

FOR THE CASE OF
DOL 3rd Q Board of Boilers Meeting

TRANSCRIPT OF
3RD Quarter Meeting

September 21, 2016

Stone & George

COURT REPORTING

2020 Fieldstone Pkwy

Suite 900 - PMB 234

Franklin, TN 37069

(615) 268-1244

This transcript is intended for your law firm's own use. If you wish to share this transcript with an outside law firm, log back in to your CasePlanner account and click the **Share** button.

For questions, call (615) 268-1244
or send an email to nangeorge@stoneandgeorge.com

1. STATE OF TENNESSEE
 DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
 2. BOARD OF BOILER RULES
 3.
 4.
 5.
 6.
 7.
 8. QUARTERLY MEETING OF THE
 STATE OF TENNESSEE
 9. BOARD OF BOILER RULES
 10. September 21, 2016
 11.
 12.
 13.
 14.
 15.
 16.
 17.
 18.
 19.
 20.
 21.
 22. -----
 CASSANDRA M. BEILING, CCR, LCR# 371
 23. STONE & GEORGE COURT REPORTING
 2020 Fieldstone Parkway
 24. Suite 900 - PMB 234
 Franklin, Tennessee 37069
 25. 615.221.1089

1. APPEARANCES:
 2. Brian R. Morelock, Chairman
 Owner-User Representative
 3.
 4. Eugene Robinson, Board Member
 Insurance Representative
 5.
 6. Dr. S. Keith Hargrove, Board Member
 Mechanical Engineer Representative
 7.
 8. Michael Jay Pischke, Board Member
 Boiler Manufacturer
 9.
 10. David W. Baughman, Board Member
 Owner/User Representative
 11.
 12. Sam Chapman, Chief Boiler Inspector
 13.
 Kim Y. Jefferson, Esq.
 14. Administrator, State of Tennessee
 15.
 Dan Bailey, Esq.
 16. Legal Counsel, State of Tennessee
 17.
 Carlene Bennett
 18. Board Secretary, State of Tennessee
 19.
 20.
 21.
 22.
 23.
 24.
 25.

1. I N D E X
 PAGE
 2.
 15-20 Update on Reorganization of Rule 800-3-3 14
 3.
 16-12 MC Ionic Solutions US, Inc. 15
 4.
 16-13 Domtar Paper Company 17
 5.
 6. A G E N D A
 7.
 I. Call Meeting to Order
 8.
 II. Introductions and Announcements
 9.
 III. Adoption of the Agenda
 10.
 IV. Chief Boiler Inspector's Report
 11.
 V. Old Business
 12. 15-20 Update on the Reorganization of
 Rule 0800-03-03
 13.
 VI. New Business
 14. 16-12, 16-13
 15. VII. Open Discussion Items
 Legislative change to TCA 68-122-106
 16. Boiler Operator Training
 17. VIII. Rule cases & interpretations - There are no
 rule cases and interpretations.
 18.
 IX. The next Board of Boiler Rules Meeting is
 19. scheduled for 9:00 a.m. (CT), Wednesday,
 December 14, 2016, at the Department of
 20. Labor & Workforce Development office
 building located at 220 French Landing
 Drive, Nashville, TN.
 21.
 X. Adjournment
 22.
 23.
 24. ** Reporter's Note: All names are spelled
 phonetically unless otherwise provided to the
 25. court reporter.

1. * * * * *
 2. CHAIRMAN MORELOCK: Good morning,
 3. everyone. Welcome to the Tennessee Board of
 4. Boiler Rules meeting. I'm going to call this
 5. meeting to order. There are agendas in the back
 6. if you don't already have one. You can certainly
 7. go get one of those and follow along.
 8. And I certainly want you to
 9. participate in this board meeting. It is a public
 10. meeting, so we'll have people come forward to
 11. present items, but you're welcome to raise your
 12. hand and speak to items as we discuss them as
 13. well.
 14. As far as introductions and
 15. announcements go, I've got several, so just bear
 16. with me. First off, I wanted to thank the
 17. Department of Labor and Workforce Development,
 18. specifically the Workplace Regulations and
 19. Compliance in the boiler unit for this fall
 20. conference. It's been eight years since we've had
 21. one and it's just a very nice thing to be able to
 22. get together and have a little more time to sit
 23. and talk to each other and learn about what we do
 24. and how we contribute to pressure equipment safety
 25. here in the state of Tennessee. So thank you all

<p style="text-align: right;">Page 5</p> <p>1. for taking time out of your busy schedules to 2. attend. 3. It's nice to see a full room today 4. and it's good to see all of our inspectors here as 5. well. And so again, welcome. And thank you for 6. the reception last night and thank you for 7. breakfast this morning. And we look forward to 8. the rest of the activities during the fall 9. conference this week. 10. I always want to introduce two new 11. board members, Mr. Michael Pischke. He was 12. appointed by Governor Haslam here recently, and he 13. will be representing owner/users of boilers -- or 14. equipment manufacturers of boilers. I'm sorry. 15. And he replaces Dr. Canonico. And so we want to 16. welcome Mike. 17. And Dr. Keith Hargrove, he's also 18. been appointed by Governor Haslam, and he will 19. represent a mechanical engineer representing 20. academia. And we'll have a round of introductions 21. for everybody here in a minute, so I'll let those 22. guys tell you a little bit more about themselves. 23. And on the note of Dr. Canonico, I wanted you-all 24. to know, as well, Dr. Canonico has gotten to where 25. his doctor will not let him travel anymore. He's</p>	<p style="text-align: right;">Page 7</p> <p>1. afternoon sessions. 2. And I would also ask that you silence 3. your cell phones during the meeting so that when 4. somebody is making a presentation or a discussion, 5. that won't be an interruption to them. You can 6. certainly leave them on vibrate if you've got some 7. critical messages that you need to attend to. 8. That's fine. 9. Are there any other announcements? 10. (No verbal response.) 11. CHAIRMAN MORELOCK: All right. 12. Very good. Our next item on the agenda is 13. adoption of the agenda. Like I said, we have the 14. agenda before you, so do I have a motion to 15. accept the agenda? 16. MR. PISCHKE: So moved. 17. MR. ROBINSON: Second. 18. CHAIRMAN MORELOCK: Any discussion, 19. additions, changes to the agenda? 20. (No verbal response.) 21. CHAIRMAN MORELOCK: All right 22. hearing none, I'll call the question. All in 23. favor say, "Aye." 24. (Affirmative response.) 25. CHAIRMAN MORELOCK: All opposed?</p>
<p style="text-align: right;">Page 6</p> <p>1. resigning from his code activities with the ASME 2. and national board as well. 3. And the boiler unit, the Workplace 4. Regulation and Compliance and the Tennessee Board, 5. we are going to honor Dr. Canonico. 6. Next month, in October, we're going 7. to go to the assisted living facility where he is 8. currently living and we're going to honor him for 9. his many years of service to this board. So we're 10. looking forward to that as well. 11. A safety note, I'll go over that real 12. quick as an introduction. In the event of an 13. emergency or natural disaster, security personnel 14. will take attendees to a safe place in the 15. building or direct them to exit the building on 16. the Rosa Parks side, which is that side of the 17. building. So just bear that in mind. 18. Also, in your fall conference, you did 19. get a layout of the building, so that will help 20. you kind of know where you're at. When we break, 21. after this meeting, for lunch, there is a 22. cafeteria right next door. And, of course, 23. there's other eateries nearby as well, so we just 24. want to make you aware of that so you'll have time 25. to go to have some lunch and come back for</p>	<p style="text-align: right;">Page 8</p> <p>1. (No verbal response.) 2. CHAIRMAN MORELOCK: Abstentions, 3. not voting? 4. (No verbal response.) 5. CHAIRMAN MORELOCK: Okay. We have 6. an agenda. 7. We have an attendance sheet coming 8. around, so you can sign that at your leisure as it 9. comes to you. And so now that we've got an 10. agenda, since we do have a large room, I want to 11. take just a few minutes and have a full -- 12. everybody can introduce themselves. So we'll 13. start with our court reporter, Cassandra. 14. THE REPORTER: Cassandra Beiling 15. with Stone and George Court Reporting. 16. MS. BENNETT: Carlene Bennett, 17. Board Secretary. 18. MR. CHAPMAN: Sam Chapman, Chief 19. Boiler Inspector. 20. MR. PISCHKE: Mike Pischke, 21. representing manufacturers, GE Power. 22. DR. HARGROVE: Good morning. Keith 23. Hargrove, serving as Dean of the College of 24. Engineering at Tennessee State University and new 25. board member.</p>

Page 9

1. CHAIRMAN MORELOCK: Brian Morelock.
2. I'm chairman of the Tennessee Board, and I
3. represent unfired pressure vessel users and
4. owners. And I'm with Eastman Chemical Company.
5. MR. ROBINSON: Eugene Robinson,
6. Tennessee board member.
7. MR. BAUGHMAN: I'm Dave Baughman.
8. I'm a board member representing owner/users of
9. boilers with Allied Boiler and Supply in
10. Murfreesboro.
11. MS. RHONE: Deborah Rhone, boiler
12. office supervisor.
13. MS. JEFFERSON: Kim Jefferson,
14. administrator.
15. MR. BAILEY: Dan Bailey, legal
16. counsel to the board.
17. MR. GOLDEN: James Golden,
18. StoneCrest Medical Center.
19. MR. ENG: Richard Eng, Wacker
20. Chemical Corp.
21. MR. CLIFTON: Gerald Clifton, Dixon
22. County Schools.
23. THE REPORTER: If they can speak
24. up. I can't hear.
25. CHAIRMAN MORELOCK: Please speak up

Page 10

1. so she can hear your name and record that.
2. MR. HILLMAN: Randall Hillman,
3. Eastman Chemical Company, area inspector.
4. MR. WOOTEN: Jeremy Wooten, Eastman
5. Chemical Company and CTI inspector.
6. MR. SANDERS: Jeremiah Sanders,
7. Eastman Chemical Company, area vessel inspector.
8. MR. GLADSON: Jeff Gladson, Eastman
9. Chemical Company.
10. MR. ESTEPP: Jeff Estopp of Eastman
11. Chemical Company, area pressure vessel inspector.
12. MS. SNYDER: Mary Snyder, Eastman
13. Chemical Company.
14. MR. BOWERS: Harold Bowers,
15. FM Global Insurance Company, jurisdictional
16. inspector.
17. MR. WAYBRIGHT: Jeff Waybright,
18. FM Global.
19. MR. ALEXANDER: Larry Alexander,
20. Sonoco.
21. MR. PETERS: Danny Peters,
22. Tennessee State boiler inspector, Knoxville
23. office.
24. MR. PERSINGER: Jason Persinger,
25. Nalco Chemical.

Page 11

1. MR. SIDES: Steve Sides, utilities
2. manager at Domtar Paper, Kingsport, Tennessee.
3. MR. SNEED: Brandon Sneed,
4. utilities project engineer at Domtar Paper.
5. MR. NEVILLE: James Neville,
6. president, Neville Engineering.
7. MR. WOODFIN: Randall Woodfin,
8. CNA Insurance, inspector.
9. MR. LASHLEY: Micah Lashley,
10. Hartford Steam Boiler.
11. MR. HARTFORD: Christopher
12. Hartford, Hartford Steam Boiler.
13. MR. REINHART: Kevin Reinhart,
14. Nationwide Insurance.
15. MR. MASSENGALE: Ray Massengale,
16. McKee Foods Corporation, plant engineer.
17. MR. CROMWELL: Jerry Cromwell,
18. State of Tennessee deputy boiler inspector.
19. MR. DAVIDSON: Bob Davidson, state
20. boiler inspector.
21. MR. PERRY: Steve Perry, state
22. boiler inspector.
23. MR. HOLT: Tim Holt, state boiler
24. inspector.
25. MR. SITZ: Sam Sitz, state boiler

Page 12

1. inspector.
2. MR. SPANGLER: Thomas E. Spangler,
3. Tennessee state inspector.
4. MR. RAINEY: Randy Rainey with
5. Buckman Laboratories, utilities craftsman.
6. MR. MILLER: Jeff Miller, Nucor
7. Steel Memphis, environmental.
8. MR. WORD: Dallas Word, State of
9. Tennessee boiler inspector in Memphis.
10. MR. DICKERSON: Richard Dickerson,
11. state boiler inspector.
12. MR. KELLEY: Randall Kelley, state
13. boiler inspector.
14. MR. SMITH: Jesse Smith, state
15. boiler inspector in the Tri-Cities area.
16. MR. SCHWONKE: Ron Schwonke, Zurich
17. Insurance, southeast regional manager.
18. MR. MERZ: Stephen Merz, Zurich
19. Insurance, boiler inspector.
20. MR. RITTER: Larry Ritter,
21. Travelers Insurance.
22. MS. SCHROEDER: Lynn Schroeder,
23. workplace regulations and compliance consultant.
24. MR. McINTYRE: Don McIntyre, field
25. food service supervisor with the Hartford Steam

Page 13

1. Boiler Inspection Insurance Company.
2. MR. SARVELA: John Sarvela, Liberty
3. Mutual, boiler inspector.
4. MR. O'TOOLE: Luke O'Toole, Liberty
5. Mutual, regional manager, southeast.
6. CHAIRMAN MORELOCK: Okay. Thank
7. you, everybody, for introducing yourselves.
8. Moving on, our next item is Item IV,
9. and that will be the chief boiler inspector's
10. report.
11. MR. CHAPMAN: Thanks, Brian.
12. I'm going to start off with the
13. number of inspections for the state inspector was
14. 2,240; insurance inspector 6,201; giving us a
15. total of 8,441.
16. Total delinquent from the state
17. inspector, 651; for the insurance inspectors, 447;
18. giving us a total of 1,098.
19. The number of code violations was 14
20. found; 8 was corrected.
21. There was one boiler variance done
22. for this report. Thank you.
23. CHAIRMAN MORELOCK: Any questions
24. or comments about the chief's report?
25. (No verbal response.)

Page 14

1. CHAIRMAN MORELOCK: Okay. We'll
2. move on to Item V, which is Old Business. We have
3. one old business item. It's Item 15-20, and that
4. is the reorganize of Tennessee Rule 0800-03-03.
5. And just to let you know, the board -- the
6. workplace regulation and compliance and the boiler
7. unit -- we worked for a couple of years to try to
8. make the rules a little more user friendly, a
9. little more informative, and we've been successful
10. in that.
11. The Secretary of State for Tennessee
12. approved our revision in June of 2016, and it
13. takes effect now. It's in effect in September.
14. The revised Rule 0800-03-03 is on the website, so
15. I would encourage you to go and look. And I think
16. there's actually copies available here this week,
17. if you want to see that.
18. And Chief Chapman and Deputy
19. Inspector Jesse Smith will be giving you a more
20. detailed presentation of Rule 0800-3-3 at 1:30, so
21. that way you'll have to come back after lunch.
22. So come back and see and hear all the
23. changes. We're very thankful for all the efforts
24. that went into that to hopefully make it something
25. better for the State of Tennessee to use when it

Page 15

1. comes to pressure equipment, so ...
2. Any questions about that?
3. (No verbal response.).
4. CHAIRMAN MORELOCK: Okay. Moving
5. on to New Business, Item VI, our first item is
6. 16-12, MC Ionic Solutions U.S. They are
7. requesting to designate nine pressure vessels as
8. Tennessee Specials. This equipment will be
9. installed at their facility located in Memphis,
10. Tennessee.
11. So before we begin discussion of this
12. item, are there any conflicts of interest with
13. this item?
14. (No verbal response.)
15. CHAIRMAN MORELOCK: Okay. Hearing
16. none, we'll proceed.
17. Do we have a representative from
18. MC Ionic Solutions here today?
19. MR. WOOTEN: I'm with the insurance
20. company representing them.
21. THE REPORTER: I'm sorry, what's
22. your name?
23. CHAIRMAN MORELOCK: Introduce
24. yourself. Thank you.
25. MR. WOODFIN: Randall Woodfin with

Page 16

1. CNA Insurance.
2. We spoke with Sam and Deborah. They
3. would request that we delay this item being placed
4. on the agenda. Sam had several discussions with
5. them and has offered a solution to them, and
6. they're exploring the solution. So they would
7. like to delay their application for a Special
8. until the next meeting because they think they
9. will have this problem solved by then.
10. CHAIRMAN MORELOCK: Okay. We will
11. hold this item for the December agenda, then.
12. MR. WOODFIN: And they wanted me to
13. also express appreciation to Sam and Deborah for
14. the help of guiding them through this process.
15. CHAIRMAN MORELOCK: Okay. And
16. while we're discussing this, as part of the
17. minutes, the package that they provided, these
18. vessels were built and stamped to ASME code. They
19. just need to be stamped, National Board stamped,
20. and Sam has provided NB264 to them that actually
21. has provisions now in Section 6.0 to allow
22. registration with the National Board even after
23. the vessel has been fabricated and possibly even
24. put into service. So we hope that works out
25. successfully for them and we'll be anxious to see

1. what they come back with.
 2. MR. WOODFIN: Thank you very much.
 3. CHAIRMAN MORELOCK: Thank you.
 4. Okay. Moving on to our next item
 5. Item 16-13, Domtar Paper Company, LLC requests a
 6. renewal variance to the operation of their
 7. Number 2 Recovery Boiler Main Equipment located at
 8. 100 Clinchfield Street, Kingsport, Tennessee.
 9. So, gentlemen, if you will introduce
 10. yourselves and present your report, please.
 11. MR. NEVILLE: I'm James Neville
 12. with Neville Engineering representing Domtar.
 13. MR. SIDES: Steve Sides with Domtar
 14. in Kingsport, Tennessee.
 15. MR. SNEED: I'm Brandon Sneed with
 16. Domtar in Kingsport, Tennessee.
 17. MR. NEVILLE: Our request is for a
 18. variance renewal for the internal inspection
 19. frequency. I'll give you a background on Domtar.
 20. Domtar is a Canadian corporation. It's a paper
 21. company that generates 5.3 billion in revenue and
 22. operates two separate business segments.
 23. The primary segment is the pulp and
 24. paper that generates 85 percent of Domtar's
 25. revenue. The Kingsport Tennessee, plant is 1 of

1. 13 operating plants within this business segment.
 2. And the annual production in paper is 423,000 tons
 3. of paper and 300,000 tons of hard wound slush
 4. pulp. That gives you a background of Domtar. And
 5. we can go into more detail on that.
 6. But in the variance renewal, we have
 7. incorporated all the new reports. In Index 10 we
 8. list all of the renewal revisions. So all of the
 9. reports have been updated, and we can discuss
 10. those, the findings on those reports.
 11. CHAIRMAN MORELOCK: Okay. Let me
 12. ask the question, are there any conflicts of
 13. interest on this item?
 14. (No verbal response.)
 15. CHAIRMAN MORELOCK: Okay. Good.
 16. Go ahead and proceed.
 17. MR. SNEED: So our first 18-month
 18. run time has been successful. We sought out a
 19. variance and was given that approval by the board.
 20. We went down in March of this year
 21. for our 18-month run time. We did an internal
 22. inspection as well as NDE inspection of the
 23. boiler. There were no major findings found.
 24. Essentially it looked like it did after it ran for
 25. 12 months.

