair or alteration is performed in this state, the, parenthetical, capital R, stamp, hyphen, holder shall have a current State of Tennessee Boiler Erectors and Repairers Contractor's license, period.

Apply code view to reader that this has to be done to a code, per Tennessee law and rule.

MR. JACKSON: Uh-huh. But your example of repairs in the book --

CHAIRMAN MORELOCK: Right.

MR. JACKSON: -- repairs that are done -- that are not welded.

CHAIRMAN MORELOCK: Right. I mean, we can take the welded out, but let's leave code in.

MR. JACKSON: Oh, yeah. Yeah.

MR. ROBINSON: I think it would work. But I guess I've always went under the presumption that when you weld on it, now you're in the area of requiring an R stamp, as opposed to routine repairs, which requires rolling.

MR. JACKSON: Well, we have to be careful when we say routine repairs.

MR. ROBINSON: Well, that's why I said that.

MR. JACKSON: That's left up to the inspector.

MR. BAUGHMAN: Well, and that's a good point. Well, is the -- what qualifies a routine repair may change from inspector to inspector and
there's no -- it leaves room for interpretation and there's no real clear definition of that.

MR. ROBINSON: It's governed by NBIC.

CHAIRMAN MORELOCK: Well, that's partially true. But used to, the State of Tennessee prohibited routine repairs with the exception of rolling heat exchanger tubes. But if you remember, Boiler Supply brought a case within the past couple years and it passed, and we've added routine repairs in the State of Tennessee, per what is given as examples in the NBIC.

MR. BAUGMAN: So there's a reference back to NBIC on it?

CHAIRMAN MORELOCK: I would have to pull the...

MR. BAUGMAN: Okay. Because if there is, that may be something that we need to incorporate back into this verbiage.

CHAIRMAN MORELOCK: Yeah.

MR. JACKSON: Placing 100 to 150 tubes in a boiler, to me, is not a routine repair.

MR. ROBINSON: What if it was rolled?

MR. JACKSON: Doesn't make any difference.

MR. ROBINSON: And not welded?

MR. JACKSON: That's stretching to me.

The terminology --

CHAIRMAN MORELOCK: So what you're saying to me is that you would put an R stamp on a vessel that had rolled tubes?

MR. JACKSON: If there's 100 or 150 of them. Now, if there's 5 or 6, that's a little different.

MR. ROBINSON: What's the difference?

MR. JACKSON: A whole lot of difference.

MR. ROBINSON: 3 versus 150?

CHAIRMAN MORELOCK: Well, or I'll write 10 repairs for 50 tubes. I've done 500 tubes on a bunch of different repairs. I mean --

MR. JACKSON: You've got to work with what you've got.

MR. ROBINSON: NBIC -- going with NBIC, NBIC allows for rolled tubes -- to repair rolled tubes. NBIC says that you've got to have an R stamp to perform any welding or any weld repairs on a pressure boundary, cut and dry.

MR. JACKSON: Okay. What about plugging tubes? Are we going to go routine on them? How many can we plug?

MR. ROBINSON: Are you going to strike an arc?

1 The terminology --

2 CHAIRMAN MORELOCK: So what you're saying to me is that you would put an R stamp on a vessel that had rolled tubes?

3 MR. JACKSON: If there's 100 or 150 of them. Now, if there's 5 or 6, that's a little different.

4 MR. ROBINSON: What's the difference?

5 MR. JACKSON: A whole lot of difference.

6 MR. ROBINSON: 3 versus 150?

7 CHAIRMAN MORELOCK: Well, or I'll write 10 repairs for 50 tubes. I've done 500 tubes on a bunch of different repairs. I mean --

8 MR. JACKSON: You've got to work with what you've got.

9 MR. ROBINSON: NBIC -- going with NBIC, NBIC allows for rolled tubes -- to repair rolled tubes. NBIC says that you've got to have an R stamp to perform any welding or any weld repairs on a pressure boundary, cut and dry.

10 MR. JACKSON: Okay. What about plugging tubes? Are we going to go routine on them? How many can we plug?

11 MR. ROBINSON: Are you going to strike an arc?
CHAIRMAN MORELOCK: So it's always subject to the approval of jurisdiction. So I know that it discusses routine repairs, but it's always going to bring it back to the jurisdiction to make the final call.

MR. ROBINSON: Let me ask this question. You brought up a good point with the graphite. I believe that's ASME Section X, I think. Is that -- let me ask you: Is it required that you provide a data report for a fiberglass vessel for repairs?

CHAIRMAN MORELOCK: Yes, that's FRP.

MR. ROBINSON: Is it really?

CHAIRMAN MORELOCK: But a graphite vessel is different than Section X FRP.

MR. ROBINSON: Okay.

CHAIRMAN MORELOCK: That's fiberglass -- or -- yeah, fiberglass reinforced plastic. But the UIG for the graphite vessels was put into Part UIG in Section VIII, Division 1.

MR. ROBINSON: Oh, really?

CHAIRMAN MORELOCK: For graphite, yes.

And so there's code items going through now to where you can make exchanger tubes out of plastic so there's a lot of things going on.

MR. ROBINSON: And adding to your comments, Dave, I think that code, if we use the terminology that's being debated right now, it would be acceptable based on that. Because again, it is acceptable to the jurisdiction. The jurisdiction has to be notified. That statement is clear and it's in there.

MR. BAUGHMAN: And just as long as the companies that are doing the repairs, when they look at this and how they -- how they look at the code, especially if it's routine of going in saying, I don't have to have an R stamp, there's not a requirement on it, I'm making a routine repair, I'm -- what needs to be identified is that any of those repairs need to be approved by the jurisdiction. In other words, by whoever the inspector would be or whoever has got jurisdictional approval on that.

I don't want to make this open-ended where somebody else can interpret this and go, hey, I can make a...

CHAIRMAN MORELOCK: Well, but a routine repair still has to have an R stamp. It just reduces the amount of inspection.

MR. BAUGHMAN: Okay. So there still needs to be a stamping on the boiler when that's done?

CHAIRMAN MORELOCK: Yeah.

MR. BAUGHMAN: And do we ever see that done in the field without the stampings on the boiler?

Never. No. Of course, we do. That's the problem that I see in the field, is that there's these routine repairs that get done, there's no paperwork, there's no RI. There's no code stamping of the repair on the vessel itself. And so because of that, when I ask about it, they said, well, it was a routine repair.

CHAIRMAN MORELOCK: Well, but that's just ignorance on their part that they don't know what routine repair really is.

MR. BAUGHMAN: Okay. Good. And see, myself not being that versed with it, I wanted to make sure that I understood when I go in, because I've said the exact same thing.

CHAIRMAN MORELOCK: Routine repair does not negate the stamp.

MR. ROBINSON: Very good. Okay.

CHAIRMAN MORELOCK: Okay. So are we going to -- what are we going to do? How do you want this to read?