1. We still proceeded with the same
 2. inspection scope per our inspection matrix that we
 3. have used in the past and found no major findings.
 4. It was essentially the same punch list that we see
 5. from the boiler inspectors every year.
 6. Do you guys have any questions after
 7. you have reviewed the inspection reports that we
 8. have provided?
 9. CHAIRMAN MORELOCK: Okay. So I
 10. need a motion first, and then we'll have
 11. discussion and questions.
 12. MR. SNEED: Okay.
 13. CHAIRMAN MORELOCK: Do I have a
 14. motion --
 15. MR. ROBINSON: Motion made to
 16. discuss.
 17. CHAIRMAN MORELOCK: Okay. I have a
 18. motion made to discuss.
 19. MR. BAUGHMAN: Second.
 20. CHAIRMAN MORELOCK: Second, okay.
 21. So what questions does the board have?
 22. MR. BAUGHMAN: I'll start off just
 23. with a simplistic one. I think Steve Moorison was
 24. the one that came originally.
 25. MR. NEVILLE: That's correct, yes.

1. MR. BAUGHMAN: On the letter that
 2. was sent to Sam on July 30th it says Marshall
 3. White, the Assistant Superintendent Recovery,
 4. would be responsible for implementing the variance
 5. criteria and he will attend this particular
 6. meeting. And we've got brother Steve and brother
 7. Brandon, but I was interested in Marshall White
 8. since he was the one that was responsible for the
 9. variance criteria of --
 10. MR. SIDES: Right. Well, Marshall
 11. works directly for me. Marshall is the recovery
 12. assistant superintendent, and I'm the utility --
 13. Marshall and Steve both work for me and I'm the
 14. recovery -- power and recovery superintendent
 15. utilities manager. So they all reported to me.
 16. Marshall wasn't able to make it today for issues
 17. at the mill.
 18. MR. BAUGHMAN: Okay.
 19. MR. SIDES: Personally, I needed
 20. him there. And plus he and I had been working on
 21. this with Brandon, and I was with Steve the
 22. last -- I wasn't at the meeting with Steve but,
 23. you know, I went through the process with Steve
 24. last time. I am presenting the case for the
 25. 18 months and both of us are very familiar with

Page 21

1. the inspections and maintenance and the
2. operational part.
3. MR. BAUGHMAN: Marshall will still
4. be the individual, though, that will be
5. implementing the variance criteria?
6. MR. SIDES: That is correct.
7. MR. BAUGHMAN: Okay. I just wanted
8. to make sure.
9. MR. SIDES: Yes.
10. MR. SNEED: Yes.
11. CHAIRMAN MORELOCK: Go ahead.
12. MR. ROBINSON: I've just got a
13. couple questions right off the bat. Thank you,
14. first, for attending and also joining in on our
15. fall conference.
16. The questions I have -- first of all,
17. Mr. Chairman, we have this listed as a renewal.
18. And in addition to the renewal, they're also
19. revising their manual.
20. CHAIRMAN MORELOCK: Yes.
21. MR. ROBINSON: Should the record
22. also include that this is a revision to their
23. manual as well?
24. CHAIRMAN MORELOCK: Yes.
25. MR. ROBINSON: Okay.

Page 22

1. CHAIRMAN MORELOCK: And I think it
2. states that in the manual.
3. MR. SNEED: That's right.
4. CHAIRMAN MORELOCK: That's why you
5. have --
6. MR. SNEED: Section 10.
7. CHAIRMAN MORELOCK: With this
8. renewal, they're showing the changes in --
9. MR. ROBINSON: It wasn't reflected
10. in our --
11. CHAIRMAN MORELOCK: -- in Index 10.
12. MR. ROBINSON: -- agenda.
13. CHAIRMAN MORELOCK: And it can be
14. updated to state that, yes.
15. MR. ROBINSON: Okay. One of the
16. questions I had that kind of stood out, you had a
17. tech sheet, and the tech sheet, on page 1.10 for
18. the Number 2 recovery unit, you stated the relief
19. valve capacity to be in CFM's. But this is a
20. steam boiler. That was perhaps a typo.
21. CHAIRMAN MORELOCK: That's on
22. page 1.10.
23. MR. SNEED: I don't -- yes. Our
24. relief valve capacity is set in kPPH, a thousand
25. pounds per hour of steam. I can get you that

Page 23

1. updated number but it is not correct on here.
2. MR. ROBINSON: Could you go ahead
3. and make that correction? It is corrected on your
4. safety valve test data sheets.
5. MR. SNEED: Okay. Yes.
6. MR. ROBINSON: And the numbers will
7. achieve approximately 600,000 BTU, approximately,
8. still out there -- pounds per hour -- forgive me.
9. I spoke wrong.
10. On the smelt bed inspection
11. criteria --
12. MR. SNEED: Yes, sir.
13. MR. ROBINSON: -- I guess years ago
14. you had an event that occurred in that particular
15. area of the boiler. And what justification did
16. you use not to open or remove or inspect?
17. MR. SIDES: Well, the resulting
18. incident that occurred prior to that -- I was not
19. there but reviewing the reports and talking with
20. the inspector on that, the actual incident began
21. from the external, from the dissolving tank to the
22. recovery boiler which, from smelt runoff, created
23. a high smelt pool that could dissolve at tank
24. level. And when that smelt reacted in that tank,
25. it also damaged that spout and the wall opening at

Page 24

1. the floor interface.
2. So the damage you might say occurred
3. from the outside in. The floor inspection is
4. required every five years, and we performed that
5. floor inspection in -- you know, so that we
6. wouldn't have to do it again for five years.
7. MR. ROBINSON: So what happens if
8. those tubes -- you do have the pitting of several
9. tubes in that area. What happens if they were to
10. rupture?
11. MR. SNEED: Well, we reviewed those
12. in 2014, and, again, it's not due again until
13. 2019, so that's the reason we did not inspect it
14. in March of this year.
15. MR. ROBINSON: Well, what happens
16. if it ruptures?
17. MR. SIDES: Well, if you have a
18. pitted tube that ruptures for any reason --
19. anywhere in that boiler, especially the furnace --
20. MR. ROBINSON: Well, I'm concerned
21. with the floor. And the reason I'm asking, I just
22. want to be assured that we're not overlooking it.
23. I don't know yet.
24. MR. SIDES: Based on the PSA
25. inspection and the NDE reports for any of those

1. tubes, there weren't any tubes needing to be
 2. replaced. And neither on the '14 inspection were
 3. any of them suggested to be replaced. There's no
 4. pitting that would have, in their minds, you know,
 5. created cracking from tube -- from point to point
 6. in a pit that would cause the need to remove the
 7. tube. There was no evidence that that needed to
 8. be done and there was no evidence that there was
 9. any risk involved with leaving those tubes in
 10. place and performing the standard inspections.

11. MR. ROBINSON: So we really don't
 12. know if the pitting has grown.

13. MR. SIDES: We know it didn't grow
 14. in 2014.

15. MR. ROBINSON: Right. So we don't
 16. know now.

17. MR. SIDES: That's right.

18. MR. ROBINSON: Okay.

19. MR. SIDES: We won't know until we
 20. move the bed again.

21. MR. ROBINSON: Okay.

22. CHAIRMAN MORELOCK: And that --

23. MR. SIDES: With or without the
 24. extension.

25. CHAIRMAN MORELOCK: That'll be

1. done -- that'll be done prior to '19, right?

2. MR. SIDES: With or without the
 3. extension, it'll be done in '19.

4. CHAIRMAN MORELOCK: Okay. And your
 5. pit gauge readings all showed the tubes well above
 6. TMN (phonetic), correct?

7. MR. SIDES: Yes.

8. MR. SNEED: That's correct.

9. MR. ROBINSON: On the scallop plate
 10. seals, tubes 45 -- this is actually on page 2.6R.
 11. The photographs, just for your record, are on
 12. 2.27R.

13. The question I have on that is that
 14. you gave me a before and an after photograph,
 15. right, from 2014 to the present? And it's pretty
 16. obvious that the crack indication didn't grow or
 17. propagate into the tube. But as I looked at it
 18. from the 2014 drawing or photograph to the
 19. present, it didn't show to stop drilling. And
 20. that's what you had said you did. And, again, the
 21. only fear I have is that if it propagates into the
 22. tube ...

23. CHAIRMAN MORELOCK: So can you
 24. confirm that that was drill-stopped?

25. MR. NEVILLE: Yes.

1. MR. ROBINSON: I don't see it.
 2. Just out of curiosity, I guess I'm
 3. under the belief that in order for you to get the
 4. extension, that you're going to do a set amount of
 5. inspections during the 18-month period or outage.
 6. Although, I realize you're an entity and I'm just
 7. concerned because I don't know what drives your
 8. motivation to do certain inspections, other than
 9. what we have given you. But if you make a
 10. decision to deviate from what we've given you, I
 11. guess I'm finding it difficult to explain or
 12. rationalize why we should give you an extension.

13. MR. SIDES: Well, I'm not sure
 14. we're deviating from the things that you've asked
 15. us to do, other than the time frequency. There
 16. are certain standards beyond the State that are
 17. required inside a recovery boiler by our
 18. corporation and our corporate engineering that we
 19. follow particular standard that should not only
 20. encompass what the state board asked us to do as a
 21. requirement of maintenance to maintain those units
 22. and test those units, but also for NDE work, the
 23. scope of testing.

24. We actually go beyond that to some
 25. degree, even with some other third-party

1. inspectors that look at a lot of recovery boilers.
 2. And I guess your reference to what we're not doing
 3. that the board requires would be -- what would
 4. that be?

5. MR. ROBINSON: Well, for example,
 6. on the --

7. CHAIRMAN MORELOCK: Well, I guess,
 8. if I can interject, on 2.27R, the photo at the top
 9. is showing a propagating during the 2014 outage,
 10. and you're stating in this current manual that
 11. these cracks were marked to be drill-stopped at
 12. tubes number 45, 57, and 69. And I think what
 13. Mr. Robinson is looking for is proof that you
 14. drill-stopped them. And if you've got that, then
 15. it's a non-issue.

16. Is that correct?

17. MR. ROBINSON: That's correct.

18. CHAIRMAN MORELOCK: Okay.

19. MR. SNEED: And I think the reason
 20. that we do not have those pictures is because that
 21. area was not scaffolded.

22. CHAIRMAN MORELOCK: Okay.

23. MR. SNEED: It was not -- per our
 24. inspection matrix, that area was not scheduled to
 25. be scaffolded and inspected this year.

1. MR. ROBINSON: So this is not a
 2. before and after.
 3. MR. SNEED: No. I think this is
 4. the picture from 2014.
 5. CHAIRMAN MORELOCK: That's the
 6. before, yeah. And that's what it says.
 7. MR. SNEED: There's no after
 8. picture. Because the last line on this said,
 9. "This section was not scaffolded this outage," so
 10. there's no way they could have taken a picture of
 11. the after.
 12. CHAIRMAN MORELOCK: So do you have
 13. a report showing that this was drill-stopped? Do
 14. you have a work order or something showing that
 15. that was drill-stopped?
 16. MR. SNEED: Not with me right now
 17. but I can personally check on that. Yeah, not
 18. with me right now.
 19. CHAIRMAN MORELOCK: If you can
 20. provide that documentation, then that will --
 21. Would that address your comment?
 22. MR. ROBINSON: That would
 23. definitely give me some credibility.
 24. MR. SNEED: Without having it in
 25. front of me, I can -- I would say if this was

1. marked, this was more than likely put on the 2014
 2. punch list.
 3. CHAIRMAN MORELOCK: Yes.
 4. MR. SNEED: And there was no items
 5. left off the 2014 punch list that weren't
 6. completed, so -- but I can get that.
 7. CHAIRMAN MORELOCK: Just confirm
 8. that and that will be fine.
 9. MR. SNEED: Yes, sir. Okay.
 10. MR. ROBINSON: There was one other
 11. question. There was a question on the insurance
 12. company report that indicated that there was an
 13. obstruction when the test was performed. I
 14. believe it probably was a main piping or a main
 15. discharge piping. And it was obstructed but it
 16. cleared up. Can you guys give me any idea of what
 17. the resolution was or what happened?
 18. MR. SNEED: Can you say where in
 19. the report you're referring to?
 20. MR. ROBINSON: 2.91R. Second
 21. paragraph, near the top.
 22. MR. SIDES: This was the -- that
 23. was the emergency drain on the boiler that we had
 24. some pluggage in the drain itself, and we opened
 25. that up and we also replaced the valve in that,

1. so ...
 2. MR. ROBINSON: So that was the
 3. problem?
 4. MR. SIDES: Yeah. It was behind
 5. the valve.
 6. MR. ROBINSON: Very well.
 7. MR. SIDES: And that was removed.
 8. MR. ROBINSON: Okay. Thank you.
 9. MR. SIDES: I was personally there
 10. for that one.
 11. MR. ROBINSON: Okay. Thank you.
 12. MR. BAUGHMAN: If this is approved,
 13. when would the next scheduled inspection come
 14. about?
 15. CHAIRMAN MORELOCK: It's in your
 16. manual.
 17. MR. SNEED: I think it's
 18. October 2nd of next year.
 19. MR. SIDES: That would be in the
 20. same year, calendar year, six months later.
 21. MR. BAUGHMAN: Because at that
 22. time, we were just talking about the tubes under
 23. the smelt bed. Is the smelt bed going to be
 24. removed during the 2017 outage?
 25. MR. SIDES: No.

1. MR. BAUGHMAN: Although the
 2. inclusions and recommendations are that they
 3. should be done, it's not going to be done.
 4. MR. SIDES: It was done. We have
 5. removed it. It's not required again for five
 6. years.
 7. MR. SNEED: And we did seek advice
 8. from our state inspector as well as our insurance
 9. rep to see if after 18 months we needed to remove
 10. the smelt bed, even though we had done it in 2014,
 11. and we were advised to stick to our current
 12. schedule of five years.
 13. MR. BAUGHMAN: We'll address that
 14. in PSA's report at the end of 2.123R, including in
 15. the recommendations, consideration is to be given
 16. to removing the smelt bed and center crotch
 17. refractory in order to facilitate a visual
 18. inspection and NDE during the 2017 outage.
 19. That's somewhat contradictory to what
 20. you just said. It's not exactly contradictory
 21. because this was PSA's report.
 22. MR. SNEED: That's correct.
 23. MR. BAUGHMAN: So what's your
 24. thoughts on that?
 25. (No verbal response.)

1. MR. BAUGHMAN: And part of the
 2. reasoning behind that removal is because of those
 3. tubes that had been gouged by the chipping hammers
 4. previously. The recommendation I read was not to
 5. utilize chipping hammers this time around, but
 6. there was concern with that, and so that was part
 7. of their recommendations. Although you're saying
 8. that insurance and others have said otherwise.
 9. CHAIRMAN MORELOCK: While you're
 10. thinking about that let me ask you this question:
 11. So your next 18-month internal is October 2017.
 12. And then if you project that out another
 13. 18 months, that would put you into April of '19,
 14. and you're going to be bumping up on your
 15. five-year smelt --
 16. MR. SIDES: Yeah. We will be short
 17. six months in five years at that point. I guess
 18. the statement itself reads a consideration should
 19. be taken. And we took that consideration and
 20. looked at it and analyzed, looked at it with our
 21. inspector, looked at it with our insurance.
 22. CHAIRMAN MORELOCK: So your plan is
 23. to definitely take that smelt bed out in the
 24. spring of '19.
 25. MR. SIDES: Yes.