MR. ROBINSON: Remove the word welded.
our proposed rules. And so he was seeking — Eugene
is seeking input as to what that would look like.

And so if we go back to page 3, Eugene
proposed on page 3 of Rule 800-03-03.01,
parenthetical 9, parenthetical lowercase i, to read,
potable hot water heater, including an instantaneous
water heater means a heater supplying potable water
for commercial purposes in which the pressure does
not exceed 160 PSIG and the temperature does not
exceed 200 degrees Fahrenheit, period. See ASME
Code, comma, Section IV, comma, Part HLW,
Introduction, period.

So what we have done is in Paragraph i,
the 11/14/2014 draft reads as follows,
parenthetical, potable hot water heater, comma,
including an instantaneous water heater, comma,
means a heater potable water for commercial purposes
in which the pressure does not exceed 160 PSIG and
the temperature does not exceed 210 degrees F,
period. See ASME, comma, Section IV,
which is Roman Numeral IV, comma, Part HLW
Introduction.

So what do y'all think about that? You
guys dealing with potable hot water heaters yet?

Would this help you to have that in the rules?

MR. SITZ: Yeah.

CHAIRMAN MORELOCK: Okay.

MR. SITZ: Yeah. They want to know why
you have to register an instantaneous hot water
heater.

CHAIRMAN MORELOCK: Right. It's based on
7 BTU per hour output.

And we've seen some people try to finagle
9 what they call a modular unit so all the modules are
less than that limit and they pack a bunch of them
together and then it exceeds that limit. And they
don't want to try to say, well, each one of these
individually are -- don't have to be registered.

But we're like, no, that's not going to work. Nice
ty, but it's not going to work.

So what comments?

MR. HOLT: Well, there are some
instantaneous that are running 250, 280, 300 BTUs
that hang on the wall, also.

CHAIRMAN MORELOCK: Right.

MR. HOLT: And some are for potable and
some are for heating.

MR. ROBINSON: Very good.

MR. HOLT: So what distinction? Is it the
potable that we are talking about?

MR. SITZ: That's what I'm saying.

But is there a cutoff for 200,000 and up for
potable? I mean, I don't -- is there a line there?

CHAIRMAN MORELOCK: Well, I think -- let's
see. If we go look through --

MR. ROBINSON: The reason why this came
up, this was actually presented in a fall
conference. And Martin Toth had presented a memo.
And I want to say this was several years ago. And
the memo stated that instantaneous hot water heaters
over 100,000 BTUs had to be registered with the
State of Tennessee.

MR. HOLT: Correct.

MR. ROBINSON: Okay. With that said, he
talked at the time of only potable hot water heaters
and I don't know if that was the gist of what
manufactures was -- they were making at the time and
they had no H stamps.

But news to me, this is the first H
instantaneous hot water heater that I've heard of,
but it requires thought now. I mean, I didn't know
that they were making H stamp heaters, hot water
heaters, so --

MR. HOLT: Well, the ones I -- the ones we
deal with are 199,000 basically. But there are that
I've run across that are heating boilers of the same company that are over 200,000 BTUs and they're all sitting in line and they're running. They're heating and they're circulating.

MR. ROBINSON: And they're up to 240.

MR. HOLT: Yeah.

MR. ROBINSON: 240 degrees Fahrenheit out?

MR. HOLT: Yeah. They circulate.

MR. BAUGHMAN: So that wouldn't fall under an HLW. That would be an H?

MR. ROBINSON: It's an H.

MR. HOLT: Right.

MR. BAUGHMAN: So we can't use an H as a potable water heater. It would have to be an HLW.

MS. BENNETT: Technically you can't but I -- people do it.

MR. BAUGHMAN: Well, yeah, but if --

MR. HOLT: If you go to heat exchanger, but, you know -- to potable.

MR. BAUGHMAN: But it's still a boiler, though.

MR. HOLT: Right.

MR. BAUGHMAN: And it's not a potable.

It's -- the heat exchanger is, but the boiler itself would not be.

MR. HOLT: Right.

MR. BAUGHMAN: And then making sure we are not tying our hands from a BTU standpoint on this registration limitation because right now we're saying it's up to 199,999, so we may need to revise that figure.

MR. HOLT: But I believe all the potable ones are below 200,000, every one that we run across that's HLW.

MR. BAUGHMAN: Okay.

MR. BAILEY: For the record, state your name please.

MR. HOLT: I'm Tim Holt.

MR. BAILEY: And if I could remind everybody a little bit --

CHAIRMAN MORELOCK: Yeah. Sorry.

MR. BAILEY: -- we tend to talk over each other and two people talking at one time. She can only record one at a time, so just kind of keep that in mind.

MR. HOLT: Okay.

MR. BAUGHMAN: Can we --

CHAIRMAN MORELOCK: We can leave it hanging.

MR. ROBINSON: Let's table this right now until we can come up with a verbiage that captures boilers --

CHAIRMAN MORELOCK: Okay.

MR. ROBINSON: -- if they're instantaneous-type just to be -- just to be -- cover a whole thing.

Thanks for bringing that up, Tim.

MR. HOLT: Yeah. Not that it makes any difference, but I've seen them take potable ones and hang them on the wall like that and heat tanks up, you know, but they're using potable and they just took them all-- and they're running all the time and heating this tank over here, you know, so...

CHAIRMAN MORELOCK: Okay.

MR. HOLT: Not its intended use. But that's not what we're trying to find out here, though.

CHAIRMAN MORELOCK: Well, and while you were talking, for the H stamped, we could go back to our proposal for on page 2, paragraph F and I'll just read that. We're not revising this. And this is what we have in the current draft, hot water supply boiler is what that would fall into, over 200,000, correct?
CHAIRMAN MORELOCK: Okay. All right.

Yes.

MR. PETERS: Danny Peters.

Those instantaneous, they're not completely filled at all times. They're -- you know, they're just piping. You've got water in the piping, then upon demand, then it supplies that piping through the burner panel and then it goes out from the unit from there. But it's not a tank-type supply --

CHAIRMAN MORELOCK: Right.

MR. PETERS: -- that's stated -- that was stated as a supply boiler.

CHAIRMAN MORELOCK: Well, and what we're basing our path forward on is the fact that Mr. Toth issued a jurisdictional requirement stating that this is the way the State of Tennessee is going to handle instantaneous hot water heaters, so we're working from that.

Yes, Tim.

MR. HOLT: Can I also make a statement that 100,000 to 199,000 are noncoded, correct?

MR. ROBINSON: Yes, sir. Right.

MR. HOLT: So would that be in there, too, so that --

MR. ROBINSON: That's part of it. That's still going to -- it's going to be reflective in another section of the divisional rules where it provides exceptions. So you'll see that, Tim.

MR. HOLT: All right.

CHAIRMAN MORELOCK: Okay, yes, Dan.

MR. PETERS: And if we get out of the world supply and call it a heating boiler, then we've got to look at the 400,000 BTU.

MR. ROBINSON: CSD-1.

MR. PETERS: Yeah. If we want to.

MR. ROBINSON: Yes, sir. Absolutely.

CHAIRMAN MORELOCK: Well, so Eugene is going to take all this on, so we're going to let him.

MR. ROBINSON: Yes, sir. Yes, sir.

MR. PETERS: Is that something that we do want to address all the way up to that 400,000? Because we're looking at a unit, you know, the instantaneous. You know, we are trying to call it a boiler at times, and, you know, it's a design system -- it's a system with our units trying to supply each one of them as a supply-type boiler. But I don't know if we want to go that far or not. I mean, it's --

MR. ROBINSON: It would be -- we're doing it really right now, Danny. If you just took a basic, two-type heat exchanger low-pressure boiler, in reality, it's just a smaller version of a -- and I'm not going use names, company names, but it's a smaller version of a tube-type heat exchanger where you've got the flames coming up from the bottom and the water circulating through it. Same example, one uses fan-assisted combustion, the other is -- could be atmospheric, but they're the same concept.

The 400,000 BTUs and above naturally, you're going to come up with a difference in stamps. So either you're going to run the HMs for the potable hot water line or the N configurations for the nonlined. And the CSD-1 requirements are going to mandate the types of controls and configurations that's required for each stamp.

So it will work. You'll see it. You see it now. You see it every day. When you look at a hot water heater, you know that it should have temperature gauges, it should have pressure gauges.

Those are things that are mandated and it doesn't change, as opposed to what's required on a low-pressure boiler. So CSD-1 is going to make it stand out.

But you're right. We will have to look at it. It does require some investigation.

CHAIRMAN MORELOCK: Yeah. Okay.

MR. SMITH: Can I interject?

CHAIRMAN MORELOCK: Yes, sir.

MR. SMITH: Jesse Smith.

And I think we got off the intent of what Martin initially proposed. The -- he wanted to add instantaneous hot water heater because, as you know, water heaters over 200,000 BTUs per hour are ASME stamped. There's the majority of the instantaneous water heaters that were noncode. And since there are some instantaneous water heaters that are also code simple stamp -- because for a long time, it's gray areas to whether or not we would actually inspect instantaneous water heaters.

So his thought process was, well, if you have a stamped version of it and we're inspecting between 100,000 and 199+, that noncode, then naturally, you would also inspect instantaneous water heaters that fell in that range as noncodes. That's why he wanted to add that verbiage so that the installers or people that were putting in these water heaters and not thinking that they were required to being inspected. I just wanted to
add that in for clarity.

So, I mean, I know the aspect of whether it's for the heating application or 400,000 come into different categories. But as far as just designating it as a potable water, including instantaneous water heaters is why he wanted that added.

CHAIRMAN MORELOCK: Good comment.

MR. SMITH: It was no longer falling into the gray area where people didn't know how to handle it.

CHAIRMAN MORELOCK: Good discussion.

MR. ROBINSON: Good discussion.

CHAIRMAN MORELOCK: Yeah. You guys need to come around more often.

All right. We're going to move on to next set of comments here. Let's see.

All right. So the next one would be on page 8. This is going to pertain to 0800-03-03-.03, parenthetical 5. This is under exemptions. And the current -- let's see. Yeah. Okay. Eugene had marked up this paragraph to delete some wording, and so we've made those changes.

The boiler unit agreed with the amendments.

And so I'm just going read the final version for simplicity. So what's in the current draft is exemptions, period. Potable water heaters are exempt from the requirements of paragraphs, parenthetical 1, parenthetical 2 of this rule when neither of the following limitations are exceeded, colon -- and that's that statement and that's in the current draft.

And so this goes back to Jesse's comment, as well as Tim's and Danny's, is paragraph A and B -- A basically says the heat input is 199,999 BTUs per hour and B is a water temperature of 200 degrees, capital F.

MR. PETERS: 210 degrees.

CHAIRMAN MORELOCK: Or 210 degrees, yeah, F. It goes on to say, however, such potable water heaters -- and then we've already -- including instantaneous water heaters with a heat input of 199,999 BTUs per hour are subject to registration inspection and inspection certificate requirements, which supports what Jesse just told us.

So everybody okay with that? Any comments or questions about that?

(No verbal response.)
off from the boiler, except by a cock with a
tee or lever handle, placed on the pipe near
the gauge, period. The hand of the cock shall be
parallel to the pipe in which it is located when the
cock is open, period. And then basically what I
just read has been listed as comments.

Then subparagraph B has been revised to state, the scale on the dial of the pressure or altitude gauge shall be graduated approximately not less than one and one and a half, parenthetical one and a half, no more than three and one-half, parenthetical three and a half times, the pressure at which the safety relief valve is set instead of saying maximum allowing working pressure. 

So any comments on that?

MS. BENNETT: Just a small typo in A.

CHAIRMAN MORELOCK: Uh-huh.

MS. BENNETT: Next to the last sentence, gauge, G-A.

CHAIRMAN MORELOCK: Oh, yeah, yeah. I see it, g-A-G-E.

MS. BENNETT: Yeah.

MR. ROBINSON: I was in a hurry.

MR. FINKS: It's also in the second line of A, too, altitude gauge.

MS. BENNETT: Yes.

CHAIRMAN MORELOCK: Okay. All right. So those corrections have been made. What else?

MR. BAUGHMAN: One thing that comes up with myself, Brian, and I wanted to get your -- any of the inspectors' input or anybody, is pressure or altitude gauge. If I went to a boiler hot water heater or boiler and I'm looking at a gauge and it's an altitude gauge, how many of you would be able to identify what the pressure is via altitude?

MR. SMITH: You talking about a -- again, Jesse Smith. Are you talking about a gauge that monitors absolute pressure as opposed to gauge pressure?

MR. BAUGHMAN: No. We're talking about pressure or altitude gauge to register the pressure of the boiler. That's what that gauge is intended to do.

So if you walked into a boiler and looked at a boiler, it didn't have a pressure gauge on it, it's got an altitude gauge, would you be able to define -- do you have the training or do you the knowledge to define what the pressure is by looking at an altitude gauge?
MR. BAUGHMAN: This says pressure or altitude gauge. It doesn't say a combination gauge. So if you walked in, the way our -- the way 3.8.2.1 states, pressure or altitude gauges. You walk in and all you've got is an altitude gauge only, only you'd be able to know what information it's giving you as far in relationship to the pressure of the boiler?

MR. PETERS: If it's got PSI on it, yes.

MR. BAUGHMAN: No, it's not a PSI. It's an altitude gauge.

What does an altitude gauge read?

MR. PETERS: Well, if you look at it from aviation standpoint, you know, you're talking about ground level up.

MR. BAUGHMAN: I agree.

MR. PETERS: But this is not an aviation department; it's a boiler department. It's terms that been -- that we've used in the past up to today's time, but we've changed and we're trying to make a change but --

MR. BAUGHMAN: Right. Exactly.