1. CHAIRMAN MORELOCK: So what you
 2. could walk away with is then the internal in '17,
 3. they need to pay pretty close attention to that
 4. area to see if there's any changes. Because see,
 5. the danger is this: What these guys are
 6. recommending to you is not just to make life
 7. difficult for you, but if this consideration leads
 8. to a failure, the failure will lead to your
 9. variance being rescinded. And so they're just
 10. wanting to protect you from that.
 11. MR. SIDES: I understand.
 12. CHAIRMAN MORELOCK: You know,
 13. because that's what the law says in 68-122-110(f),
 14. is that you can run with the variance but if an
 15. external inspection finds a problem, the boiler
 16. will be shut down, your variance is rescinded, and
 17. you have to do an internal on the spot. So you'll
 18. have to manage that risk.
 19. MR. SIDES: Right. And I think by
 20. having the appropriate people look at it and
 21. analyze it --
 22. CHAIRMAN MORELOCK: Yes.
 23. MR. SIDES: -- and talk with the
 24. people at PSA -- we've got a working relationship
 25. with them in that they absolutely maintain the

1. third party. They have to as an inspector and of
 2. course so does our State of Tennessee inspectors.
 3. CHAIRMAN MORELOCK: Right.
 4. MR. SIDES: So by having those
 5. parties consider that and look at it, they haven't
 6. recommended we cut the interval short five years,
 7. just to keep that in mind.
 8. CHAIRMAN MORELOCK: Okay.
 9. MR. SIDES: And should the
 10. opportunity present itself to do that earlier,
 11. then we'll do that earlier. But there's not
 12. anything driving us to remove the smelt bed to
 13. inspect those areas.
 14. CHAIRMAN MORELOCK: Okay. All
 15. right.
 16. MR. ROBINSON: Was there a
 17. documented statement saying that you suggested
 18. five years for the smelt bed? I don't recall
 19. seeing it, but if it ...
 20. MR. SIDES: I could probably -- we
 21. should be able to dig that up from PSA, where that
 22. occurred at that time.
 23. MR. ROBINSON: The gouges,
 24. Steve ...
 25. MR. SIDES: Oh, I agree. I've seen

1. gouges done by chip and hammer to remove a smelt
 2. bed, then it have --
 3. MR. ROBINSON: And the depths of
 4. the gouges, the photographs are very revealing,
 5. and the pitting was there. And it's only a --
 6. MR. SIDES: And we made some
 7. modifications so it would make it easier for us to
 8. inspect a smelt bed in the future. For example,
 9. we put on different spout hoods this last outage
 10. and they -- the people that actually come in and
 11. pumped smelt, to pump the smelt bed out while the
 12. boiler is running, which lessens the amount, and,
 13. of course, now you don't clean it with chipping
 14. hammers anymore. You clean it with hydro
 15. blasting --
 16. MR. ROBINSON: Yes.
 17. MR. SIDES: -- and high-pressure
 18. water to -- you know, so you do less and less
 19. damage. So the inspections are much better doing
 20. it that way as well. So there's a lot of new
 21. tools out there to do the right things with.
 22. I've been, you know, in the recovery
 23. area for 40 years, and so I've seen a lot of
 24. different floors in units. And not that I'm an
 25. expert in metallurgy or damage, but I've seen a

Page 37

1. lot worse looking floors than this one.
2. And it's still a concern to us any
3. time we're operating a unit at 1,250 pounds in a
4. pool of smelt with water and a boiler. It should
5. be a deep concern to us. And we don't take that
6. lightly. This is our only asset for that mill, so
7. it would be economically a catastrophe for us as
8. well, so we take that very serious.
9. CHAIRMAN MORELOCK: Any other
10. questions or comments?
11. DR. HARGROVE: Yes. Keith
12. Hargrove. Just a simple question. Just for
13. clarity, was there or was there not a change in
14. the furnace volume for the inspection that was
15. done back in March?
16. MR. SIDES: There was not a change
17. in the furnace volume. It was the same furnace.
18. We just had a study performed by Hendricks Boiler
19. Manufacturers. They studied -- did a full
20. circulation and thermal study on the boiler and
21. presented it as a document with the steaming
22. capabilities of that unit, which in reality is
23. much higher than what we are at this point. It's
24. really capable, I think, of 642,000. But we would
25. have had to install quite a bit of attemperation

Page 38

1. equipment and a safety opening on the drum and
2. various pieces of equipment to drive it to the
3. 640,000.
4. DR. HARGROVE: Yes, sir.
5. MR. SIDES: So we took an
6. intermediate point and said, well, what can we run
7. if we make minor modifications. And even though
8. our safety relief capacity was adequate by the
9. State's definition, Hendricks likes to have a
10. larger percentage at the super heater outlet of
11. safety relief. So we went in and installed
12. another safety valve.
13. We already had feed water
14. attemperation on a set of the installed
15. attemperators so we didn't have to make any
16. modifications to the attemperator. We got their
17. recommendation, American Mechanics performed the
18. safety valve installation, and we restamped the
19. boiler at a maximum continuous rate of 545,000
20. with a peak rate of 580,000, which is still well
21. within the thermal and circulation study of the
22. existing furnace.
23. DR. HARGROVE: Okay. All right.
24. Thank you, sir.
25. CHAIRMAN MORELOCK: Any other

Page 39

1. questions or comments?
2. MR. BAUGHMAN: I'll continue.
3. CHAIRMAN MORELOCK: Okay.
4. MR. BAUGHMAN: The State of
5. Tennessee certificate of boiler inspection,
6. Certificate Number 826809, dated 5/13/2016, for
7. this particular boiler manufacturer for your
8. facility, chose the manufacturer -- I don't know
9. how you say the name.
10. MR. SIDES: Well, Kvaerner was the
11. original manufacturer.
12. MR. BAUGHMAN: Kvaerner was the
13. original manufacturer?
14. MR. SIDES: Kvaerner, yes, sir.
15. MR. BAUGHMAN: Okay. And on the
16. certificate it says year built 2002.
17. MR. SIDES: That's right. That's
18. correct.
19. MR. BAUGHMAN: And if you'll
20. examine the P-3 Manufacturers' Data Report from
21. the manufacturer for this boiler and look on line
22. Number 4, Unit Identification, it shows the year
23. built, 2001. That is page or Item Number 3.98R.
24. MR. SNEED: You said 98?
25. MR. BAUGHMAN: 98, yes, sir. Is

Page 40

1. that correct?
2. MR. SNEED: Can you tell me where
3. the state certificate page is?
4. MR. BAUGHMAN: 3.3R.
5. MR. SNEED: Okay.
6. MR. SIDES: I can't really answer
7. that, why there would be a difference, unless a
8. lot of it was manufactured off-site and then
9. erected in 2002, maybe, before it was stamped. I
10. have no idea.
11. MR. BAUGHMAN: Well, the boiler is
12. going to be stamped 2001, according to what's on
13. the data. So the boiler should be stamped 2001.
14. MR. SNEED: In looking at a
15. previously certificated boiler inspection, it's
16. 2002 on there as well.
17. MR. BAUGHMAN: I understand. And
18. that's part of my point, is somewhere along the
19. line -- I'm an attention-to-detail kind of guy,
20. and if attention to detail on these kind of things
21. isn't taken care of, it makes me wonder about the
22. more technical types of attention to detail.
23. So the manufacturers' data report
24. says the boiler is built in 2001. State
25. certificate states 2002. The R-1 reports, which

Page 41

1. are page 3.10R -- 3.107R, 3.109R, and 3.111R all
2. state 2002 also. So there's a discrepancy
3. somewhere, somehow. I would just like it all to
4. get on the same page.
5. MR. PISCHKE: Excuse me.
6. CHAIRMAN MORELOCK: Mr. Pischke?
7. MR. PISCHKE: Thank you,
8. Mr. Chairman.
9. Just looking at the manufacturers'
10. data report, I see the 2001, year built, and then
11. the signature of shop compliance was January 9th,
12. 2002. I suspect what happened was the document
13. was generated before the end of the year and not
14. signed until right after January, which has
15. happened to us many times in manufacturing. I
16. guess that would be my --
17. MR. BAUGHMAN: Rationale?
18. MR. PISCHKE: -- perception of what
19. happened.
20. MR. BAUGHMAN: I agree. I just
21. want to make sure from a paper standpoint and
22. accountability standpoint that everything is on
23. the same page.
24. CHAIRMAN MORELOCK: Yeah. I think,
25. as Mr. Pischke points out, it's a manufacturer's

Page 42

1. problem, not their problem.
2. MR. BAUGHMAN: Okay.
3. CHAIRMAN MORELOCK: Because if you
4. look at 3.97R, the Certificate of Shop Compliance
5. is dated November 8th, 2002. So that was well
6. beyond just the change of the year. That was
7. almost at the end of 2002.
8. MR. BAUGHMAN: January 9th was the
9. beginning of --
10. CHAIRMAN MORELOCK: So really, the
11. manufacturer, Kvaerner, really should have updated
12. their data report that they sent to you. And --
13. MR. PISCHKE: Yeah. It should have
14. been revised.
15. CHAIRMAN MORELOCK: -- from an
16. Eastman standpoint, when shops are running, you
17. know, at a comfortable pace, we find about
18. 25 percent of their U-1s have got errors, and if
19. they're running wide open, it's 50-65 percent of
20. the U-1s have errors. So it's not an anomaly.
21. MR. BAUGHMAN: Okay. Good. Well,
22. that's good information for me to know, a learning
23. experience, too.
24. Moving on with the pressure vessel
25. test -- I mean, the pressure relief valve

Page 43

1. inspection repair and testing. I noticed on the
2. form there's a place for a QC inspector to sign or
3. to be identified. Parts are inspected. But I
4. don't see a QC inspector listed on any of the
5. forms. Some of the forms -- and these are 3.113R,
6. 3.115R, 3.117R, and on down the line. But part of
7. what I look at on the relief valves is under
8. assembly and testing, some have test media. Look
9. at 3.121R, and it lists the Test Media as Steam;
10. Test Method, Bench; gauges that were used,
11. calibrations, test pressures, passed, so forth.
12. And then if you look at 3.113R, and
13. you look at Test Method -- Test Media, it's blank;
14. Test Method is blank; Gauge, blank; Gauge, blank;
15. Final Test Pressure, zero; Seats, tight --
16. information is missing.
17. And I'm a little concerned because of
18. what some of the reports found on the backside,
19. 3.122R. Disk Holder, Gouged; Gaskets, Worn;
20. Guide, Gouged; Spindle, Gouged. All of these
21. things have been repaired and parts replaced, I
22. guess, and that particular valve was tested versus
23. 3.113R. And when you look to the back, which has
24. very little test data on it for testing that valve
25. and you flip it over to 3.114R, Base and Body,

Page 44

1. Corroded/Corrosion; Disk, Corroded; Nozzle/Seat
2. Bushing, Corroded. All of that was repaired, but
3. I don't see any test data corroborating that that
4. relief valve was tested. And that concerns me
5. somewhat. Would it concern you?
6. MR. SNEED: Yeah, there does appear
7. to be some discrepancies in the individual
8. reports. And I can agree with that.
9. CHAIRMAN MORELOCK: And they would
10. have a concern as a customer from the VR shop.
11. But the discrepancies here is more part of a
12. quality program concern with a VR stamp holder
13. which they need to take issue with. But that
14. really doesn't have bearing on their internal
15. inspection frequency. I mean, it's good
16. information for them to follow up with the
17. VR stamp holder.
18. MR. SIDES: It's still something
19. for us to take back to our valve repair people.
20. CHAIRMAN MORELOCK: Yeah. I mean,
21. that's a -- we've had discrepancies in the past
22. ourselves, so that's why we do them ourselves now.
23. MR. SIDES: I appreciate that.
24. CHAIRMAN MORELOCK: Any other
25. questions or comments?

1. (No verbal response.)
 2. CHAIRMAN MORELOCK: I just have a
 3. couple. In reading through your report, from what
 4. I gather from the executive summaries and the
 5. summations, it says that PSA, FM Global, and the
 6. State have no findings that would prevent you from
 7. continuing your variance; is that correct?
 8. MR. SIDES: That's correct.
 9. CHAIRMAN MORELOCK: And then the
 10. other is from the 2016 inspection, internal
 11. inspection, there was no punch list items left
 12. incomplete. All of them are completed; is that
 13. correct?
 14. MR. SNEED: From the 2016?
 15. CHAIRMAN MORELOCK: Yes.
 16. MR. SNEED: That is correct, yes.
 17. CHAIRMAN MORELOCK: Okay. And when
 18. we initially reviewed this in 2014, there was no
 19. unleft punch list items from that, other than some
 20. comments that we made, and they're in our board
 21. minutes.
 22. MR. SNEED: That's correct.
 23. CHAIRMAN MORELOCK: Okay. So is
 24. there any other -- is there anything else you want
 25. to present on this manual?

1. MR. NEVILLE: I don't believe so.
 2. MR. BAUGHMAN: Okay. I've still
 3. got some technical stuff.
 4. CHAIRMAN MORELOCK: Okay. Well, go
 5. ahead and put it out there.
 6. MR. BAUGHMAN: In the last
 7. inspection -- now, you guys have cameras that look
 8. into the furnace itself, and it made mention that
 9. some of the cameras were blocked, in the report,
 10. and were cleaned.
 11. MR. SIDES: That's correct.
 12. MR. BAUGHMAN: So that gets to be
 13. an issue during operation. You can't necessarily
 14. just shut down and clean the cameras.
 15. MR. SIDES: Well, we have cleaners
 16. on the cameras that we had to make repairs to, and
 17. we had some lens -- we got a temporary camera in
 18. and ran the temporary camera for a period of time
 19. until the lens on the other camera could be
 20. cleaned. But it was actually an edge that needed
 21. to be replaced, and then we reinstalled the camera
 22. so we have a clear view in there, and we have a
 23. cleaner. And that camera, that port, actually can
 24. be -- it's on a cylinder. It can be extracted
 25. from the boiler, and the port can be cleaned by

1. hand, so ...
 2. MR. BAUGHMAN: On 2.43R, it talks
 3. about the nozzles on the IK-32. It says, "The
 4. nozzle on the IK-32 had failed and required
 5. replacement of the lance."
 6. And then, "On IK-26 and 31 were
 7. cracked and would likely fail prior to the next
 8. scheduled outage in 18 months. We recommended
 9. replacement of the lance tubes at both locations."
 10. Had those been replaced?
 11. MR. SNEED: I'm just confirming
 12. that they were on the punch list. Yes. They were
 13. listed as Item 13 on the punch list and they were
 14. replaced.
 15. MR. BAUGHMAN: Super.
 16. MR. SNEED: All three of those. It
 17. was 26, 31, and 32.
 18. MR. BAUGHMAN: From an outage
 19. standpoint and just reading over the documentation
 20. on the number of minutes and so forth of outages
 21. was somewhat interesting, how much time was
 22. actually -- was actually in downtime accumulated
 23. with the boiler for anything that was unscheduled?
 24. MR. SNEED: So how much was boiler
 25. caused? Is that what --

1. MR. BAUGHMAN: No, sir. How much
 2. time? How much downtime or how many things went
 3. on during the operation of the boiler that weren't
 4. foreseen that had to be attended to?
 5. MR. NEVILLE: In those 18 months?
 6. CHAIRMAN MORELOCK: So unscheduled
 7. outage? Is that what you're asking?
 8. MR. BAUGHMAN: Uh-huh. During that
 9. period of time, yeah, during their 18 months of
 10. operation.
 11. CHAIRMAN MORELOCK: Okay. What was
 12. the unscheduled outage time?
 13. MR. BAUGHMAN: Yes.
 14. MR. SIDES: Not any.
 15. MR. BAUGHMAN: Zero.
 16. MR. SIDES: Zero. I mean, even the
 17. routine things, we change on a regular outage just
 18. because we have an opportunity. For example, the
 19. spouts. I know that was a question in the last --
 20. there was no change whatsoever in the spouts. We
 21. changed them anyway. There was not anything --
 22. anything --
 23. MR. BAUGHMAN: So the boiler didn't
 24. have any issues electrical wise, conveyor wise,
 25. operational wise, anything that caused any

1. downtime whatsoever.

2. MR. SIDES: Well, we had a line on

3. the mill -- it was external -- that caused a surge

4. in power that tripped the entire mill. It tripped

5. the entire buss off. But it wasn't related to an

6. issue with the recovery board itself. But it did

7. trip the recovery board. And we took the boiler

8. down in June of '15 to install that separator

9. safety valve. Everything else was external to the

10. recovery board itself. There weren't any items or

11. issues that --

12. MR. BAUGHMAN: Well, just reading

13. through the reports, there was -- and not being

14. intimate with the facility, I'm reading things

15. about acid cleaning, electrical issues, recurring

16. electrical issues and what have you, and I'm not

17. too familiar with your facility to know exactly

18. where those issues were. And I'm looking at the

19. minutes that it took for fixing that, and it just

20. looked like there was some areas that had quite a

21. few minutes accumulated in the operation.

22. MR. SIDES: Yes. Most of the acid

23. cleaning that you'll see in there occurred in the

24. lime/kiln recaust area. They're mostly associated

25. with the X filter, which is green liquor

1. clarification process, the disk filter, which is a

2. white liquor clarification process that are

3. outside of the recovery unit in the same

4. department but a different area.

5. Those are probably two of the most

6. prominent issues that interrupted production on

7. the recovery boiler. We did have the lightning

8. strike that I discussed. And I'm looking at all

9. this since the '14 outage. I came right at the

10. end of the 2014 outage.

11. We had one cooling air fan on a

12. breaker, for the feeder breaker, in the motor

13. control center. It also ended up taking the unit

14. down because it's got an interlock so that you

15. don't do electrical heat damage to that breaker.

16. If that cooling air fan fails, it opens that

17. breaker and shuts that circuit down. And it's a

18. pretty good sized cooling fan for these units. I

19. think, if memory serves me right, that was on the

20. I.D. fan, the way it was.

21. MR. SNEED: That's correct.

22. MR. SIDES: But took the unit down

23. based on that fan. But that wouldn't have been

24. anything other than -- it wasn't a cleaning issue.

25. It just failed. It was an end-of-life failure.

1. Now, we have, in some cases, for critical

2. equipment, identified and gone through and been

3. preemptive and go ahead and change those fans in

4. certain places in the mill, because it's a

5. low-cost item compared to shutting down the

6. boiler. And also recognizing the more times you

7. cycle a boiler from a full run to a dead stop is

8. not good on the unit as well, without any

9. degradation.

10. MR. BAUGHMAN: It was a very

11. comprehensive report, which is -- you know, I

12. compliment you on the recordkeeping for that. But

13. as I was going through and looking at the minutes

14. accumulated, and in one area when you took the

15. minutes out, it correlated to almost 20 days of

16. particular time dedicated to some areas. I was

17. looking at low, black liquor flow. I was looking

18. at some different areas in that that, for me, was

19. an operational end of it; but there, again, not

20. ever being at the plant, I was trying to get a

21. good overview of how this thing is operating, how

22. many issues have we got, what issues have we got

23. that are not only pressure boundary related but

24. other boundary related that are still related to

25. the boiler itself.

1. MR. SIDES: That affect the boiler.

2. MR. BAUGHMAN: Yes.

3. MR. SIDES: Well, and that's one of

4. the reasons for one of the processes we put in

5. place, besides root cause analysis. Which we use

6. an eight-step process for problem solving. We

7. also put in place a continuous improvement process

8. for our lime/kiln recaust area.

9. That was identified as truly the most

10. interruptive equipment that was in the mill that

11. affected the entire mill with it being a single

12. line process. So there were many things

13. accomplished over the last year that,

14. reflectively, as late as yesterday, we went

15. through some of these improvements. Which we

16. bought an extra filter for the X filter. That

17. gave us -- instead of changing -- there's four

18. cartridges -- instead of changing one a quarter,

19. now we change all four of them in six months.

20. That problem has been, like, eliminated.

21. We went from plastic zippers on our

22. segments for our disc filter to stainless steel

23. zippers. And just by making that process change,

24. the reliability went up a hundred fold. That

25. caused us to use a lot less acid clean.

1. We had an issue with a lime/kiln
 2. shale in 2015. We went back with a heavier
 3. metallurgy in that particular area of the kiln and
 4. a lighter brick to take the weight off of that end
 5. and a weight of those bearings. So this
 6. continuous improvement process has really paid off
 7. for us at the mill to help that area to run
 8. longer. Which when you do that, now then, for the
 9. back of the process, you start to watch things and
 10. see how well they run at that different rely --
 11. because it's a matter of reliability. It's not a
 12. matter of steaming rate on the boiler, right?
 13. It's a matter of whether it runs 180 or 365 days
 14. in a row or whether it runs 90 days in a row.

15. So those are the things we keep a
 16. close watch on, too, which is much better for the
 17. recovery when it's not cycled, on external
 18. equipment.

19. I think the continuous improvement
 20. process for Domtar as a whole, but specifically in
 21. Kingsport, has been an exceptional improvement for
 22. our mill.

23. MR. BAUGHMAN: Thank you. One
 24. other thing, just as it relates to training -- and
 25. we're all about training -- and just going over

1. the training list, let's look at 3.63.R. And each
 2. one of these training lists seem to have been the
 3. same. It was almost like they were copied over
 4. and nothing virtually changed. Are you at 3.63R?

5. MR. SIDES: Yes.

6. MR. BAUGHMAN: And if you want to
 7. also pull up 3.9R. But on those reports it shows
 8. the names of the individuals and then it shows
 9. current status. And Mellons has been sick awhile.
 10. Stone is off sick. Willis is transferred. I'm
 11. interested to know where we're at from a training
 12. standpoint. So that's good information, but I was
 13. reading where first step-up training was 67.6
 14. complete. Second step is 10.8 complete. And I
 15. know that you guys are on top of your training,
 16. but I just wanted you to fill me in.

17. MR. SIDES: I think we probably
 18. have some updating to go back and do with the
 19. training records, because I've been there all of
 20. '15, December '14 to present. We implemented a
 21. very aggressive training process in January of
 22. '15.

23. MR. BAUGHMAN: Which is not
 24. reflected in this.

25. MR. SIDES: Right. In that

1. training process, because of the age of the
 2. employees in the mill, we had gotten to a point
 3. where we couldn't set up, and so we made some
 4. specific changes in our training. We outlined it
 5. in detail. Since then, we've had one crew leader
 6. that went out on disability and then later
 7. deceased, and one of our control room operators,
 8. the first assistant, set up in that job in
 9. February of '15 permanently. He was trained and
 10. set up. We set up a second one because we had age
 11. of workforce and different ailments. We had
 12. another employee out. So we worked to qualify a
 13. second crew leader.

14. Now we're down to two control room
 15. operators. So we had to implement a process of
 16. training and qualifications and overtime, just to
 17. be honest with you, until we got those
 18. individuals.

19. So there was an incentive in both
 20. directions. One was we had a good, quality
 21. training process that had to be followed and
 22. stopgap measures to measure the progress along the
 23. way, and then the incentive that the other person
 24. wanted to train them a lot because they were
 25. working overtime until they got them trained. So

1. that got us two more individuals trained in there,
 2. Gary Darnell and Gary Thompson, to be the first
 3. assistant in the control room.

4. We spent a better part of -- the
 5. latter part of '15 and the better part of 2016
 6. qualifying two more second assistants. So now,
 7. where we were talking about single set-ups for
 8. those vacancies -- they're single set-up again --
 9. they're actually double set-ups from where they
 10. were a year and a half ago.

11. MR. BAUGHMAN: It's headed in the
 12. right direction.

13. MR. SIDES: It's heading in the
 14. right direction. And then we've backfilled that
 15. second assistant position. And there are some
 16. others that have been out on disability,
 17. back-and-forth, short term. And we've got more
 18. third assistants qualified, but we've got some
 19. out. So we're double step-up qualifying on the
 20. next job.

21. Now, we've got some people, what we
 22. call are on the fast track. Even though it's a
 23. union mill, they're on the fast track because some
 24. have waived -- we've got certainly very
 25. knowledgeable and good talent -- let me just put

Page 57

1. it that way -- good talent down below, and we're
2. fast tracking up through the process to stay
3. ahead. Because we're still in a retirement phase.
4. We've got several people working in their early
5. 60s. I'm not far from there myself. So that's
6. one of the reasons I'm at the mill, is to train
7. younger people to take our place in the next
8. generation as well. So they've got a good
9. training process.

10. MR. BAUGHMAN: Well, and that's
11. important that you pass that along. Did you
12. review this?

13. MR. SIDES: I did not review the
14. training document we stuck in here. I should
15. have. I should have reviewed it.

16. MR. BAUGHMAN: Who did?

17. MR. SIDES: Marshall probably did,
18. or it probably was John Honeycutt, one of the two.
19. And, like I say --

20. MR. NEVILLE: Well, it's just a
21. monthly report, right?

22. MR. SIDES: Yeah. I have a printed
23. software report that comes out on my computer
24. every week on every individual in training and
25. what their progress is.

Page 58

1. MR. BAUGHMAN: James, did you
2. review this also?

3. MR. NEVILLE: Yes.

4. MR. BAUGHMAN: Okay. Well, the
5. training is so important.

6. MR. SIDES: It is.

7. MR. BAUGHMAN: And for you to bring
8. that to the table that, for one, it's been an
9. issue, I think is important information that
10. needed to be addressed.

11. MR. SIDES: Probably should have
12. highlighted that a lot better in the report and
13. given you an idea of what we're doing.

14. MR. SNEED: Yes.

15. MR. BAUGHMAN: Absolutely.

16. MR. SIDES: We've -- we're taking a
17. much more aggressive process in training.

18. MR. BAUGHMAN: Okay. Thank you.

19. CHAIRMAN MORELOCK: Any other
20. comments or questions?
21. (No verbal response.)

22. CHAIRMAN MORELOCK: Okay. Just to
23. kind of recap this, this is what I've heard,
24. because there's a lot of information. So just to
25. condense that down into the bare bones here, the

Page 59

1. board comments are this: On page 2.29R, we need
2. Domtar to confirm that those cracks were
3. drill-stopped; on page 2.123R, Item Number 6, the
4. smelt bed is scheduled to be removed in the 2019
5. inspection, however, during the October 2017
6. internal inspection, there will be checks made to
7. ensure that it can be safely operated until 2019;
8. the manufacturing date discrepancy, I think we've
9. resolved. Basically, the -- Kvaerner, when they
10. filled out their data report, they just -- they
11. probably -- like Mr. Pischke said, that probably
12. filled it out as one year, but it carried over
13. into the next year before they got it completed
14. and signed and out the door.

15. So you can note that however you want
16. to. Due to its age, I don't know if Kvaerner
17. would send you an updated data report or not, but
18. just duly note that.

19. MR. SIDES: Mr. Morelock?

20. CHAIRMAN MORELOCK: Yes, sir.

21. MR. SIDES: Let me ask you one
22. question. On the second item about the smelt
23. bed --

24. CHAIRMAN MORELOCK: Yes.

25. MR. SIDES: -- and to inspect and

Page 60

1. ensure that can be run years further, I think, if
2. I didn't misunderstand, we need to provide the
3. conversation that that inspection had taken
4. place --

5. CHAIRMAN MORELOCK: Yes. Yes.

6. MR. SIDES: -- and that we were
7. okay to run to the five-year interval --

8. CHAIRMAN MORELOCK: Yes, that's
9. correct.

10. MR. SIDES: -- and to send you the
11. statement, right?

12. CHAIRMAN MORELOCK: Yes. That is
13. correct.

14. MR. SIDES: Okay.

15. CHAIRMAN MORELOCK: And you just
16. need to confirm that your five-year date is a safe
17. date and it's doable.

18. MR. SIDES: Okay.

19. CHAIRMAN MORELOCK: That's good.
20. That's a good clarification.

21. Like I said, PSA FM Global state
22. inspections had no findings. In general view of
23. your program, your RBI program is operating as you
24. state in your manual. Your water quality program
25. is running. And the only discrepancy that

Page 61

1. Mr. Baughman has noted is in the area of training.
2. And so your training records need to be updated.
3. Your training program that you're currently using
4. needs to be reflected in your plans, so if Chief
5. Inspector Chapman sends a deputy inspector to your
6. facility, what you say in your manual is actually
7. what you're implementing in the field.
8. Is there any other comments that I
9. have not captured to summarize that?
10. MR. SIDES: So just for
11. clarification, we do not need to send you anything
12. back on the training. What we need to have in our
13. manual, should someone come to inspect and ask for
14. that documentation --
15. CHAIRMAN MORELOCK: Well, our
16. approval today will be contingent on the chief
17. inspector performing a site visit to make sure
18. that you've corrected these deficiencies or
19. comments -- I mean, they're not all
20. deficiencies -- but you've corrected and addressed
21. these comments, and once he is satisfied with the
22. visit, then your extension is in place.
23. MR. SIDES: Okay.
24. CHAIRMAN MORELOCK: But our vote
25. today will be contingent on that site visit.

Page 62

1. MR. SIDES: Okay.
2. CHAIRMAN MORELOCK: Okay. Anything
3. else?
4. (No verbal response.)
5. CHAIRMAN MORELOCK: Okay. I need a
6. motion.
7. MR. PISCHKE: So moved.
8. CHAIRMAN MORELOCK: To ...
9. MR. PISCHKE: To accept the
10. extension based on those contingencies.
11. CHAIRMAN MORELOCK: Okay. So I
12. have a motion to accept this request for
13. extension, to renew this extension, based on our
14. comments. So do I have a second?
15. MR. HARVEY: I second it.
16. CHAIRMAN MORELOCK: Okay. I have a
17. second. Last call for questions or comments.
18. (No verbal response.)
19. CHAIRMAN MORELOCK: Okay. I'm
20. going to call the question. All in favor say,
21. "aye."
22. (Affirmative response.)
23. CHAIRMAN MORELOCK: Opposed?
24. (No verbal response.)
25. CHAIRMAN MORELOCK: Abstentions,

Page 63

1. not voting?
2. (No verbal response.)
3. CHAIRMAN MORELOCK: Okay,
4. gentlemen, you have a contingent approval based on
5. a site visit. So thank you.
6. MR. NEVILLE: Thank you.
7. CHAIRMAN MORELOCK: Okay. And I'm
8. sure everybody is ready for a break.
9. (Recess observed.)
10. CHAIRMAN MORELOCK: We have
11. completed all of our new business items, so we're
12. moving on to open discussion items. And our first
13. open discussion item is legislative change to
14. Tennessee Code Annotated 68-122-106.
15. So in the course of tracking the
16. changes to Rule 300-3-3, we also have found that
17. there was some changes made to 68-122-106 which is
18. requirements for a chief inspector. And those
19. changes entailed removal of the ten years of
20. experience. It also included removal of the
21. National Board of Commission, and it also included
22. removal of the Tennessee Board participating in
23. the decision-making -- or the fact-finding process
24. for removal of a chief inspector. And when we
25. found that out, we sent -- the board sent a

Page 64

1. letter, or an email, to the State requesting
2. clarification. And so the clarification came back
3. that even though the National Board of Commission
4. requirement was removed from 68-122(a), 68-122-109
5. also contains the requirements that all
6. inspectors, special inspectors included, deputy
7. inspectors, chief inspectors, all have a National
8. Board of Commission. So the requirement in 106(a)
9. was deemed to be redundant, and so I agreed that
10. that's true. So the chief does have to have a
11. National Board Commission.
12. Concerning the years of experience,
13. the commissioner/administrator replied back that
14. they've had a lot of challenges trying to
15. fulfill -- trying to fill the position of chief
16. inspector for the State of Tennessee, and they
17. looked at other jurisdictional requirements, and
18. not all those jurisdictions require ten years of
19. experience.
20. Just for information, that number is
21. not just something that was picked out of the air.
22. It was part of the National Board's recommended
23. guidelines to help jurisdictions set up
24. requirements. And that's come out of NB131 and
25. 132. I have received information that if you look

1. at the jurisdictions, some still say ten. There's
2. a good number of them say five. So -- but, you
3. know -- and I'll certainly let Administrator
4. Jefferson speak to this as well because this is
5. coming from her department. But it doesn't negate
6. the fact that we need qualified people to serve in
7. that position. So with that said, I'll let you
8. speak to that further.

9. MS. JEFFERSON: Okay. And I agree.
10. We do need qualified people for all of our
11. positions. So that's true and that's something
12. that we certainly wouldn't dispute. As we talked
13. about earlier in some other board meetings, we had
14. a very difficult time trying to fill that chief's
15. position.

16. As a result of not finding qualified
17. candidates who were willing to actually serve in
18. the position as a state employee -- because, of
19. course, we know that the private industry pays a
20. lot more than the State and government in general.

21. It was very, very difficult. We
22. interviewed a number of folks over an 18-month
23. process. We extended invitation to all of our
24. staff, our current inspectors. And unfortunately,
25. we had a really tough time. And at that point, we

1. realized that having that in the law was not a
2. prerequisite as long as it was in the HR
3. guidelines. And so what we did was take the --
4. remove the ten-year requirement from the law. And
5. as you've indicated, it is a requirement for all
6. of the inspectors to have National Board
7. certification. So that would have been redundant.
8. But as far as the ten-year requirement, that will
9. be dealt with by HR instead of the law.

10. CHAIRMAN MORELOCK: Okay.

11. MS. JEFFERSON: Because we ran into
12. a situation where we can't find someone with ten
13. years of experience, then we have to do something
14. differently. And what we did is that we took a
15. look at all the other states who have chiefs. And
16. as you indicated, a large number of those states
17. require five years. Some stats, if I remember
18. correctly, they didn't even have it in their law
19. or their rules. They just do it as they need to.

20. But it's becoming very difficult to
21. fill those positions. And not just the chief
22. position but the boiler inspector positions.
23. We're running into the same type of situation.

24. CHAIRMAN MORELOCK: Okay. So we
25. just wanted to make you aware of that. Are there

1. any questions or comments about that?

2. Go ahead.

3. MR. BAUGHMAN: Well, just offhand,
4. just from what you've said, Kim, was it's not
5. finding people with the experience. Experience
6. isn't the part of the equation that's hard to
7. find.

8. MS. JEFFERSON: It is.

9. MR. BAUGHMAN: Okay. You said you
10. had X amount of applicants, which --

11. MS. JEFFERSON: We had a number of
12. applicants. We even had applicants who didn't --
13. I mean, when it got -- when it became very, very
14. difficult, we considered folks who had -- they had
15. some experience. So most of them didn't have ten
16. years' experience listed. Most of them did not
17. have ten years of experience. And that was the
18. part that was very difficult because the law
19. required ten years. So we didn't want to run
20. afoul doing something contrary to the law. So in
21. hiring, we had to stick with that.

22. MR. BAUGHMAN: Now, the deputies
23. are required to have how many years of experience?

24. MS. JEFFERSON: Is it three? Is it
25. three years, Deborah?

1. MS. RHONE: Four.

2. MR. BAUGHMAN: So we actually
3. require more years of experience now for our
4. deputies than what we do for our chief.

5. MS. JEFFERSON: Well, we would have
6. to look at that. I'll have to look at that. I
7. don't have the job description --

8. MR. BAUGHMAN: Well, what I'm
9. saying is that, well, we require some years of
10. experience. At least we can agree on that. So we
11. have more experience required for our deputies
12. that we do the chief. And what I see, from what
13. you had said, was finding somebody that would take
14. the job because the private sector offers more
15. money.

16. MS. JEFFERSON: Now, keep in mind,
17. when you say "more than the chief," what number
18. are you using?

19. MR. BAUGHMAN: Well, we've passed
20. the law that says there's no years of experience
21. required for the chief; is that correct?

22. MS. JEFFERSON: No, that's not
23. correct.

24. MR. BAUGHMAN: Okay.

25. MS. JEFFERSON: What I'm saying is

1. that we removed the ten-year requirement from the
 2. law.
 3. MR. BAUGHMAN: From the law.
 4. MS. JEFFERSON: However, in the job
 5. description, the HR job description, which I don't
 6. have in front of me, there is a requirement there.
 7. MR. BAUGHMAN: Of years of
 8. experience.
 9. MS. JEFFERSON: Yes. So we would
 10. have to talk with HR, our human resource
 11. department, so they can verify.
 12. MR. BAUGHMAN: Okay. I would be
 13. interested in what that number is.
 14. MS. JEFFERSON: Because that
 15. number -- and I know that number would not be more
 16. than what a deputy inspector would be required.
 17. Because, you know, as part of HR's process, they
 18. make sure those types of things don't happen.
 19. MR. BAUGHMAN: Okay.
 20. MS. JEFFERSON: It would require
 21. more of a deputy than with a chief.
 22. MR. BAUGHMAN: Okay. So what I'm
 23. understanding is there are years of experience
 24. required for the chief. We just don't know what
 25. those years of experience are.

1. MS. JEFFERSON: Yes. I don't want
 2. to say on the record because I don't have that in
 3. front of me, but if I remember correctly, I think
 4. it was five. But I'm not for sure. I would want
 5. to go back and verify that.
 6. MR. BAUGHMAN: Okay. Because from
 7. what I was hearing, we were -- I guess in this
 8. whole thing, my understanding and comprehension
 9. was that we don't have any years of experience
 10. required.
 11. MS. JEFFERSON: Not in the law.
 12. MR. BAUGHMAN: Not in the law, but
 13. under HR we do.
 14. MS. JEFFERSON: Right. For all of
 15. our job, all the state jobs, there are
 16. requirements. And so instead of doing that based
 17. on the law, we're just going to do it the way
 18. that, you know, that we do all the other
 19. positions.
 20. MR. BAUGHMAN: Okay.
 21. MS. JEFFERSON: And we look to HR
 22. requirements versus the law.
 23. MR. BAUGHMAN: Okay. Interesting.
 24. Good. Thank you.
 25. MR. ROBINSON: But when you reached

1. out to the other jurisdictions, you sought to find
 2. a number that we could use for our locations.
 3. MS. JEFFERSON: Exactly.
 4. MR. ROBINSON: And you tried to
 5. mimic that idea.
 6. MS. JEFFERSON: Yes. And the
 7. majority of the states said five. So, if I
 8. remember -- that's what I said. If I remember
 9. correctly, we submitted information to HR to show
 10. five. But at the next meeting, I'll be happy to
 11. bring the job description, and that way you can
 12. review it together.
 13. CHAIRMAN MORELOCK: Okay. That
 14. would be great.
 15. Yes? Introduce yourself, Danny.
 16. MR. PETERS: Danny Peters, deputy
 17. boiler inspector.
 18. I think, you know, lessening the
 19. years of qualification, it kind of -- if you look
 20. at the experience of the chief, you know, their
 21. ability and their experience and background in
 22. boilers, you know, we're lessening that in the
 23. state. But I think when it came down to the HR
 24. part of it, there was qualifications that were --
 25. some of the deputy inspectors were making right at

1. the base pay of what it would be the chief.
 2. There was also another issue of
 3. hardship of pulling somebody from a distant county
 4. over to Nashville so they would have to move.
 5. There was another issue with that.
 6. So there was some issues with trying
 7. to make that position and fill that position even
 8. within. You know, the door of avenue that's
 9. created in changing this law, I think we shouldn't
 10. have changed the years of experience for the chief
 11. inspector. But there again, you know, it's what
 12. you want as far as a chief inspector. But we had
 13. an ample amount of qualified people within the
 14. department that could fill that position easily.
 15. MS. JEFFERSON: Well, let me just
 16. say this: In regard to that, invitations were
 17. extended to everyone, all the state inspectors to
 18. apply, including you. Invitations were extended.
 19. But, of course, no one -- as I said before, no one
 20. wanted to take that position. So that put us in a
 21. really bad position.
 22. We had to have that position filled
 23. because there's certain benefits of being a part
 24. of the National Board. We're missing out on some
 25. of those benefits. We missed out for 18 months.