CHAIRMAN MORELOCK: Well, the only thing that --

MR. PETERS: There is a terminology for altitude in this department.

MR. BAUGHMAN: Right. And I agree with you. There is a definition of it. Is it applicable to today's inspection for what we're doing? And if it's not, which I don't believe it is personally, then now's the time we can delete it out. So if it's not an item that is applicable, then we can delete it from our verbiage.

MR. PETERS: Well, does that mean, then, if we do delete that we're going to have to have two gauges now, one for pressure as one and one for temperature to compensate for deleting it?

MR. BAUGHMAN: Well, no. You're dictated on pressure and/or temperature depending upon the device, whether it's an HWL boiler, if it's a hot water boiler. Hot water heating or hot water supply dictates where it's pressure only and pressure temperature. So a hot water domestic potable is going to have two, temperature and pressure. A hot water supply boiler heating a building hydronically, you'll look at a different nomenclature for it so...

MR. PETERS: Should we then put the altitude gauge then in the historical boiler section?

MR. BAUGHMAN: I wouldn't see why.
prudent to keep it for the time being until they make an adjustment.

But in the gist of what you're saying, Mr. Peters, you're right; but at the same time, we are just looking for whatever the requirements are, such as CSD-1 states, so...

Mr. Peters: You've got an engineer sitting there. Is there a formula that you can use to transpose?

Dr. Johnson: We've got lots of engineers sitting here.

Chairman Morelock: Sure. Well, I mean, the --

Mr. Peters: You've been sitting there quiet.

Chairman Morelock: Well, I'm trying not to run my mouth too much. But the thing about it is, is, you know, you have inches of water column as a pressure reading, and that's similar to what an altitude gauge -- but I think the important thing here is that what I want to add to A at the end is NBIC Part 1 3.821 as the reference for these pressure altitude gauges.

Now, Dr. Johnson, what did you want to say?

Dr. Johnson: I thought myself that in reference to a boiler, that it didn't mean altitude above sea level, but rather altitude of water in the system.

Chairman Morelock: Liquid, right.

Dr. Johnson: It's related the fullness of the system.

Chairman Morelock: Right. It's like liquid inches of water column.

Mr. Baughman: Well, and since it is current NBIC, it needs to stay.

Mr. Robinson: And I think it would be good to add to the next paragraph.

Chairman Morelock: Yeah.

Mr. Robinson: Which comes from the same --

Chairman Morelock: B?

Mr. Robinson: Yeah, which is in the -- but I think it's C. Let me go back to it.

Yeah. It's going to be -- no, it's going to be B. You're absolutely right. Very good.

Chairman Morelock: Both of them, right?

Mr. Robinson: Yes, uh-huh.

Chairman Morelock: I can make that same reference.
MR. ROBINSON: Sir, in regards to your question, it doesn't say anything about the definition for pressure gauges in the NBIC.

MR. BAILEY: Okay. I was curious because we -- these rules also don't have a definition and I thought if they did, then we might want to look at putting that in.

MR. ROBINSON: Yes, sir. Good point.

CHAIRMAN MORELOCK: Okay. Any other comments? All right. I believe that that takes care of Eugene's comments.

MR. BAUGHMAN: Thanks, Eugene.

CHAIRMAN MORELOCK: Okay. So what we will do now is we will clean this up, issue a new draft, and I'm trying to think.

MR. ROBINSON: I'll look at the instantaneous.

CHAIRMAN MORELOCK: Yeah. Yeah. Until we get the tabled item resolved, I'm not going to say when we'll be ready for vote. We will leave it on the agenda as a discussion item until we make sure we've got all these unresolved issues ready and in draft, okay?

Thank you, again, for -- that was a great discussion. It really was. Very, very helpful.

Okay. Next item is fall conference update, so...

MS. RHONE: Deborah Rhone.

MR. ROBINSON: Hey, Ms. Rhone.

MS. RHONE: Regarding the fall conference update, as you know, we're just completing our spring inspector's conference and we're happy to have them here today. We are still in the planning stages for that fall conference, and we don't -- I haven't formed the conference committee yet, which we will be doing soon.

And with that, we will be selecting a date. And if it's going to be in the fall, there's a possibility that we may have to change -- I know we had originally set the next meeting for September 9th. However, of course, during that fall training, we usually conduct the boiler rules meeting. So should that be in October, then we would have to change that date.

CHAIRMAN MORELOCK: Okay.

MS. RHONE: With that conference committee, we would also be selecting a site, which it has been recommended by our administrator that we would look to Nashville to hosting that first one, which would include all the insurance company inspectors, as well as our state inspectors. And at one point, it was discussed that we would have a joint committee that would include all of the WRC units, but since then, it has been determined that we would have separate -- instead of having the combination of one, it would be in the best interest to have the separate ones. So we will be getting together with setting that conference committee, as well as discussing the fees.

And we had already previously discussed the process of how we would handle whatever the registration fees were, we would also have to pursue the costs to make sure that those fees would include, you know, if we decide to go with conference shirts, the meals. We also discussed the possibility, instead of having cosponsors, that the particular companies, they may want to just pay for a certain event rather than having a cosponsorship. Okay. So we will be working on that.

CHAIRMAN MORELOCK: If you're shooting for fall, especially on a sponsorship, sooner is better because people are going to be spending their corporate budgets. So if you catch them at the tail end of their budget, it's going to be harder for them to participate, so...

So if we're looking for fall, what would be the -- what dates would you suggest? Or maybe even if we -- if we say instead of this fall, if we say fall of 2016, we may want to -- we may -- that might be even a better idea, just to say that we're going to project fall of 2016.

CHAIRMAN MORELOCK: You want to give companies time to either allocate that or build that into their upcoming budget to have the money to provide that sponsorship.

MS. RHONE: I think --

MS. JEFFERSON: Sounds good.

MS. RHONE: -- that sounds good. Fall of 2016.

MR. ROBINSON: Normally October. That's when everybody goes into budgetary conference debate.

MS. RHONE: Okay. So you're suggesting that the date would be sometime --

MR. ROBINSON: No. I'm just telling you -- you asked about when is a good date as far use drop-dead date to get your proposal out. October is usually when Travelers, the rest of them will go into budgetary meetings and they'll allot that money for the next year.
MS. RHONE: Oh, okay. So you're saying we should some type of proposal or something --
MR. ROBINSON: Yeah. By October.
MS. RHONE: -- by October.
MR. ROBINSON: But the thing is, you've got 2016, so you're golden.
MS. RHONE: Okay. All right. Sounds good. Thank you.

CHAIRMAN MORELOCK: Thank you. Any questions or comments about the fall conference planning?

(No verbal response.)

CHAIRMAN MORELOCK: All righty. Thank you, Deborah. Boiler operator training certification.

MR. BAUGHMAN: Guys, we are going to make this short because otherwise this could be a whole agenda --

CHAIRMAN MORELOCK: You've got 11 minutes.

MR. BAUGHMAN: -- in itself. So we're going to make it -- make it pretty short and concise and carry this on into future meetings.

In the State of Tennessee, except for Shelby County, you're -- well, let me rephrase this.

In the State of Tennessee, you've got a license to cut hair. But everywhere but Shelby county, you can operate a vessel that has more potential energy than dynamite, 500-horse boiler, a 16-year-old -- if you could work a 16-year-old -- could operate a 500-horse boiler with zero requirement. That doesn't make a whole lot of sense.

And so in this meeting, we just wanted to, for one, see what the support is for -- and we've been talking about the variance. Brother Neville, others have been in front talking about the variances, the trainings of the manual and we briefly would breech upon we need the training on boilers to some extent. Who in this room is within that same thought process?

By far the majority.

We need to have some form of training in place for operators of boilers, both high and low-pressure boilers. Now, to what extent that brings itself, I've contacted Shelby County to see what their licensings were set up like. I've talked to the board in Michigan. I've talked to Texas. I've looked at our surrounding states, and know that we're not -- we're not in the minority, we're in the majority. Most states don't have training set in place. It's very archaic. And we would like set up or my vision is to settle set up training that others can mirror, but also set up training that falls within what we can get approved through the state, i.e. we want to have at least some forms of training. We talked today on the variances of doing positive checks of the low water cutoff. So important.

So what we need do is to get input from the field and from other entities on what forms of training do we need to give and how do we get that out to those operators and then where is the cutoff at? I've talked to some states that say we make it for boilers above 30 horsepower, or the Ohio special law was anything over 358 square feet, which was approximately a 70-horse boiler that you didn't have to have a trained operator. Well, they get around that by putting in 10 357-A square foot boilers.

So there's all different facets of this to look at, but what it gets down to is we need input from the industry and to have homework done so that we can make a draft presentation going forward that we can present to the legislature for getting something up and accomplished on boiler training.

Because what happens in an accident, two...
MR. BAUGHMAN: Tell me.

MR. WORD: That just don't make much sense.

MR. BAUGHMAN: Yes, sir.

we'll let anybody run a boiler.

this to try to prevent something or -- but then
we'll let anybody run a boiler.

MR. OSWALD: Or that person that's

MR. WORD: I'm Dallas Word, Memphis area.

Just the other day I went -- I mean, even on your

MR. BAUGHMAN: Yes, sir.

MR. WORD: And we need something. These

people, they're putting anybody in there to run
to try to prevent something or -- but then
we'll let anybody run a boiler.

MR. OSWALD: Or that person that's

MR. OSWALD: Or that person that's

MR. BAUGHMAN: Tell me.

MR. Word: I've had a school and a church
where I've gone down there and it's a low-pressure
steam boiler with low water cutoff and all that.
And relief valve, go to check it and the handle come
off in my hand and nobody has looked at it for --
and they're using the boiler. It wouldn't open. So
you have to get it operating. So if we had somebody
that is attending it or at least looks at those,
they would replace the essential safety or at least
exercise it.

I tell people to -- the relief valves or
whatever, go ahead and exercise them, just whenever
you think about it. Otherwise, if they're
neglected, it becomes a potential problem.

MR. BAUGHMAN: And what we've got is a
liability in operating a boiler. Now, you've got to
match up an accountability for that, and that's what
we don't have. We don't have that accountability
for that liability. And we're charged with public
safety, and so we need to attend this in some form
or fashion.

And part of that is, of course, the topic
discussion on, for one, the support of the industry
and the inspection and the -- those who are involved
within this industry, but also getting input on how

assigned the job of taking care of the boilers at
another school and he's working three or four
schools out there and...

MR. WORD: And another just -- the same
thing. I went there and asked. I said, is this all
you have? I don't know. They just told me this is
my job. I said, so you don't know if you have any
more boilers here?

MR. BAUGHMAN: What's funny in that
proposition, Dallas, is schools are charged with
education. And, yet, they don't see educating of
their own personnel as a high priority.

MR. WORD: Right.

MR. BAUGHMAN: And especially in a
facility that has children and teachers, boy, I
don't want to be in front of somebody on 20/20 or
CNN or Fox News on why we weren't proactive.

MR. WORD: But it seems like we do all
this and have certificates, inspection, we do all
this to try to prevent something or -- but then
we'll let anybody run a boiler.

MR. BAUGHMAN: Yes, sir.

MR. WORD: That just don't make much sense
to me.

MR. BAUGHMAN: Tell me.

to write this in such a way that we can propose it
to where it's not an imposition. It doesn't cost
state money. It doesn't take away any jobs and just
the opposite, is that we want to be a state that has
a higher level of training for people so that
industry and schools and all -- if parents knew that
we had no training at all for just boilers within
some of these facilities, oh, my goodness.

So what it's going to take is a movement
in that direction and we are just right on the cusp
of that. We are at a very good point of being able
to now take it and start implementing this and then
having other states come to the boiler unit and ask,
how did you write this up and let me see your laws
in place.

Does that make sense, guys?

MR. DAVIDSON: Yeah. Bob Davidson.

There's no doubt we need to train these
people. But who's got the money do it? Who's going
to provide the training? Somebody is not going to
provide training for nothing. They want to get paid
for that. Can the school district afford it? If
you talk to any school district right now, they
don't have any money for anything, just like the
state doesn't have money for anything.
So there's always an excuse why they can't do it. So how are you going to get this to come across so they can afford to do it?

MR. BAUGHMAN: That's a good question.

Well, and in our state, you've got a driver's license. You're operating a deadly piece of equipment, whether you can afford that license or not is another thing, but you've got to take it. You're operating a piece that can take hundreds of people out of the equation.

MR. DAVIDSON: That's right.

MR. BAUGHMAN: Cost millions of dollars.

So when you think about we're charged with public safety operating that piece of equipment, now we've got to make to where it is not a monetary imposition. We've got to make it affordable, but we've got to make it happen. We can't say, well, I understand you don't have the money the run your buses this year or I know cheese isn't selling as well and you don't have the money, we've got to come up with that system and I agree with it. But we've got do it. We can't sit back and sit on our hands and look at it from a monetary standpoint.

MR. DAVIDSON: Right.

MR. BAUGHMAN: The other end of -- that I run into also is, what about these entities that have people that don't speak English?

MR. DAVIDSON: There's some of those.

MR. BAUGHMAN: Well, the boiler doesn't know if you don't speak English. It's a mechanical piece of equipment, so it's still the same boiler whether you speak English or not. But you've still got to go to that part of the proposition on how to train those people where there's a language barrier.

So it gets to be an interesting proposition to look at. But those are things that I think as big boys and girls in this industry, we can attend to that end of it. The basis of it is, do we need it, yes or no?

Yes.

CHAIRMAN MORELOCK: Well --

MR. DAVIDSON: But is the State going to provide them?