1. CHAIRMAN MORELOCK: Okay.

2. MR. PETERS: And there again, you

3. know, the benefits for that position was about

4. what it would be for a deputy inspector in the

5. salary. And as far as moving and the hardship,

6. you know, you're talking about maybe ten grand

7. moving everything over to another location. If

8. you had a family, you would pull your family --

9. you know, there's just a hardship. That's always

10. been an issue, anyway, with that position, or any

11. position coming to Nashville.

12. But the situation of where we're

13. lessening the qualifications for a chief

14. inspector, I think we're going backwards. And it

15. don't make sense to me. I think we need to have

16. somebody out front that's a pointman that's got

17. that qualification.

18. CHAIRMAN MORELOCK: Well, what

19. we'll do is -- thank you for offering to bring the

20. HR policy to the December meeting and we'll look

21. at that. And like I said, you know, please let us

22. know your comments and we'll go from there.

23. So I do appreciate the response from

24. the commissioner, from the administrator, from

25. various people in workplace regulation and

1. compliance. They were very good to address -- we

2. sent seven questions in. We got seven answers

3. back. And so now we've got a baseline to work

4. from. So we do appreciate that.

5. Okay. Our next discussion item is

6. boiler operator training.

7. MR. BAUGHMAN: What a great

8. discussion item. Just for one, getting back to

9. one other thing just from open discussion, was the

10. duties of the Board of Rules board. And one of

11. the things that we had was a listing of those

12. responsibilities of the Board of Rules board that

13. we need to bring up for discussion for either this

14. meeting or another meeting. But actually, we're

15. listed -- and things have changed in the State

16. from how we do examinations from inspectors. And

17. it's no longer done -- the way the rules are set

18. up presently, is that two board members, at least,

19. will do the examination of the deputy or the chief

20. or what have you, and that's no longer how things

21. operate, I believe. And so because of that, it's

22. still listed as duties of the board members, but

23. that still needs to be revised at some point in

24. time.

25. CHAIRMAN MORELOCK: We can submit

1. that for December because we don't have an item

2. ready. But it's just through the progression of

3. testing of being driven by ASME and the National

4. Board. You do not have to go to a jurisdiction to

5. sit for a commission exam anymore. So we just

6. need to bring Tennessee law up to date, and we'll

7. prepare an item for that.

8. MS. JEFFERSON: Okay. And, also,

9. Lynn Schroeder -- Lynn, if you would stand up, if

10. you can -- she is our consultant for the Division,

11. and she's assisting with some of the changes.

12. We talked about this one about two

13. weeks ago, that we needed to bring this before --

14. MS. SCHROEDER: The rules that

15. you've updated are ahead of the law, so we need to

16. bring the law up to where you are allowing the amp

17. stations and et cetera.

18. CHAIRMAN MORELOCK: Yes.

19. MS. SCHROEDER: We have that

20. written and have a whole list, but I'd appreciate

21. any input you have.

22. CHAIRMAN MORELOCK: Okay. We'll do

23. that. We'll do that. We will do that.

24. MR. BAUGHMAN: Super. Thanks for

25. letting me bring that up.

1. CHAIRMAN MORELOCK: And we have

2. submitted administrator duties of the Tennessee

3. Board, and I think you've presented that to the

4. commissioner. And really, I guess once you've

5. finalized what that looks like, then we'll present

6. that as a discussion item to the Tennessee Board.

7. MS. JEFFERSON: Right. I'll have

8. that at the December meeting as well.

9. CHAIRMAN MORELOCK: Okay. All

10. right. Thank you.

11. MR. BAUGHMAN: Thanks again for

12. letting me bring that up.

13. CHAIRMAN MORELOCK: Yes.

14. MR. BAUGHMAN: Boiler operator

15. training. If you don't mind, let me see a show of

16. hands who think that training is needed for those

17. that are operating boilers.

18. Interesting. I see a few "no hands,"

19. but the need for operating these boilers -- these

20. boilers have more potential energy than dynamite.

21. Their potential for causing catastrophic

22. destruction, life, property, what have you, the

23. potential is very high should there be any

24. failure. And yet we have no requirements

25. whatsoever -- whatsoever -- in the operation of

1. the boiler. Kim could operate a boiler of 800
2. horsepower, Deborah, myself, any of you in here.
3. We don't mandate any training in the operation of
4. that boiler. Now, I don't know how big of a warm
5. fuzzy that gives you. I know how it makes me
6. feel.

7. So this discussion needs to be
8. ongoing and I've been working on it for the better
9. part of two years now. It's not a quick,
10. knee-jerk reaction to this. We want to take it in
11. a means that makes sense that will have enough
12. meat and potatoes in it to make a difference, but
13. it's a slow process.

14. Out of the 50 states that we've
15. got -- I've been contacting quite a few -- seven
16. of those states have no chief inspectors at all.
17. Some have no operator requirements whatsoever, no
18. training requirements. Others have very in-depth
19. requirements. The State of Tennessee actually has
20. some requirement in Shelby county. And so we have
21. some mechanism already in place within the state,
22. but what we need to do is to put a thought process
23. of how we can present something that will be
24. acceptable and not cause hardship, for one, on the
25. customers, but to give enough meat and potatoes in

1. it to make a difference as far as in these
2. operations.

3. So what I would like to invite
4. you-all to do is to be able to give us feedback on
5. what your thoughts are. Because I know how much I
6. don't know. I've got blinders on and I need
7. others to be able to bring thoughts to the table
8. on what they think that we could do so that we can
9. start gleaning this information together and put
10. something in place that will be meaningful within
11. our state. And I think that looking back, that
12. could be one of the best things that we've done.

13. And so I just wanted to bring that to
14. the table to you and let you know that I've talked
15. to other states to see -- some states require
16. Class 1, 2, 3, depending upon the BTU or size of
17. the boiler. Some states just have simple
18. requirements of operator training. But we want to
19. get all of that information together so that we
20. can make a good presentation when the time comes.

21. CHAIRMAN MORELOCK: Any questions
22. or comments?

23. MR. McINTYRE: I have one.

24. CHAIRMAN MORELOCK: Okay.

25. Introduce yourself.

1. MR. McINTYRE: I'm Don McIntyre.

2. You have a rule right now for the
3. attendant for 5 horsepower and above which is
4. pretty much all high pressure boilers in the
5. state. And you mentioned that has to be somebody
6. qualified by the owner. Well, there is no
7. specification of what that means currently. So,
8. you know, as the insurance company, we're asking
9. those questions ourselves, the three basic things
10. that they have to know what to do, shut it off and
11. what it's supposed to look like when it's
12. operating normally. But you have no guidelines in
13. that. When you're talking about training, are you
14. talking about formal classroom training? Because
15. you mentioned you didn't want to create any
16. hardships. Are we talking about online courses,
17. which would probably be, you know, less intrusive
18. to somebody's operation to have to send somebody
19. to a school on the other side of the state of
20. whatever.

21. So your qualification comment really
22. has no teeth. I mean, I'm sure your guys probably
23. don't know what that means either. And the owners
24. certainly probably don't know what that means.
25. They probably don't know anything about their

1. boilers, so how could the owner qualify somebody?

2. MR. BAUGHMAN: Good point, Don.
3. And I appreciate that input. And that's one of
4. the things that we've bounced around a long time.
5. And from a technical standpoint, I look at that
6. because what we've got is a rule in place that
7. sets qualifications. It puts that liability of
8. qualifying over to the owner, actually, of the
9. boiler.

10. When I asked this question years ago,
11. it was -- I asked that question, "So who does the
12. qualifying?"

13. And they said, "Well, ultimately,
14. whoever owns the boiler." Well, let's say it's a
15. corporation. And so who owns the boiler? And so
16. it's a very -- it's an open-ended thing that
17. there's really no specifics to. So when it gets
18. down to it, this law -- also you mentioned
19. 5 horsepower and above. Well, that's every Men's
20. Warehouse, every dry cleaner and what have you.
21. And this particular segment of the law hasn't
22. necessarily been applied overall. It's been a
23. very segregated application of this particular
24. rule, should I say.

25. And so what we want to do is to take

Page 81

1. it -- right now we require training but it's only
2. training on our variance and it's only training to
3. the manual. And we've hammered this over time.
4. Our brother, Dr. Canonico, was a great advocate.
5. Every time one of the variances would come up, he
6. would bring it up of, "Man, we're training to the
7. manual but there's no training for the operating
8. personnel."
9. And that's the input that we need to
10. put together, is that as brothers and sisters with
11. good minds, we need to come up with what can we do
12. within the state that can make a difference and
13. really put some meat and potatoes in it. I think
14. taking a test -- for me, cognitively, I learn by
15. touching and seeing. I want to see the equipment.
16. I need to know how to operate the equipment. I
17. don't need to know or study something from a piece
18. of paper. I need to really do both. I need to
19. know both the paper side of it, but I need to
20. cognitively know how to operate that piece of
21. equipment by seeing it and having somebody train
22. me on it. And so I look at it from the standpoint
23. of operating a vehicle. You know, you take a
24. test, a written test. But what else do you do?
25. You take that driver's test. And I'm thinking

Page 82

1. along those same lines, that it's going to be a
2. twofold approach.
3. MR. McINTYRE: I look forward to
4. your progress.
5. MR. BAUGHMAN: Thanks, Don, very
6. much.
7. What about others? I know you guys
8. have got some thoughts on it. Danny?
9. MR. PETERS: Well, we all know it's
10. needed and it's forthcoming and it should be.
11. But, you know, trying to set something up, you
12. know, you've got some good qualified people out
13. there, even as we speak, as boiler operators. And
14. yes, there is a hardship if we do try to maybe set
15. up something that's got teeth that we have to go
16. to school or take a test and yet also have
17. hands-on experience both together and combined.
18. I don't know. You know, I look at
19. our boiler rules and regulations, and it's got
20. everything from the high pressure-powered boilers
21. to the low pressure. Unfired pressure is kind of
22. vague. Historical boilers.
23. We've got everything condensed into
24. our rules and regulations. And so, you know,
25. we're dealing with manuals and variances with

Page 83

1. major companies. And, you know, this could very
2. easily take place, you know, by -- in the manual,
3. make sure you've got boiler regulation books.
4. We've got possibly online testing. We've got
5. state inspectors and insurance inspectors coming
6. in and inspecting, signing off. And, you know, I
7. learn a lot from a boiler operator. But, you
8. know, as an inspector, you know, you learn a lot.
9. And you learn a lot technically, too. So it's an
10. all-together thing that we all have to come
11. together with. But getting it started, that's
12. going to be your job.
13. MR. BAUGHMAN: Here is my thoughts,
14. Danny. What if we put together something -- when
15. I got to looking at the incident report. The
16. National Board puts out their incident report. So
17. they started in 1995. And as you're going through
18. those incident reports, two things lead those
19. incidents each and every year. Top two categories
20. every year for low-water cutoffs: Operator error
21. and poor maintenance. Same categories. I don't
22. care if you take '95s or 2007s or any year in
23. between, even to now. Same two categories. So
24. low-water cutoffs. That's your red flag.
25. What if we get to thinking about --

Page 84

1. we've got to get something to start with and then
2. we can build on it. All right? So the first
3. thing -- and this is just me throwing the thoughts
4. out. But what if we started with something like
5. you need to be proficient on testing your
6. low-water cutoff, so show me how you test your
7. low-water cutoff, or train the individual to do
8. it. And then next time you come in, perform the
9. low-water, not the inspector performing it, the
10. operators performing it. If you've got multiple
11. operators, I want to see every one of you perform
12. a positive check and low-water cutoff. I want you
13. to know -- I tell you what. We've just had an
14. emergency, where's your e-stop? You need to
15. know how to shut the boiler off with an e-stop.
16. You need to know where the gas valve is and make
17. sure it's got a handle on it so that they can shut
18. off the fuel source, whether it's gas, oil --
19. wood-fired and biomass is going to be kind of a
20. different animal.
21. But if we just took one, two, or
22. three things, and if we took only low-water
23. cutoffs, that's going to make a huge difference
24. because you guys have seen boilers that have
25. melted or have gone down on low water and have

1. lost the tubes or what have you.
 2. If we took just that one item and
 3. said we've got to have proficiency or you've got
 4. to be able to demonstrate proficiency, not be a
 5. certified operator, not take a test, what have
 6. you, but you need to show proficiency and
 7. demonstrate that to an inspector -- state,
 8. insurance, or otherwise -- that might be something
 9. to build upon. I don't know.
 10. MR. MERZ: Steve Merz.
 11. MR. BAUGHMAN: Yeah, Steve.
 12. MR. MERZ: Dave, I agree with you
 13. about training. The state code says we're
 14. supposed to go out and do an inspection on
 15. high-pressure boilers, the external, non-cert
 16. safety inspection. I have to ask -- every time I
 17. go out and do one I ask operators, different
 18. operators at the same plant and different
 19. operators at different plants, "How do you do
 20. this?" And 99 percent of the time, it's wham,
 21. "I've done what I'm supposed to do." That's all
 22. they're worried about. The State has that
 23. 20 minute tend rule for high-pressure boilers.
 24. Am I not correct, Sam?
 25. MR. CHAPMAN: Yes.

1. MR. MERZ: All right. The training
 2. that I'm concerned about is the people that have a
 3. little time clock, and once everybody in that
 4. factory goes home and that boiler is still sitting
 5. there perking, that has a little key. What's he
 6. know about the boiler? All it's doing is showing
 7. somebody walked through the boiler room.
 8. You know, changes have to be made at
 9. a level to where it's enforceable. You know,
 10. having rules that you can't enforce, well, there
 11. they go, you know. They worry more about
 12. maintenance than they do the boiler operators.
 13. And you see that all the time.
 14. "Where is it?"
 15. "No, we've got to get this fixed
 16. first." That boiler gets unattended.
 17. Dry cleaners. You brought up dry
 18. cleaners. Do they ever get looked at? Your
 19. answer is as good as mine. You know where I'm
 20. going with that.
 21. But the training, the training on
 22. site like that -- so every time I go out you're
 23. training this guy, you know. This is how you do
 24. it. You know, when do you the internal
 25. inspection, look up in the air and dig out all the

1. mud. That's just, "You're not blowing it down,"
 2. or, "How often do you?"
 3. "Well, about once every week," you
 4. know, things of this nature. It's got to be
 5. hands-on. How do you do it correctly? But
 6. there's got to be something there, why are you
 7. doing this correctly?
 8. MR. BAUGHMAN: I agree.
 9. MR. MERZ: You know, you brought up
 10. e-stop, and that's a question that's come up.
 11. E-stop required. Is there an age of the boiler
 12. limitation? How far back do you want the e-stops
 13. retrofitted? Is there a date, like, when
 14. Tennessee changed the rules to adopt a current
 15. edition and addenda, or are we grandfathered
 16. anything?
 17. MR. BAUGHMAN: Well, and that's
 18. kind of a different area, but you're right. As
 19. far as the training goes, it's something that --
 20. one of the things that we don't even mandate,
 21. although the variance rule mandates it that we
 22. have a log sheet. But there's no log sheet
 23. mandated for the 20-minute rule, so it's a
 24. he-said/she-said check it every 20 minutes. And
 25. what constitutes a check? Does line of sight

1. constitute a check? The rule says the boiler has
 2. to be checked no longer than 20 minutes. Check.
 3. Boiler is still there, check.
 4. So we need to revamp this Rule
 5. Number 22 at some point in time, in my thinking.
 6. Now, I may have blinders on, there again. Does
 7. anybody else feel the same way? Okay, a show of
 8. hands?
 9. Quite a few. All right.
 10. MR. SMITH: Jesse Smith, deputy
 11. boiler inspector. As Dave mentioned, he's been
 12. kind of toiling with this, unfortunately, would be
 13. the best way to put it, for a couple of careers
 14. now. And I would just like to propose that the
 15. board consider appointing a committee made up of
 16. whomever, the boiler chief, a representative of
 17. the board, the insurance industry, possibly even
 18. somebody that is a pretty good example of what a
 19. boiler owner is in order to determine what they do
 20. for their qualifications.
 21. And I'm a big proponent of
 22. plagiarism, which like Administrator Jefferson
 23. said she had seen how other states addressed their
 24. qualification requirements for a chief boiler
 25. inspector. We do the same thing to try to

1. determine and, of course, the National Board can
2. provide some guidelines.

3. It's always been my assertion that
4. the State has kind of been tentative to provide a
5. guideline in case something was missed and was
6. worried about bearing some liability. But I think
7. that's just kind of putting your head in the sand
8. and not addressing the real liability that would
9. occur from accidents that would occur just due to
10. improper training. So I'm proposing that we -- I
11. don't know if it's something you guys vote on or
12. we have to reconsider but form some kind of
13. committee and --

14. MR. ROBINSON: If there are any
15. public representatives out there, I think that it
16. would be ideal to have one of those guys also.

17. MR. SMITH: Yeah. And it would be
18. something that, based on the committee's findings,
19. present to the board and have you take it under
20. advisement and make a determination --

21. CHAIRMAN MORELOCK: And so, Jesse,
22. what do you want the scope of this committee to
23. address? Rule 22?

24. MR. SMITH: Yeah.

25. CHAIRMAN MORELOCK: Operator

1. training? All of the above?

2. MR. SMITH: Operator training,
3. Rule 22. You'll see through some of our training
4. we're kind of addressing the issue that Steve
5. mentioned regarding the emergency boiler shut-down
6. switch to basically define jurisdictional
7. requirements from now on. It's always been kind
8. of vague. There's so many little things, that
9. everybody has a feel for what's required and
10. hopefully we'll nail that down today. But those
11. would be a starting point for the committee and if
12. there's anything that would want to be added to
13. that, I'm sure it's a good time to mention it
14. here.

15. CHAIRMAN MORELOCK: I think it
16. would be good to -- I mean, you could work outside
17. of these board meetings, obviously, and then
18. choose to report. All of you could come or send a
19. representative to the board meetings and report
20. status, and then anything that would work its way
21. up to where it would require changes to 68-122 or
22. 800-3-3 or a board interpretation or a board case,
23. we would process those as you put them together.

24. MR. SMITH: Most everybody in here
25. is an inspector so they'd probably find that codes

1. are kind of an elusive thing and we adopt them by
2. reference, and technically they become a law. But
3. short of providing a facility where people can go
4. and observe the code, you're pretty much mandated
5. to purchase them from whatever agency.

6. CHAIRMAN MORELOCK: That's true.

7. MR. SMITH: It's always difficult
8. to get the information out. I'm for any kind of
9. thing that for future changes in the boiler rules
10. doing such as we did for this one, citing actual
11. code references and maybe even going into just
12. stating what the requirements are so that when
13. somebody reads the boiler rules, they're not just
14. directing to go to CSD-1 and interpret it
15. themselves.

16. CHAIRMAN MORELOCK: Right. Well,
17. and I want to leave you with one thing, too. Yes,
18. the current rule references latest edition of the
19. codes, but don't lose sight of the fact that for
20. repairs and alterations for all pressure
21. equipment, boilers and pressure vessels, when you
22. read the front of the NBIC, which is the latest
23. edition, it says that you are to use the code
24. edition most applicable to the work. So you're
25. not discounting all those previous code books at

1. all.

2. If I've got a vessel that was built
3. in 1963 and I'm going to repair it today, I can
4. use that 1963 code if I choose -- if that's the
5. most applicable to the work. So we're not
6. negating that.

7. And the other thing is -- I just saw
8. it last night, but there are some reference --
9. there's at least one reference to an older code
10. still under historic boilers and some of the
11. older, existing boilers and pressure vessels, too.

12. But if there's a hole in that, please
13. let us know, because, I mean, you guys, we need
14. your experience and your expertise out there every
15. day to make sure our rules and laws are as good as
16. they can be. Because we're not going to be closed
17. minded to that at all. That's why we're going
18. through all these revision cycles, is we want to
19. make it as good and usable as it is.

20. And, again, when Jesse talks about
21. the boiler rules here at 1:30, we've got thick
22. skin. If you say this is awful, then tell us it's
23. awful. But tell us what we can do to make it
24. where it's going to work better.

25. One of the big things that we saw

1. initially was if you were familiar with
 2. Rule 800-3-3 and you had a boiler or pressure
 3. vessel, you knew you had to go to multiple
 4. locations to find out what the requirements are.
 5. But we would have people like Volkswagen and stuff
 6. coming into the state for the first time. And
 7. they would see this for a boiler or pressure
 8. vessel, but they wouldn't see all the other
 9. sections that applied, so we've tried to
 10. reorganize it so it's more concise now, that when
 11. you go to the pressure vessels or boilers, it's
 12. there and you're not going to miss something
 13. somewhere else.

14. So by all means go through this and
 15. tell us what you think.

16. MR. SMITH: After having
 17. recommended formation of a committee, I would
 18. suggest that we keep it a little narrower than
 19. trying to fix all of the boiler rules.

20. CHAIRMAN MORELOCK: I agree.

21. MR. SMITH: You guys may just give
 22. us some advisement on what selected topics you
 23. want to do, and if it works out well, we can form
 24. other committees. That way we're not trying to
 25. skim help but trying to get something specific

1. accomplished so ...

2. CHAIRMAN MORELOCK: Wait just one
 3. second. Let me get him and then I'll get you.

4. MR. BAUGHMAN: Thanks, Jesse.

5. MR. SMITH: Thank you.

6. MR. McINTYRE: I have a question
 7. regarding the codes and standards you're talking
 8. about. I'm in possession of some old Tennessee
 9. interpretations of your rules and regulations.

10. CHAIRMAN MORELOCK: Okay.

11. MR. McINTYRE: Are you still doing
 12. this on a regular basis --

13. CHAIRMAN MORELOCK: Yes.

14. MR. McINTYRE: -- interpreting? Is
 15. there a place where I can get all of the latest
 16. interpretations from the State?

17. CHAIRMAN MORELOCK: Yeah. We're
 18. working on that right now. When you go out to the
 19. website right now, it has not been updated since
 20. '07 and we've passed board case interpretations
 21. since then, and so the boiler unit is working on
 22. getting those up, so yes. And we're still doing
 23. board cases and interpretations, yes.

24. MR. McINTYRE: Any timeline on
 25. that?

1. MS. RHONE: I would say by the
 2. March or June meeting we should have them updated
 3. as the ones that's been approved.

4. CHAIRMAN MORELOCK: Okay.

5. MS. RHONE: So the chief and I can
 6. work with the board members to make sure.

7. CHAIRMAN MORELOCK: Yeah. And to
 8. maybe give you a little more information, I had an
 9. inquiry just last week about a specific board
 10. interpretation, and -- it was in 2012 -- and so
 11. I've send that to the boiler unit to get a copy of
 12. that to send that to the inquirer so they'll have
 13. that before March.

14. So any -- yes, sir.

15. MR. LASHLEY: Micah Lashley,
 16. Hartford Steam Boiler. What's the feasibility of
 17. just adopting Shelby County's regulations for an
 18. operator statewide?

19. CHAIRMAN MORELOCK: Dave?

20. UNIDENTIFIED SPEAKER: Why are we
 21. trying to reinvent the wheel for the whole state?

22. MR. BAUGHMAN: Well, that's a good
 23. point. And one of the things we don't have to do
 24. is reinvent the wheel. The wheel is already
 25. rolling out there in a lot of different areas, but

1. one of the things in looking at Shelby County's is
 2. I don't think it addresses some things that from a
 3. technical standpoint, as a boiler man myself, of
 4. looking at the accountability of operating that
 5. boiler, i.e., for one, log sheets. Now, log
 6. sheets can be fudged, yes. But it's one thing
 7. that gives accountability for the liability. And
 8. you've got to have that.

9. And it's in different areas of the
 10. workplace already. It's no new, innovative, far
 11. out thinking. It's taking a commonsense approach
 12. to accountability for the liability of operating a
 13. boiler.

14. So one of the things that Shelby
 15. County doesn't have is the mandate of the log
 16. sheets. And I think that that's very important.
 17. And the other is the whole entity of positive
 18. check of the low-water cutoff. Just draining the
 19. low-water cutoff down, I don't think, is
 20. necessarily what we're after.

21. At some point in time in the
 22. operation of that boiler, the low water is going
 23. to be checked, either by a person or at the time
 24. it fails.

25. MR. HARTFORD: That's already a

1. requirement in the NBIC --

2. THE REPORTER: I don't know --

3. MR. HARTFORD: Christopher

4. Hartford, Hartford Steam Boilers.

5. That's already -- checking the

6. low-water cutoff is already required in the NBIC.

7. We don't have to write anything because they

8. already have to do that.

9. CHAIRMAN MORELOCK: Right.

10. MR. BAUGHMAN: Yes, but we don't

11. require it, as far as an operator's standpoint.

12. But for somebody --

13. MR. HARTFORD: No. It's required.

14. And the NBIC wording is that it is up to the user

15. of the boiler to have a -- I forget the exact

16. words. But they do check it on a regular basis.

17. They don't have a timeline written in the NBIC but

18. it says it in there.

19. MR. BAUGHMAN: So because of that,

20. how many of our users in the state of Tennessee do

21. you think are actually doing it or actually even

22. know that it's part of the NBIC code?

23. MR. HARTFORD: Well, I mean, if

24. they don't do it, they fail. Or you teach them,

25. one of the two.

1. MR. BAUGHMAN: That's right.

2. MR. HARTFORD: But, I mean, you

3. know, I'm sure there's lots of things that people

4. in this room don't know that we're supposed to do.

5. MR. BAUGHMAN: Well, that was part

6. of my point, was if we could do just -- and so

7. it's already a mandate in NBIC that it be in

8. there. So what we need to do is possibly just

9. move forward with adopting that as part of what

10. we're looking to do within the state.

11. And if we just attack the low-water

12. cutoff issue itself, what an impact that would

13. make within the operations of these boilers and

14. the losses of the boilers which affects everybody

15. monetarily.

16. CHAIRMAN MORELOCK: Well -- and I'm

17. going to get to these two gentlemen who raised

18. their hands.

19. Another point I want to make before I

20. forget it is in conjunction with that, there's

21. always been this weighing out of do you require

22. licensures, which requires fees, and renewals

23. versus certifications. And that's kind of been a

24. sticking point as far as certified boiler

25. operators as well. So just throw that in the mix

1. as well, too.

2. Yes, sir?

3. MR. CROMWELL: Jerry Cromwell,

4. inspector for the State. I would just like to

5. just point out that in Shelby County they do

6. require a steam license for boiler operators. But

7. they have a boiler operator class at Southwest

8. Tennessee Community College. And I took that

9. course back around 1999. It was a very good

10. course. It lasted six weeks.

11. MR. ROBINSON: Is it free, Jerry,

12. or does it cost? Do you have to pay for the class

13. or is it free?

14. MR. CROMWELL: Well, I'm assuming

15. it was paid for by the company.

16. CHAIRMAN MORELOCK: Okay.

17. MR. BAUGHMAN: And I talked to them

18. within that course before and talked to numerous

19. people. You can imagine what it would take,

20. because the way our codes are set up for Jim's Dry

21. Cleaner to take a six-week course for his license.

22. For one, sitting in a classroom may

23. be a part of it. But still, there has to be the

24. technical side, I think, of training on the

25. boiler. And we've got a lot of experience out in

1. the field. You guys -- the collective experience

2. we've got in this room is incredible. So we've

3. got the ability to do some training. But those

4. are the kind of ideas, Jerry, to bring to the

5. table, is, hey, talk to Southwest, talk to Shelby

6. County, talk to Texas, talk to Michigan, all these

7. different entities of -- I've been picking up the

8. phone and just calling in and talking to the chief

9. and saying, "What have we got in place and can you

10. send it to me?"

11. But that gives me so much

12. information, but it takes, also, then, you guys

13. bringing it to the table, a committee to put this

14. together, is great because, myself, I've got "X"

15. amount of time and that's why this gets spread out

16. for so long. And it's needed within the time

17. period of whatever my tenure may be, but I would

18. like to have this as something that, in our days

19. of work, that we're able to look back on within

20. the State of Tennessee and go, "We were a part of

21. that." And we got the start implemented of this

22. boiler training or operator or what have you. I

23. think it could be one of the best things that

24. we've been involved with.

25. MR. CROMWELL: It's like I say, it

1. was only two nights a week for six weeks.
 2. MR. BAUGHMAN: Got you.
 3. MR. CROMWELL: Six hours a week.
 4. CHAIRMAN MORELOCK: Okay. There's
 5. another hand up back there.
 6. MR. HOLT: Tim Holt, state boiler
 7. inspector. In answer there that, yes, they have
 8. to have the 20-minute rule of -- you know every
 9. 20 minutes. But you can't violate them when they
 10. go in there because there's nothing said they have
 11. to have it posted. There's nothing mandating that
 12. they have to have it. They just have to verify
 13. that it's been checked every 20 minutes. There's
 14. no teeth to it.
 15. So I think what Dave's saying is that
 16. we're trying to work to get to a point where there
 17. can be a mandate to where everywhere in the state
 18. you go in and they have to have those logs
 19. available and they have to be accurately filled
 20. out. Right now we can't do that.
 21. So it's just, "Yeah, I checked it."
 22. "Okay."
 23. CHAIRMAN MORELOCK: That's true. I
 24. mean, you're exactly right. The law gives you
 25. penalties for operating above the nameplate and

1. operating without a certificate of inspection. So
 2. you're exactly right.
 3. Yes?
 4. MR. MERZ: Steve Merz again, sir.
 5. Being the devil's advocate on the
 6. other end, every time there is a major rules
 7. change that affects the owners/operators of
 8. boilers, how does the word get out to them, "This
 9. is going to cost you" -- you know, basically
 10. saying, "This is going to cost you. We're going
 11. to mandate that this happens." And the only way
 12. they find out is if it's a two-year cycle that
 13. they're on, they find out maybe two years later
 14. that one of the inspectors in this room -- and
 15. this isn't a hundred percent of the licensed
 16. inspectors in the state -- they go out and tell
 17. them and then they look at you like you're stupid.
 18. They say, "You're just going to cost me money."
 19. And there's enough ways to data mine
 20. every owner/operator in the state. It's just like
 21. when the rules changed and actually got something
 22. readable that you could say, "No. Down to a
 23. hundred thousand in a commercial environment, we
 24. must register this vessel. I got told by plumbers
 25. that, "I've been in business 'X' amount of years.

1. My dad has been in 50 years, and you're crazy,"
 2. you know.
 3. CHAIRMAN MORELOCK: Yeah.
 4. MR. MERZ: The only thing I could
 5. do is, "Here, call Martin," who was the chief.
 6. "Call Sam. Here's his number." You know, they
 7. look at you -- I, personally, if I stay in this
 8. business long, would like to see something that
 9. when a major rule change comes out that we're
 10. going to mandate and it's going to cost them
 11. money, something needs to come out from the State
 12. to everybody that owns a high-pressure boiler.
 13. CHAIRMAN MORELOCK: Yes.
 14. MR. MERZ: And that can be taken
 15. right out of the state database --
 16. CHAIRMAN MORELOCK: Yes, it can.
 17. MR. MERZ: -- you know, easily.
 18. But it don't happen. Or if something is mandated
 19. and the rules change for plumbers -- all plumbers
 20. are licensed in this state -- a mailing goes out
 21. to them, "Hey, when you do this, you need to do
 22. this first as part of it." You know, instead of
 23. just off comes the old Tennessee tag and on goes
 24. the new one and everybody goes on about their
 25. business, you know. They think they're okay.

1. I mean, we're in a difficult
 2. position. I know deputy inspectors and the
 3. authorized insurance agency inspectors, we're in a
 4. difficult position trying to explain why something
 5. is going to cost them another \$500.
 6. Look at all the restaurants. And the
 7. rules change in the NBIC about liquid CO2 tanks.
 8. CHAIRMAN MORELOCK: That's true.
 9. MR. MERZ: CO2meter.com is in
 10. Florida. One meter, one alarm, one sign, \$500.
 11. And that's almost every restaurant that serves
 12. carbonated beverages. How does the word get out
 13. to them? There's a State restaurant association.
 14. Jurisdictional authority has to come
 15. up through here because we register them. "We,"
 16. as in, you know, the State of Tennessee law.
 17. Somebody needs to tell them that this is coming
 18. down the pike and you have "X" amount of months to
 19. do it.
 20. CHAIRMAN MORELOCK: Well, and what
 21. you're saying is true. The way the National Board
 22. does it, the NB23, which is the NBIC, is an ANSI
 23. process and it requires public review comments.
 24. Now, how does the word get out? They
 25. post it on their website. So if you're a

Page 105

1. restaurant owner and you don't know about the
2. National Board, you're exactly right. You're
3. going to miss it. So it's up to hopefully people
4. that service them. In some shape, form, or
5. fashion, through inspection, they should know
6. that.
7. Yes?
8. MR. PISCHKE: I have personal
9. experience with the CO2 issue. The distributors
10. are the ones that are required to enforce that.
11. And when I got my CO2 tank for my welder
12. exchanged, they enforced that on me with added
13. cost of inspection. And that's how that's being
14. implemented right now. Even though I'm not a
15. restaurant.
16. MR. MERZ: That's just a small
17. picture of the public community, the public thing.
18. But not everybody knows where to go.
19. MR. PISCHKE: No, but they're the
20. ones supplying the product.
21. MR. MERZ: Yes, that's true.
22. MR. PISCHKE: And so they are being
23. held responsible to enforce that, the distributors
24. of the CO2 tanks. So that's how I learned, the
25. hard way.

Page 106

1. MS. BENNETT: And another thing
2. that the Workplace Regulation and Compliance has
3. started, on their website is an email opt-in, and
4. we can do an email blast to all of the people who
5. sign up. So I think you've even done a mailing,
6. informing people to sign up. And the list is
7. growing all the time.
8. And we do do that in all of our
9. units. If we have, like, a new piece of
10. legislation or something like that, we will do an
11. email blast to everybody.
12. CHAIRMAN MORELOCK: Okay.
13. MS. BENNETT: And that might be
14. something that could be used, too.
15. MR. HARTFORD: Chris Hartford,
16. Hartford Steam Boiler. If it's legislation to
17. tell people, why is it an opt in? It should be a
18. requirement, that if they have, you know --
19. MS. BENNETT: Well, but we don't
20. have everyone's email address. They need to
21. opt-in and provide us with the information of how
22. to contact them.
23. MR. HARTFORD: Okay.
24. MS. BENNETT: So it is on our
25. website now. So if you're not on the list, please

Page 107

1. do, because we remind people of these meetings
2. and, you know, any kind of legislation or fee
3. changes or anything that we think might impact
4. you.
5. CHAIRMAN MORELOCK: I saw a hand
6. back there that I ignored.
7. MR. WORD: Dallas Word, State of
8. Tennessee boiler inspector. Shelby County was
9. trying to do away with the recognizing of boiler
10. operators. They had a meeting some time ago, a
11. while back. They canceled it.
12. MR. ROBINSON: They canceled the
13. meeting?
14. MR. WORD: I'm sorry?
15. MR. ROBINSON: Did you say they
16. canceled the meeting?
17. MR. WORD: Yeah, they canceled the
18. meeting --
19. MR. ROBINSON: Oh, okay. Go ahead.
20. MR. WORD: -- because they had a
21. lot of people coming out, you know, raising a
22. bunch of Cain about not wanting it to go through.
23. So they're trying to do away with it.
24. Now, whether it happens, I don't know. But
25. there's places that I know of that I go to and

Page 108

1. they don't have a boiler operator.
2. MR. BAUGHMAN: Dallas, I was a part
3. of that this --
4. MR. ROBINSON: In Shelbyville?
5. MR. WORD: In Shelby County.
6. MR. ROBINSON: I'm sorry. Oh,
7. okay.
8. Go ahead. I'm sorry.
9. CHAIRMAN MORELOCK: I was a part of
10. that discussion with Shelby County during that
11. period of time with the City Council and the
12. meetings. And their justification for wanting to
13. retract this requirement in Shelby County was that
14. the rest of Tennessee doesn't require it. Holy
15. cow. Wow. Okay.
16. So that was their justification for
17. it. And it took some efforts from industry to get
18. involved because City Council are great people.
19. They're council members. But they don't know
20. boilers. And so as this came to light and they
21. started to get educated on what boilers really
22. could do and the significance of having licensing
23. in place or some type of training mechanism in
24. place, that's when that all went a different
25. direction, and it actually got taken off of the

1. table. So not that it won't come back on the
 2. table at some point, but it's been taken off.
 3. MR. WORD: Well, it looks like
 4. that's just something we should enforce, too, on
 5. that. I don't know if y'all are just talking
 6. about high-pressure boilers or any boilers, but
 7. I'm going to a lot of schools and just the other
 8. day they got a teacher to get out of the room to
 9. come show me a boiler. And she was a so-called
 10. teacher, slash, boiler operator.