MR. BAUGHMAN: Well, we'll have to work all through that.

CHAIRMAN MORELOCK: Well, I think you guys are familiar with the National Board's model for your continuing education. I think we could mirror that to some extent because -- but we need to put something into the legislation that's going to make us have to do it first, but we also ought to have, right on the heels of that, a plan to implement so it is affordable and you're going to have your training and certification program ready when you push the legislation through.

And so if you look at the National Board's model, I can go online. I can maintain my commission as an in-service inspector for $150 every two, two or three years -- two years. And so that's not a big imposition, even on my company.

Now, the National Board's also smart enough to realize that people that are out there already training their inspectors, like Hartford for instance, they have 1800 inspectors, so they took their training, made sure that it embodied the body of knowledge that the National Board requires and this National Board approved them to continue to do their own training. We could do the same thing as -- you know, like the folks in Shelby County that's got good training programs, they're not going to have to throw it away, as long as their training program would embrace all the requirements in the legislation and the body of knowledge represented there. They could keep doing what they're doing.
because there were never any incidents, and then there would always be -- and then would always be an incident or there would be someone who would make the argument that it was important for public safety. And then the whole boiler regulation concept was never sunset. It was never taken out. But to get this kind of a -- one of the most important things you said is that we would be leaders in this and the other states would come to us. Now, when in the history of the world has -- you know, have a lot of other people come when there's no incidents to learn about how to train to do something that adds a burden to their tax base and their society and to their citizens? I'm in favor of the idea that there needs to better training. I'm not speaking against that, but I have to admit I'm not optimistic that pushing this thing through from a political standpoint in either this state or probably 40 other states has very much of a chance of success.

MR. BAUGHMAN: Well, you mentioned better training, we don't -- it's not better training. We've got no training.

DR. JOHNSON: That's semantics because obviously the people -- every one of these manuals says that they're trained by their supervisor. So there's -- you know, I mean, this is just a point for argument of what you or I think is valid training and what actually passes for training in our environment.

MR. BAUGHMAN: You know, we mentioned reports and there's plenty of the incidences in each and every state and district to point to. There's not one state or district in our country that has not experienced an incident.

DR. JOHNSON: Well, you commented on the hundred or so lives that were in jeopardy. And yet, when you look at these incidences, usually they're a small number or maybe even zero. It's not like that shoe factory explosion in the northeast back around the turn of the last century where many, many people were killed. And according to Domenic, that was -- most of the people died because of the gas fires and things that started afterwards.

CHAIRMAN MORELOCK: They couldn't get out.

DR. JOHNSON: Yeah, they couldn't get it.

MR. BAUGHMAN: I will guarantee when there's a day care center or a church --

DR. JOHNSON: Then you'll have an audience.

MR. BAUGHMAN: -- that blows, and in that congregation or church, somebody's grandchildren, one of the senator's relatives, any of those entities --

DR. JOHNSON: I agree.

MR. BAUGHMAN: -- and I do not want to be nonproactive in that. That's why we're here. And we're here for a given time and to make a deference. CHAIRMAN MORELOCK: Well, and to answer your question, if we went with a certification instead of a licensure and you may not have professional privilege tax coming into play --

DR. JOHNSON: Maybe.

CHAIRMAN MORELOCK: -- because we're not taxed for an inspector card.

DR. JOHNSON: Yeah, yeah.

CHAIRMAN MORELOCK: But now if you do have a P.E., yeah, you get --

DR. JOHNSON: No. It's not just the P.E.

It's the hairdresser.

CHAIRMAN MORELOCK: Well, I know. I know.

DR. JOHNSON: I mean, he said that hairdressers already have this --

CHAIRMAN MORELOCK: But that's licensure.

DR. JOHNSON: -- and the hairdressers then are responsible for their professional privilege tax every year.

CHAIRMAN MORELOCK: Right. Right.

DR. JOHNSON: And those people might be lucky to make $20,000 and the professional privilege tax is more than what an income tax would be if we had a progressive income tax, which I'm also not in favor of.

CHAIRMAN MORELOCK: So maybe it would be a certification, then.

MR. BAILEY: Well, if I may interject, I think maybe his point is that -- and I understand what you're saying, you're not going to get an audience until there's an incident --

CHAIRMAN MORELOCK: Right.

DR. JOHNSON: Yeah.

MR. BAILEY: -- that grabs attention. But when that incident happens and the public is saying, well, what did you all do to try to prevent this? At least, even if you go the legislature and they say no --

CHAIRMAN MORELOCK: Right.

MR. BAILEY: -- it's going to cost money, we're not going do it, at least the board can say,
we went to the legislature and they said no, you know.

CHAIRMAN MORELOCK: Yeah, that's right.

That's right. Very good point.

MR. FRAZIER: Gentleman, you know, the TBR we're trying to push, the governor tried to push, Drive to 55 of the school systems for five or six years and that's to educate our high school graduates in the technical fields, vocational training and stuff. They get two years free education and that's where we're going to now, educating the next workforce because you've got to plan for the "what ifs."

That's why you have maintenance.

I had a boss that said, why do I have you here? I said, just in case. Just in case of what? When you can't push the right button, I can. And that's what we want. But we want the principals of the schools to know how. We want not just a janitor to say, hey man, that boiler is glowing red down here, something bad is fixing to happen. And you're right, why do we need to have something to explode or somebody have to die before something is done?

CHAIRMAN MORELOCK: Yeah.

MR. FRAZIER: So it's just like the pressure vessel, the unfired ones, the -- all these tanks that we used to hydronically test on the federal said, I've seen running and they're stamped on them 1958 and they're sitting there banging. And those will take a wall out. Those will take people out. Those kind of things need to be changed and we need to change them, not just look at them and say, yeah, that's bad. I wonder why he's not doing that.

MR. ROBINSON: Dave, question for you --

MR. BAUGHMAN: Yes, sir.

MR. ROBINSON: Any of the three -- Texas, Michigan, or Shelby County -- did they share any of their certification program with you?

MR. BAUGHMAN: Yes, they did.

Interestingly, I was speaking with Dallas earlier. I spoke with some folks from over at Shelby County last week who are actually looking to rescind their code. And I asked them why, and they said, because the rest of Tennessee doesn't have one.

And I said, wow. Is there anything else? He said no, we just felt like we were out by ourselves.

And I said, hold on to that. If I can advocate tabling that, know that we are up for discussion. I invited them to our meeting, but yes. Every place is different. Michigan takes theirs on BTU values up through certain sizes of boilers, but they discount everything under 30 horsepower. Arkansas has different levels of Class 2, Class 2, Class 3 operators, and they're all forthcoming in that information.

One of the things that I got looking at, Eugene, as we went into this was that incident report, again that the NB produces --

MR. ROBINSON: Yes, sir.

MR. BAUGHMAN: -- and those two classifications, low water cutoffs, operator error, poor maintenance. What I want to do is -- we've got to have a starting point and we've got to have a starting point that we can always add to.

So let's look at what we could do. And what if we took just the low water cutoff? What if we just trained people in some form or fashion on how to do a positive check of the low water cutoff? Start from there. That's your training. You've got to have base training. You've got to know how to test this for low water. And then we could start adding it from that.

But that's part of my thought process, is we've got to make it to where we've got something in place. And attending to one of those things that's number one, year after year -- year after year --

not two, three, four, but number one. And if we attend to that and then build upon it. And I think we can do it cost effectively. But there again, food for thought, we need to lay this out and this was the forum. And by being 10 minutes over, I appreciate that. Great input and discussion.

CHAIRMAN MORELOCK: All right.

DR. JOHNSON: Can I ask one more question?

CHAIRMAN MORELOCK: Sure.

DR. JOHNSON: This is a point for me to understand. One of the examples that was given earlier in this discussion was the idea that in Memphis they have all these schools where people aren't actually able to operate the boilers. Are these people certified?

MR. WORD: No.

DR. JOHNSON: So is Shelby County different from Memphis, then? Memphis has a different set of rules?

MR. WORD: No. Memphis, they recognized -- let's see. How does this work?

Memphis recognized boiler operators, but the school systems, they will hire -- I mean, they let anybody watch the boilers.
DR. JOHNSON: So even in Shelby County, even though there is a certification program, many people operating boilers are not certified.

MR. ROBINSON: Dr. Johnson.

DR. JOHNSON: Yeah.

MR. ROBINSON: It could be a difference.

MR. WORD: They’re low-pressure too.

DR. JOHNSON: And I think the difference -- the threshold may be for high-pressure, as opposed -- there is an -- just so you know interpretation inside of our code interpretations. It's on the Internet if you go there. And it's for Shelby County and it gives you what all is comprised in that interpretation.

Forgive me.

MR. HOLT: I might give an example. I know politically you're talking one side and actually what happens is two different things. You're trying to get into where the legislature would take notice. But in our inspections, especially dry cleaners -- I don't like dry cleaners because those people turn it on and turn it off at the end of the day. And I've gone in and low water cutoff do not work. The secondaries do not work.

The only thing you've got is that relief valve, which looks like it's been there originally when it was put in there. What I'm saying is, is that a lot of inspections that we do, what we find and have them change have prevented an explosion or potential explosion. Because if nothing was done, they will go off.

DR. JOHNSON: Yeah. Dry cleaners are notorious cutting as close as they can, everything.

MR. ROBINSON: Yeah.

MR. HOLT: And through our actions and what we change, they're brought up to standard where other people don't even look at it and don't even care.

DR. JOHNSON: Yeah.

MR. HOLT: And that's how it works out there. Otherwise -- and we test the relief valves and all the safety things that nobody tests and that's a period of either 6 months or once every two years, is the only time they're exercised is when we do it. So there's the reality of it on the practical side.

DR. JOHNSON: No. I understand. I'm sympathetic to the basis --

MR. HOLT: I know. I understand. I know where you're coming from to trying to see --

DR. JOHNSON: But I see it as, you know, sort of Don Quixote tilting at windmills.

MR. BAUGHMAN: Well, I think we've done, for one, our due diligence on public record here of getting the ball starting to be rolling. We all know -- and I think the consensus is that we need training.

Now we're going to be charged with putting that together. We -- I vote for Eugene. That we put this together in a form that can be presented.

So further discussion in our next meeting, I would ask for, and I'm sure that will continue through following meetings. It's nothing that is going to happen overnight, but I'm glad that you guys all were here, men and woman, to be able to listen to that and to know whether that's a direction we need to advocate or not. I took it for granted it was, but sometimes I get these blinders on. But knowing that this is something that has been a long time coming, and I'm glad we're getting the ball rolling.

CHAIRMAN MORELOCK: Okay. Thank you for all the comments. If you have any more, send them to us. We have no rule cases or interpretations.

Our next board meeting is scheduled for 9:00 a.m. Wednesday, September 9th right here in this room. And I call for adjournment. So thank y'all for coming.

(WHEREUPON, the proceedings were adjourned at 12:17 P.M.)
REPORTER'S CERTIFICATE

STATE OF TENNESSEE
COUNTY OF DAVIDSON

I, AMBER A. THOMPSON, court reporter, with offices in Nashville, Tennessee, hereby certify that I reported the foregoing meeting of the BOARD OF BOILER RULES, by machine shorthand to the best of my skills and abilities, and thereafter the same was reduced to typewritten form by me.

I further certify that I am not related to any of the parties named herein, nor their counsel, and have no interest, financial or otherwise, in the outcome of the proceedings.

I further certify that in order for this document to be considered a true and correct copy, it must bear my original signature, and that any unauthorized reproduction in whole or in part and/or transfer of this document is not authorized, will not be considered authentic, and will be in violation of Tennessee Code Annotated 39-14-149 Services.

AMBER A. THOMPSON, LCR, CCR
Licensed Court Reporter
Certified Court Reporter and Notary Public
State of Tennessee