11. MR. BAUGHMAN: Well, part of what I
 12. see in that industry, too -- and it's no different
 13. than the churches, schools, is the boiler
 14. attendant is also the same person that waxes the
 15. floors and takes care of the lockers. It's
 16. typically a low-paid, low-trained, if-any-trained,
 17. individual.

18. When budgets get cut -- we've got so
 19. many issues with budgets to where sometimes the
 20. buses can't even run for the whole year in some of
 21. these remote, poor counties. And so maintenance
 22. budgets are not high.

23. Schools are there to what? Educate
 24. and train. But yet they don't view training of
 25. their own maintenance personnel as a high

1. priority. And it's kind of an interesting thing
 2. to look at. But we got to looking at the
 3. industry, even, within the 20 minute rule and what
 4. have you, and I went back to research how the
 5. 20-minute rule even came about. Does anybody know
 6. why the 20 minute rule is in place besides Chris?

7. MR. BAILEY: Sam does.

8. MR. BAUGHMAN: Sam? Okay. Very
 9. few people know where it actually came from. It's
 10. a very archaic code that's been in place for a
 11. long time that's really not even applicable to
 12. today's operation of boilers. The largest number
 13. of boilers operated in the U.S. is operated by --
 14. does anybody know?

15. (No verbal response.)

16. MR. BAUGHMAN: Uncle Sam. The U.S.
 17. Government operates the most number of boilers in
 18. the U.S. And they mandate the boilers be checked
 19. every --

20. MR. CHAPMAN: Hour. Once an hour.

21. MR. BAUGHMAN: -- one hour. So
 22. we've got a very archaic rule on our books that
 23. goes back to the locomotive engine days on the
 24. amount of time it takes for a steam engine to
 25. steam down to a critical point, 20 minutes. So

1. yes, this needs to be revamped, and it just takes
 2. a collective effort of people in the industry --
 3. and we've got some great boiler people in here --
 4. of putting this together and addressing not only
 5. the 20-minute end of it but, in particular, all
 6. this goes hand-in-hand with training. Not only
 7. operator training. We've got inspectors that are
 8. being trained.

9. But we've got no mandate for anybody
 10. operating the boiler, nor is there training for
 11. the people installing the boilers. So you've got
 12. the boiler people that are putting boilers in, and
 13. you've got things from -- there's more deaths than
 14. injuries each year attributed to carbon monoxide
 15. poisoning than there are to pressure vessel
 16. accidents. Part of this relates over to the
 17. stack. These boilers have the wrong stack on
 18. them.

19. A forced-draft boiler that creates a
 20. positive pressure in the stack cannot use a Type B
 21. vent which is good for static or negative
 22. pressure. But yet they apply it on these
 23. forced-draft boilers. So then when the boiler
 24. happens to go out of tune and produces carbon
 25. monoxide, these gases -- colorless, odorless,

1. tasteless -- migrate out through the seams of the
 2. Type B vent and you get high carbon monoxide
 3. readings in the boiler room.

4. You guys, I'm sure, have all been
 5. around boilers that run rich. You've gone into
 6. boiler rooms and you know the boiler is running
 7. rich. And this is all part of the training of who
 8. put the boiler in.

9. I was in Texas a few months ago and
 10. the boiler had the wrong stack on it. And the
 11. installer said, "That's the way we've always put
 12. them in."

13. I said, "How long have you been doing
 14. this?"

15. He said, "I've been in business over
 16. 25 years."

17. And I said, "You put Type B on every
 18. one of the forced-draft boilers."

19. He said, "We put it on everything.
 20. That's all we use." And he said, "It gets
 21. passed."

22. Well, the inspectors are responsible
 23. for the pressure vessel. All right? So who is
 24. responsibility for the stack? Where does that
 25. come into play?

1. And then carbon monoxide. Well,
 2. carbon monoxide is an issue of the burner. It
 3. produces the gases, but yet it's not part of the
 4. boiler. But yet it's part of our codes, because
 5. we've got CSD-1, which relates to the gas train
 6. components and so forth.
 7. CSD-1 says we should tune the burner
 8. up. Big difference between "should" and "shall."
 9. And when you think that there's more deaths and
 10. injuries each year attributed to CO, to me, that
 11. word should change to the "shall." Now, that's a
 12. difficult proposition. But there again, that's me
 13. with these blinders looking at what's going on in
 14. the industry. And when you talk to some of the
 15. National Board people and they say, "Well, the
 16. burner -- we're looking the boiler. That's the
 17. pressure vessel boundary. What ships with the
 18. boiler? The burner. It's a package boiler. It
 19. comes together.
 20. And there's so little expertise in
 21. our industry related to combustion -- We've got a
 22. lot of plumbers, pipe fitters, welders, and
 23. electricians, but when it comes to combustion,
 24. wow, there's a such a huge lack of expertise out
 25. there in the industry.

1. So we've got a lot of things to talk
 2. about and to consider. But not only boiler
 3. operators, but the people that install the
 4. boilers, I think, needs to be part of this
 5. committee process, talking, and what have you.
 6. MR. SCHWONKE: Ron Schwonke with
 7. Zurich Insurance. I agree that training is needed
 8. for the operators and the installers and the
 9. inspectors. But I think it's incumbent on all of
 10. us that when we're on site, that we are training
 11. the operators. I'm sure, as Mr. Bailey can attest
 12. to, if we have a claim or a loss, our inspection
 13. is going to be taken over with a fine-toothed
 14. comb. So that's one of the things that's going to
 15. come up in a loss investigation.
 16. CHAIRMAN MORELOCK: Is there a
 17. question over here or a comment?
 18. MR. BOWERS: Yeah. Harold Bowers,
 19. FM Global Insurance.
 20. In the state of Tennessee now, I
 21. guess, we adopted CSD-1 2012, correct, and
 22. NBIC 2015?
 23. CHAIRMAN MORELOCK: Well, latest
 24. edition.
 25. MR. BOWERS: Is that correct, in

1. the state of Tennessee?
 2. MR. ROBINSON: Latest.
 3. MR. BOWERS: Huh?
 4. MR. ROBINSON: Latest.
 5. CHAIRMAN MORELOCK: Latest edition.
 6. So '17 will be coming out next year.
 7. MR. BOWERS: That would be CSD-1
 8. 2012 and --
 9. MR. ROBINSON: 2012 dated --
 10. MR. BOWERS: -- and NBIC 2015,
 11. correct?
 12. CHAIRMAN MORELOCK: As of today,
 13. yes.
 14. MR. BOWERS: And a lot of these
 15. things that used to be -- if you read NBIC 2015,
 16. in both of those -- a lot of the "shoulds" are
 17. "shall" now. So like in this documentation, the
 18. stuff that used to be "should" are "shall" now.
 19. So they actually would be in violation to state
 20. law, correct?
 21. Under the rule, if we're adopting
 22. NBIC 2015 and CSD, there's some of the stuff that
 23. used to be "should" is "shall." So that would
 24. actually be a violation to withhold the permit,
 25. correct?

1. So a lot of these testings that we're
 2. talking about here that used to be in the past,
 3. but not mandatory now, will become mandatory and
 4. will be a state violation, correct? If it's in --
 5. MR. ROBINSON: If that's the
 6. statement, yes, it is.
 7. MR. BOWERS: If the State of
 8. Tennessee is going to go by the new -- if we're
 9. adopting the new stuff, which we're saying we're
 10. saying you're doing, then a lot of this stuff now
 11. that used to be not mandatory is now mandatory,
 12. and it will be violations.
 13. MR. BAUGHMAN: Do you know of
 14. anything in particular, Harold?
 15. MR. BOWERS: Some of this testing.
 16. MR. WAYBRIGHT: Jeff Waybright,
 17. FM Global. You've got a part now that's been
 18. added. And all of this is listed as "shalls" now.
 19. "The owner or user of an automatic boiler system
 20. shall develop and maintain a formal system of
 21. periodic preventative maintenance and testing."
 22. All these "shoulds" now have been
 23. changed to "shalls."
 24. MR. BOWERS: It would be
 25. violations. It's not like the old days, you

1. should do it. Now it's going to be shall. So it
 2. will be violations.
 3. MR. BAUGHMAN: That's great
 4. information to pass along, and that's something
 5. that we all need to be up-to-date on. Because I
 6. don't know that, and that information is huge,
 7. Harold. So thanks for bringing that up. I'm
 8. going to be diligent in reading that now.
 9. MR. BOWERS: It's more Jeff than
 10. me.
 11. MR. BAUGHMAN: Well, Jeff, thank
 12. you.
 13. MR. BOWERS: Yeah. But, you know,
 14. it's like I know there was talk about bringing it
 15. to the latest version. If we're going to bring it
 16. to the latest version, which you are saying we
 17. are, at the latest version, that the whole game is
 18. going to be changing. It talks about lighting, it
 19. talks about handrails, cold plates, a lot of
 20. stuff. And especially it talks about the CO2
 21. tanks. That goes into a whole different --
 22. CHAIRMAN MORELOCK: Well, now, just
 23. bear in mind, we've got precedent on that. I
 24. understand what you're saying but -- I can't
 25. remember the edition of the NBIC but they

1. passed -- 2010, maybe -- the NBIC passed that VT,
 2. visual examination, was an acceptable NDE method
 3. as an alternative to a pressure test.
 4. And so what the Tennessee Board did
 5. is we passed a board case stating that you could
 6. use VT in conjunction with the PT, MT, UT, and RT.
 7. So if these "shoulds" that are now "shalls" -- we
 8. need to review that, and if it's doable, fine.
 9. But if it's not, we do have the vehicle here to
 10. pass board cases to adjust that --
 11. MR. BOWERS: And that's what it
 12. says, subject to the jurisdiction.
 13. CHAIRMAN MORELOCK: Yes. So the
 14. only thing that gives the NBIC teeth is it's
 15. written in the jurisdictional law.
 16. MR. O'TOOLE: Luke O'Toole, Liberty
 17. Mutual.
 18. I just had some questions or a
 19. clarification on who you're trying to regulate.
 20. In a general sense, would it be the operator
 21. position, the employer, a case where maybe a
 22. company hires a contractor that brings in people
 23. to do the operations, the people that install the
 24. equipment or the manufacturer of the equipment,
 25. where they're responsible to provide training to

1. the operators or the owners?
 2. And if in the case of owners and
 3. contractors, whether they're instate, out of
 4. state, would that make a difference? Or in the
 5. case of, say, some highly specialized industries
 6. like these pulp and paper people with the black
 7. liquor boilers, I don't know why they would want
 8. to train people in cast iron boilers.
 9. If they have a program unique to their
 10. equipment, would they be some way eligible to meet
 11. or exceed the requirements and therefore be
 12. exempt, or how would you see all that unfolding?
 13. MR. BAUGHMAN: Great question. For
 14. me, it makes no sense to train you on a piece of
 15. equipment that's not applicable to your situation.
 16. In other words, you mentioned cast iron. Why
 17. would you train on cast iron to a high-pressured
 18. steam operator? And so it's not a one-size-fits-
 19. all proposition. I think it has to get tailored
 20. to your particular installation and the
 21. proficiency of the operator in that particular
 22. installation on the operation of that equipment.
 23. That's my thought.
 24. MR. O'TOOLE: I'm curious about --
 25. would that be like using the analogy -- I think it

1. was you that mentioned -- about a driver's
 2. license? So would that be incumbent upon the
 3. employee to get his driver's license, or would it
 4. be incumbent upon the employer to make sure that
 5. everybody is trained or equivalently trained for
 6. the driver's license?
 7. MR. BAUGHMAN: Good question again.
 8. And I think that from my standpoint, take it
 9. from -- if you're hiring people that are going to
 10. be driving your automobiles in your business, it's
 11. up to the employer to verify that everybody's got
 12. their license and they've got the requirements to
 13. be able to drive whatever vehicles are within that
 14. business.
 15. MR. O'TOOLE: Before they can apply
 16. for the job. So I'm trying to think how that
 17. would help an apprentice or somebody coming into
 18. the industry. How does that satisfy that
 19. requirement? Because you're regulating the
 20. potential employee instead of --
 21. MR. BAUGHMAN: That's great.
 22. MR. O'TOOLE: -- you know, put a
 23. default there. And I just thought it would be
 24. good to have a --
 25. MR. BAUGHMAN: Good thought. Yeah,

1. well, you mentioned Southwest Technical. There
 2. could possibly be mechanisms in place to be able
 3. to train. In particular, we have a training
 4. school. And we bring people in and -- we had a
 5. truck driver come in. In Mississippi, in
 6. particular, there was a requirement that he pass a
 7. particular test to be able to get a job within the
 8. company. And he came to school, went, took the
 9. test, passed, got the job. We had one do the same
 10. thing for Arkansas.

11. There's mechanisms in place to
 12. provide training for individuals out in the
 13. industry. And there's multiple schools available
 14. in the industry. But that might be part of it is
 15. bringing these -- putting monies forth towards
 16. training through whatever is available out in the
 17. industry. And there's grants and different
 18. training programs that are available to put people
 19. in the workforce.

20. And -- yeah, because otherwise,
 21. they're going to go in and not have the
 22. requirements to meet the needs of the job.

23. MR. O'TOOLE: Well, yeah. And the
 24. other thing is, is whenever people will use a
 25. contractor -- say the owner/user uses a contractor

1. this is a great discussion. Great questions.
 2. CHAIRMAN MORELOCK: Jesse, did you
 3. have a comment?

4. MR. SMITH: I've inspected several
 5. rental boilers over the years, and it's been my
 6. experience that the company provides the operator
 7. with it. They're also responsible for setting it
 8. up. But they're with the boiler while it's on
 9. site.

10. MR. BAUGHMAN: And I've seen
 11. instances where they're not.

12. MR. SMITH: And they're
 13. specifically trained for that boiler.

14. MR. BAUGHMAN: Sure. And we've
 15. seen instances where they bring the boiler in and
 16. they might set it up, the mechanicals install it,
 17. turn it on, maybe show some people where the
 18. on/off's are at, and then there's no operations.
 19. We're leaving it up to on-site personnel.

20. But man, what great stuff.

21. CHAIRMAN MORELOCK: Go ahead.

22. MR. GOLDEN: James Golden, facility
 23. manager at StoneCrest.

24. A quick couple of questions. Is
 25. there a standardized log sheet that the State has?

1. and then it turns out the contractor hires people
 2. that say, just using an example, since I'm from
 3. Knoxville that, you know, maybe they would hire a
 4. bus driver that didn't have a driver's license or
 5. something like that.

6. MR. BAUGHMAN: Uh-huh. Sure.
 7. Well, there's a lot of different --

8. MR. O'TOOLE: You know, I didn't
 9. know -- that's why I was curious about how the
 10. regulation -- what your target, which aspect
 11. you're looking to regulate.

12. MR. BAUGHMAN: One of the things
 13. that comes to my mind, then, is, too, what do you
 14. do when you've got a rental boiler that comes on
 15. site --

16. MR. O'TOOLE: There you go.

17. MR. BAUGHMAN: -- and you've got
 18. somebody else's boiler. It comes in from either
 19. out of state or in state or what have you, and
 20. who's responsible for the operation of that boiler
 21. then? If we say it's the owner, well, there
 22. again, it's not a one-size-fits-all proposition,
 23. and we've got to have people in the industry to
 24. play the devil's advocates of the what ifs. We
 25. need to bring these what ifs to the table. And so

1. I know my salesman, when he came out there we had
 2. some -- it was okay without a process but it
 3. always -- you know, like most anything else, it
 4. needed a little fine tuning.

5. I would like to see a standardized
 6. log sheet. To have a piece of paper is great.
 7. But if have an item on that sheet that you're
 8. actually looking at a shut-off or a valve, you
 9. know -- I like that analogy. I've probably got
 10. one here in for that boiler training thing.

11. We're also on the joint commission
 12. CMS, and internally, I was lucky enough to send my
 13. two guys to boiler supply last year. And I had to
 14. fight tooth and nail. I had to work out a little
 15. finagling financially to get them in there.

16. But it did work. And they're not
 17. doing great on it because it's cost factor. The
 18. financial people come look at that. They're
 19. really focused on trying to get that training
 20. done.