My Commission Expires: 03/08/2016
LCR #289 - Expires: 06/30/2016
| $150 | 143:9 | 144:9 |
| $1800 | 144:9 |
| $20,000 | 148:6 |
| $500 | 144:14 |
| (16) | 81:20 |
| (a) | 80:8 |
| 0 |
| 0 | 115:22 |
| 03 | 85:5 |
| 04:20 | 48:12 |
| 0800-03:03-03 | 113:20 |
| 0800-03:03-01 | 84:16 |
| 0800-03:03-07 | 84:21 |
| 0800-3-3 | 78:12 |
| 0800-3-322 | 48:11 |
| 1 |
| 1 | 14:19 | 26:1,2,3 |
| 38:4 | 46:6 | 47:20 |
| 48:2 | 60:3 | 68:13,14 |
| 69:7 | 71:25 | 96:1 |
| 97:19 | 108:17 | 114:6 |
| 115:16 | 125:22 |
| 1,942 | 9:24 | 10:24 |
| 10 | 27:8 | 29:25 | 30:1 |
| 35:8 | 44:11 | 67:22 |
| 68:6 | 94:11 | 135:18 |
| 144:23 | 152:6 |
| 10,415 | 9:21 |
| 10-minute | 78:4 |
| 100 | 93:20 | 94:5 |
| 100,000 | 104:11 |
| 109:22 | 112:19 |
| 10:20 | 78:7 |
| 10th | 79:23 | 80:19 |
| 11 | 12:20 | 17:22,23 |
| 24:11 | 44:11 | 87:14 |
| 133:19 |
| 11/10/14 | 88:20 |
| 116:16 |
| 11/14/2014 | 84:25 |
| 101:14 |
| 12 | 14:22,24 | 24:14 |
| 44:11 | 89:15,19 |
| 90:17 |
| 12/1/2007 | 66:16 |
| 12/1/2008 | 66:16 |
| 122 | 37:20 |
| 12:17 | 156:6 |
| 13 | 10:8 | 18:4 | 24:14 |
| 39:15 | 44:11 |
| 15 | 52:14 | 60:24,25 |
| 61:25 | 116:6 |
| 15- | 144:8 |
| 15-10 | 11:1 | 24:7 |
| 27:7 | 33:9 | 46:3 |
| 15-11 | 16:19 | 46:3 |
| 15-12 | 17:9 | 37:18 |
| 46:3 |
| 15-13 | 38:5 | 46:3 |
| 15-14 | 46:4 |
| 15-15 | 67:21 |
| 150 | 93:20 | 94:5,10 |
| 16 | 12:17 | 14:21 |
| 17:19,21 | 82:3 |
| 16-year-old | 134:4 |
| 160 | 101:9,18 | 108:7 |
| 115:25 |
| 17 | 10:1 |
| 1800 | 143:15 |
| 19 | 33:10,24 | 34:12 |
| 37:3 |
| 1958 | 150:3 |
| 1978 | 73:7 |
| 1988 | 73:11 |
| 199,000 | 104:25 |
| 109:22 |
| 199,999 | 106:5 |
| 114:20 |
| 199,999s | 114:12 |
| 199- | 112:19 |
| 1st | 100:18 |
| 2 |
| 2 | 25:25 | 26:2 | 29:23 |
| 61:23 | 80:8 | 83:5,12 |
| 86:14 | 107:21 | 114:6 |
| 151:4 |
| 20 | 38:3 | 48:6 | 74:4 |
| 20-minute | 48:12 |
| 49:1 | 64:6,14 | 65:12 |
| 73:25 | 74:1 |
| 20/20 | 138:16 |
| 200 | 68:8 | 101:10 |
| 114:13 |
| 200,000 | 104:2 |
| 105:2 | 106:8 | 107:25 |
| 108:15 | 112:10 |
| 200-something | 52:15 |
| 2003 | 20:25 |
| 2008 | 17:12 | 21:14 |
| 2013 | 124:16 |
| 2014 | 42:14 | 79:23 |
| 80:19 | 100:18 |
| 2016 | 132:4,6,14 |
| 133:6 |
| 210 | 101:19 | 114:15, |
| 16 |
| 22 | 48:12 | 49:1,11 |
| 73:23 |
| 24 | 18:1 | 68:11 |
| 240 | 103:18 | 105:5,7 |
| 108:25 | 116:4 |
| 25 | 84:5 |
| 250 | 102:18 | 108:8, |
| 24 |
| 280 | 102:18 |
| 295 | 68:15 |
| 3 |
| 3 | 10:2 | 38:9 | 49:15 |
| 68:21 | 72:13 | 87:14 |
| 88:11 | 94:10 | 101:3, |
| 4 | 151:4 |
| 3,000 | 12:11 |
| 3,012 | 9:19 |
| 3.8.2.1 | 121:3 |
| 3.821 | 125:22 |
| 30 | 135:14 | 151:2 |
| 300 | 102:18 |
| 31 | 10:1 | 115:5,8 |
| 31.1 | 86:19 | 87:2,7,9 |
| 32 | 115:4 |
| 320,000 | 103:10 |
| 357-A | 135:18 |
| 358 | 135:15 |
| 37 | 89:15 |
| 4 |
| 4 | 38:4 | 47:10 | 48:12 |
| 81:19 | 86:10 |
| 4,000 | 12:10 |
| 4,918 | 9:20 |
| 4- | 144:14 |
| 40 | 145:19 |
| 400,000 | 110:9,18 |
| 111:11 | 113:3 |
| 4000 | 71:21 |
| 40s | 136:23 |
| 423 | 413-3805 |
| 69:10 |
| 45 | 116:6 |
| 5 |
| 5 | 29:23 | 47:20,25 |
| wanting 123:3 | wonderful 53:3 | year 53:22 79:15 |
| warms 32:5 | 95:13,23 96:7 | 148:3 152:1 |
| warmth 59:5 | 99:25 100:11 137:9,22 138:4,13, |
| watch 152:25 | 18:23 152:17,21 | 18:23 152:17,21 |
| water 39:16,17,23 | 153:8 | 153:8 |
| 40:1,3,8,14 49:22 | | 153:8 |
| 50:5,7 53:22,24 | | 153:8 |
| 56:15 64:21 75:7 | | 153:8 |
| 76:25 82:15,19,20, | | 153:8 |
| 21 100:20 101:6,7, | | 153:8 |
| 15,16,17,24 102:4 | | 153:8 |
| 103:2,3,22 104:10, | | 153:8 |
| 15,20,22 105:14 | | 153:8 |
| 107:23 108:3,6,13 | | 153:8 |
| 109:6,18 111:8,14, | | 153:8 |
| 20 112:9,10,12,13, | | 153:8 |
| 16,21,24 113:5,6 | | 153:8 |
| 114:4,13,17,19 | | 153:8 |
| 115:21 116:22,23 | | 153:8 |
| 118:8 122:16,18,20 | | 153:8 |
| 124:18 125:18 | | 153:8 |
| 126:4,9 135:7 | | 153:8 |
| 139:3 151:11,16, | | 153:8 |
| 18,21 153:24 | | 153:8 |
| waxing 136:18 | | 153:8 |
| ways 20:21 | | 153:8 |
| Wednesday 156:2 | | 153:8 |
| week 4:14 51:14 | | 153:8 |
| 58:4 68:12 150:16 | | 153:8 |
| weld 92:14 94:19 | | 153:8 |
| 95:5 | | 153:8 |
| welded 89:20 | | 153:8 |
| 90:18 91:5,13 92:8, | | 153:8 |
| 10 93:24 95:18,19, | | 153:8 |
| 20,23 96:7 99:25 | | 153:8 |
| 100:11 | | 153:8 |
| welder 95:6 | | 153:8 |
| welding 91:11 | | 153:8 |
| 94:19 96:2,6 | | 153:8 |
| whiz 46:1 | | 153:8 |
| wide 96:16 | | 153:8 |
| wife 5:9 | | 153:8 |
| windmills 155:3 | | 153:8 |
| wishes 74:16 | | 153:8 |
| woman 155:16 | | 153:8 |
| works 59:8 154:16 | | 153:8 |
| world 61:9 78:23 | | 153:8 |
| 110:8 136:21 | | 153:8 |
| 145:10 | | 153:8 |
| worried 64:2 | | 153:8 |
| worry 55:1 | | 153:8 |
| wow 103:7 150:19 | | 153:8 |
| WRC 131:3 | | 153:8 |
| wrestled 13:13 | | 153:8 |
| write 94:11 140:1, | | 153:8 |
| 14 | | 153:8 |
| written 19:5 48:18 | | 153:8 |
| 64:1 69:9 | | 153:8 |

----------

Y

y'all 46:14 69:2
101:23 156:4
153:8

yarn 68:7 73:14