21. But inevitably, as all of us know,
 22. we're ticking time bombs out there. It's just a
 23. matter of time that this is going to come front
 24. and center. Then it would be mandated whether
 25. they like it or not. So that was my question

Page 125

1. about just a standardized login sheet.
2. And another one that comes to mind on
3. the joint commission, all our valves had to be
4. tagged. We changed tags and identification tags.
5. So we were in the process of doing that. There was
6. a fellow from Vanderbilt came over as our director
7. last year, Don Hayes, and he was very instrumental
8. in making sure we got all of our valves labeled
9. and tagged. So a standardized sheet on that would
10. be awesome, too.
11. There's one thing we do at HCA. At
12. the facility, they standardize all the compliance
13. checklists and log sheets and such. So we have
14. 189 hospitals nationwide and a joint commission
15. inspector goes, you know, to "Timbuktu" or
16. "Tubucktu" over here, he has the same form. He
17. can go through and know that each and every one of
18. these facilities is doing it in all the same -- in
19. conjunction, the same way. So I could see, for
20. us, you know, as a citizen of Tennessee, to have
21. that standardized so that, you know, even my
22. security personnel that's going to be working at
23. night watching my boilers -- God forbid that
24. that's what's happening, but it is, it's a
25. reality -- but at least he'll have the knowledge,

Page 126

1. basic knowledge, of where the shut-off is and what
2. the valves are on an actual 20-minute check. And
3. I'm just throwing that out there. But is there a
4. standardized log sheet and also a standardized
5. category of what valves to check.
6. MR. BAUGHMAN: Can I address that?
7. CHAIRMAN MORELOCK: Go ahead.
8. MR. BAUGHMAN: Well, I know that
9. there's some -- let me get my -- I just kind of --
10. no, we don't have a standardized log sheet that's
11. within what we've got. Some of the insurance
12. companies have log sheets. I'm not a proponent of
13. a standardized log sheet. One guy has got a
14. high-pressure steam boiler with a DA tank, and
15. another has got a hot water supply boiler.
16. I'm a proponent of having a log sheet
17. tailored for a specific installation. And that's
18. very easy to do for each job. I understand the
19. availability of sending it out corporate-wide, but
20. I don't think it's necessarily the best
21. application of a log sheet.
22. From the training standpoint, I'm
23. glad that your guys went to school because there's
24. two things that you're going to get grilled on if
25. there's a catastrophic accident. You're going to

Page 127

1. be on the stand and it's, "What kind of training
2. have your operating personnel had?"
3. "Well, John operated a boiler down at
4. the wood mill and he trained Bill," and so forth.
5. Or, "Here is the training that our operating
6. personnel have had. They went to a professional
7. training school at XYZ." You're able to show that
8. documentation. So, "What kind of training have
9. your operator personnel had? And let me see your
10. log sheets." Log sheets give you accountability
11. to the liability.
12. So you're on the right track with
13. this stuff, but there again, I'm a proponent of
14. not doing so much a standardized but companies,
15. whoever you're associated with and operating your
16. York Shipley boilers or Donnellys or what have you
17. that you've still got there, they can bring that
18. to the table and make you a log sheet specific to
19. your own installation. And I think that that's
20. most applicable.
21. CHAIRMAN MORELOCK: Yes, sir?
22. MR. MERZ: Steve Merz, Zurich.
23. In response to your items that you
24. talked about, the other thing on that tailored log
25. sheet, to me, with the experience that I grew up

Page 128

1. with, is you have to be specific on what the norms
2. are for your operation, your boiler. And then
3. what are you accepting. So if that guy is walking
4. through every 20 minutes and it's just Joe Smith
5. on the night watch with the turn key and stuff,
6. your requirement, what is water level? Is a
7. checkmark sufficient? I could do that at 7:45
8. before I leave the watch at 8:00 in the morning
9. and put checkmarks all day long, you know. Or do
10. you have something that shows that over time your
11. water level is going lower? So are you measuring
12. your water level by having a scale there?
13. Same thing with pressure. You
14. operate your boiler at 125 pounds. Somebody else
15. might operate the same type boiler at 90. So
16. there's going to be different norms. But numbers
17. mean something in a court. Checkmarks or "okay"
18. does not.
19. MR. BAUGHMAN: One of the things
20. that I like to see checked, for what it's worth,
21. too, is stack temperature. Stack temperature is
22. such a great indication of what's going on in the
23. boiler as heat transfer decreases and stack
24. temperature increases. So if you know that norm
25. that is supposed to be 400F and over a period of

Page 129

1. time you see it creeping up, well, for one, you've
2. got to calibrate your thermometer and make sure
3. it's right, because, you know, thermometers get
4. off. But the other end of it is, is that you're
5. either scaling or sooting or you're running excess
6. air. But something has gotten out of whack, and
7. the log sheet gives you that availability of being
8. able to address that red flag. And it's telling
9. you information. But yeah, just doing checks
10. doesn't always get what you want. You've got to
11. write down specific numbers.
12. Pressure correlates to temperature,
13. so the boiler may have a higher stack temperature
14. operating at a hundred PSI versus what it would
15. operate at 20 PSI, and so you may get some
16. variables, but you need to know what those norms
17. are to keep them in place.
18. MR. HOLT: Well, that's fine, but
19. what we're talking about is, you know, a mandated,
20. like, 20-minutes rule. All boilers, low pressure
21. and high pressure, would have essentially the same
22. controls. A low-pressure steam boiler, a high
23. pressure, you have low-water cutoffs, a secondary
24. cutoff, you've got the controls to the relief
25. valve.

Page 130

1. If it was logged -- if you're going
2. to do the same particular check on all of those
3. boilers, because they all operate similarly, does
4. the low-water cutoff work? Does the water drop
5. when you open it?
6. When I was in California in Yosemite,
7. it was checked every day. All the boilers were
8. checked every day. The low-water cutoff was shut
9. to make sure it shut the burner off. The
10. secondary was checked every other day or once a
11. week, and the relief valves were checked once a
12. month. And those were logged in there, and there
13. were checkmarks for those. So if they weren't
14. checked, they weren't done. But every day the low
15. water was checked, the secondary cutoff was
16. checked, and the -- you know, those two,
17. basically, were the ones done. And then the
18. overall appearance was on there, you know, were
19. there any leaks, this and that, whatever. And
20. that's basic. And that would apply to all the
21. boilers starting out somewhere, like you said.
22. MR. BAUGHMAN: Well, there's so
23. many things that we see in the industry from an
24. operation standpoint. Furnace explosions. And so
25. I see the failure to the airflow switch. A little

Page 131

1. \$42 switch can blow the boiler apart. And how
2. often does it get checked.
3. MR. ROBINSON: Never.
4. MR. BAUGHMAN: And yet we see that
5. happen. And we see such a small number of
6. boilers, and when you think about the number of
7. problems that we see in this small, finite area,
8. and then you extrapolate that out across the
9. country, it lets you know how enormous this
10. problem is.
11. And we'll hear about it on the news.
12. Some of you heard about the explosion in
13. Bangladesh last week, 31 people killed, countless
14. others injured, boiler explosion. It happens
15. every year. And this time of year, now coming
16. into the fall, you'll start hearing the reports
17. coming out of New England, the northern states
18. where they're firing up the heating boilers,
19. getting everything up and going, and we'll hear
20. about it on the news when people are killed or
21. injured. It will make the news for a short period
22. of time. The AP will run a story on it for maybe
23. a day. Then it goes off to whatever else is going
24. on.
25. But the sad thing with it is that

Page 132

1. we're going to hear about it in the news, and part
2. of the problem is that we've got boilers that came
3. in during the revolution, after World War II and
4. Korea, and we've still got a lot of '50s, '60s
5. vintage boilers out there. And they've still got
6. the old controls on them. We haven't necessarily
7. mandated them to update to CSD-1, and, wow, it's
8. going to happen. And you've got low-trained, if
9. any trained, people operating this equipment.
10. It's a scary proposition.
11. So we need to, you know, keep the
12. feet in action on this. Keep moving forward. The
13. momentum is there. Putting the committees
14. together, putting the input in from each of you,
15. if you've got comments, if you've got ideas, man,
16. feed them in because now is the time to start
17. putting these ideas together and put some meat
18. behind what we're talking about.
19. And we're not giving this lip
20. service. We're very serious about making some
21. changes and making these for the betterment of the
22. public. That's what we're all charged with.
23. Every one of us in here, board and you guys, we're
24. all charged with public safety. And so many
25. people have no idea about what boilers even are.

1. I mean, we put spacecraft out of our own solar
2. system. Surely we're not still using boilers in
3. our society, are we? Yeah, it's pretty incredible
4. to think about that, that this has gone from
5. 62 A.D. with Hero's engine to present day time.
6. And the boilers started being developed and used
7. late 1600s, early 1700s, and it's still in our
8. industry today. Wow. Okay. So at any rate, man,
9. what a great topic. I appreciate it.

10. CHAIRMAN MORELOCK: All right.
11. Mike?

12. MR. PISCHKE: I just have a brief
13. comment. I've been hearing a lot of very
14. compelling reasons to have a comprehensive
15. operator training program in the state. And I
16. can't help to think that somewhere out there,
17. there's one, two, or three jurisdictions somewhere
18. that have a, you know, a best practice training
19. program, operator training program that's not
20. overly, you know, cumbersome or overly burdensome,
21. but effective. And so, you know, I think one of
22. the actions should be to try to find those.

23. CHAIRMAN MORELOCK: And Dave has
24. been charged with doing that.

25. MR. BAUGHMAN: That's part of what

1. the help, I think, that a committee would bring to
2. the table is I'm one person, and I'm involved in
3. business, other board of directors, mission work,
4. you name it, life. And so it takes more than
5. myself, and that's why I wanted to at least take
6. this time to bring this thought process to you
7. guys.

8. The idea of the committee, Jesse, I
9. think, is great because then it allows us to have
10. other people involved. So I think it will be well
11. served.

12. CHAIRMAN MORELOCK: All right.
13. Ladies and gentlemen, I have received the
14. two-minute warning. So with all that said, I do
15. want to echo what Dave has said. You know, we
16. don't get this privilege very often to have all of
17. our inspectors here. Thank you for the comments.
18. And just because this is one meeting, like Dave
19. said, they don't have to stop. We really do want
20. to know that you're working with, dealing with,
21. struggling with, frustrated with to make our rules
22. and law as good as we can and make it useful.

23. So we will be -- we added this
24. discussion item to our agenda a couple of years
25. ago, and it's turned out to be a really good item

1. to have as a standing item. And so we will act on
2. these. And so if you get put on a committee, you
3. can't complain, now, because you all volunteered.
4. But thank you for all those comments.

5. Item 10 is Rule Cases and
6. Interpretations. We don't have any.

7. Item 11 is our next boiler board
8. meeting is scheduled for Wednesday, December the
9. 14th at 9:00 a.m. It will be in the TOSHA room,
10. next door. And if there's no objection -- oh,
11. sorry.

12. MR. SMITH: Jesse Smith, deputy
13. boiler inspector for the State of Tennessee. Kind
14. of going along with the theme of what we've been
15. talking about, I don't know how a motion is
16. presented, whether it's by public at large or
17. asking you guys to make motions to form a
18. committee that we could report back with whatever
19. direction we can proceed in by December to come up
20. with some conclusions to be passed along to the
21. board for advisement and so be it, but I just
22. basically wanted to express that to you and ask
23. you guys to make a motion on it if it's
24. appropriate. It's up to you.

25. CHAIRMAN MORELOCK: Yeah. I mean,

1. we can add that as a voted item, yes, right here,
2. right now. So what's your motion, Jesse?

3. MR. SMITH: My motion is for the
4. board to allow formation of the committee, I
5. guess, at the direction of the chief boiler
6. inspector, and under the advisement of your board
7. members, Dave Baughman, and kind of form the
8. committee and present our findings and
9. recommendations to the board. And then they can
10. take it under advisement, give us feedback or
11. accept it or -- and kind of proceed from there.

12. CHAIRMAN MORELOCK: And is this
13. going to be for boiler operator training or --

14. MR. SMITH: I'm proposing for
15. boiler operator training.

16. CHAIRMAN MORELOCK: Okay.

17. MR. SMITH: And if there's any
18. other recommendations, I don't mind tacking things
19. on it, but at the same time, I don't want it to
20. become so burdensome that we don't solve that
21. particular issue.

22. CHAIRMAN MORELOCK: Okay. So we
23. have a motion to form a committee and to focus on
24. boiler operator training. Do --
25. Yes?

- 1. MS. BENNETT: If we're going to
- 2. make an agenda item, because this is a discussion
- 3. item, can we assign it 16-14 for the next agenda
- 4. coming out?
- 5. CHAIRMAN MORELOCK: Okay. So that
- 6. will be Item 16-14?
- 7. MS. BENNETT: Yes.
- 8. CHAIRMAN MORELOCK: Okay. So do I
- 9. have a motion -- or I've got a motion. Do I have
- 10. a second?
- 11. MR. BAILEY: Well, Mr. Chairman, I
- 12. think the motion has to come from one of the board
- 13. members.
- 14. CHAIRMAN MORELOCK: Okay. All
- 15. right. So do I have a motion from the board
- 16. members?
- 17. MR. PISCHKE: So moved.
- 18. MR. ROBINSON: Second.
- 19. CHAIRMAN MORELOCK: All right.
- 20. Thank you for keeping me straight on that.
- 21. Okay. Any other discussion?
- 22. (No verbal response.)
- 23. CHAIRMAN MORELOCK: Okay. Hearing
- 24. none, all in favor say, "aye."
- 25. (Affirmative response.)

- 1. C E R T I F I C A T E
- 2. STATE OF TENNESSEE)
- 3. COUNTY OF WILLIAMSON)
- 4. I, Cassandra M. Beiling, a Notary Public
- 5. in the State of Tennessee, do hereby certify:
- 6.
- 7. That the within is a true and accurate
- 8. transcript of the proceedings taken before the
- 9. Board and the Chief Inspector or the Chief
- 10. Inspector's Designee, Tennessee Department of
- 11. Labor & Workforce Development, Division of
- 12. Workplace Regulations and Compliance, Boiler Unit,
- 13. on the 21st day of September, 20116.
- 14.
- 15. I further certify that I am not related to
- 16. any of the parties to this action, by blood or
- 17. marriage, and that I am in no way interested in
- 18. the outcome of this matter.
- 19.
- 20. IN WITNESS WHEREOF, I have hereunto set my
- 21. hand this 25th day of October, 2016.
- 22.
- 23.
- 24. _____
- 25. Cassandra M. Beiling, CCR, LCR# 371
Notary Public State at Large
My commission expires: 3/15/2020

- 1. CHAIRMAN MORELOCK: Opposed?
- 2. (No verbal response.)
- 3. CHAIRMAN MORELOCK: Abstentions,
- 4. not voting?
- 5. (No verbal response.)
- 6. CHAIRMAN MORELOCK: All right.
- 7. We've got a committee formed.
- 8. Okay. so the last item on the agenda
- 9. is adjournment, so all in favor, you may stand up
- 10. and go enjoy your lunch.
- 11.
- 12. END OF THE PROCEEDINGS.
- 13.
- 14.
- 15.
- 16.
- 17.
- 18.
- 19.
- 20.
- 21.
- 22.
- 23.
- 24.
- 25.

A	108:25 110:9 115:19 115:24 124:8	32:5 51:19 56:8 72:11 73:2 76:11 88:6 92:20 102:4 113:12 120:7 122:22 127:13	82:9 83:10 83:10 84:2 85:21 86:1 86:6 86:13 86:25 88:9 90:1 90:18 91:20 91:25 92:1 92:17 92:18 93:8 93:14 93:19 94:15 100:6 103:19 104:6 106:4 106:7 106:8 108:24 109:5 111:5 112:4 112:7 112:20 112:23 114:9 116:18 116:22 117:5 119:12 119:19 122:22 124:21 125:3 125:8 125:12 125:18 128:9 129:20 130:2 130:3 130:7 130:20 132:22 132:24 133:10 134:12 134:14 134:16 135:3 135:4 137:14 137:19 137:24 138:6 138:9	amp 75:16 ample 72:13 analogy 119:25 124:9 analysis 52:5 analyze 34:21 analyzed 33:20 animal 84:20 annotated 63:14 announcements 3:8 4:15 7:9 annual 18:2 anomaly 42:20 another 33:12 38:12 55:12 72:2 72:5 73:7 74:14 98:19 101:5 104:5 106:1 125:2 126:15 ansi 104:22 answer 40:6 86:19 101:7 answers 74:2 anxious 16:25 anybody 88:7 110:5 110:14 111:9 anymore 5:25 36:14 75:5 anything 35:12 45:24 47:23 48:21 48:22 48:25 50:24 61:11 62:2 79:25 87:16 90:12 90:20 97:7 107:3 116:14 124:3 anyway 48:21 73:10 anywhere 24:19 ap 131:22 apart 131:1 appear 44:6 appearance 130:18 appearances 2:1 applicable 91:24 92:5 110:11 119:15 127:20 applicants 67:10 67:12 67:12 application 16:7 80:23 126:21 applied 80:22 93:9 apply 72:18 111:22
ability 71:21 100:3 able 4:21 20:16 35:21 78:4 78:7 85:4 100:19 120:13 121:2 121:7 127:7 129:8 above 26:5 79:3 80:19 90:1 101:25 absolutely 34:25 58:15 abstentions 8:2 62:25 138:3 academia 5:20 accept 7:15 62:9 62:12 136:11 acceptable 77:24 118:2 accepting 128:3 accident 126:25 accidents 89:9 111:16 accomplished 52:13 94:1 according 40:12 accountability 41:22 96:4 96:7 96:12 127:10 accumulated 47:22 49:21 51:14 accurate 139:7 accurately 101:19 achieve 23:7 acid 49:15 49:22 52:25 across 131:8 act 135:1 action 132:12 139:16 actions 133:22 activities 5:8 6:1 actual 23:20 91:10 126:2 actually 14:16 16:20 26:10 27:24 36:10 46:20 46:23 47:22 47:22 56:9 61:6 65:17 68:2 74:14 77:19 80:8 97:21 97:21 102:21	add 136:1 added 90:12 105:12 116:18 134:23 addenda 87:15 addition 21:18 additions 7:19 address 29:21 32:13 74:1 89:23 106:20 126:6 129:8 addressed 58:10 61:20 88:23 addresses 96:2 addressing 89:8 90:4 111:4 adequate 38:8 adjournment 3:22 138:9 adjust 118:10 administrator 2:14 9:14 64:13 65:3 73:24 76:2 88:22 adopt 87:14 91:1 adopted 114:21 adopting 95:17 98:9 115:21 116:9 adoption 3:9 7:13 advice 32:7 advised 32:11 advisement 89:20 93:22 135:21 136:6 136:10 advocate 81:4 102:5 advocates 122:24 affect 52:1 affected 52:11 affects 98:14 102:7 affirmative 7:24 62:22 137:25 afoul 67:20 after 6:21 14:21 16:22 18:24 19:6 26:14 29:2 29:7 29:11 32:9 41:14 93:16 96:20 132:3 afternoon 7:1 again 5:5 24:6 24:12 24:12 25:20 26:20	age 55:1 55:10 59:16 87:11 agency 91:5 104:3 agenda 3:9 7:12 7:13 7:14 7:15 7:19 8:6 8:10 16:4 16:11 22:12 134:24 137:2 137:3 138:8 agendas 4:5 aggressive 54:21 58:17 ago 23:13 56:10 75:13 80:10 107:10 112:9 134:25 agree 35:25 41:20 44:8 65:9 68:10 85:12 87:8 93:20 114:7 agreed 64:9 ahead 18:16 21:11 23:2 46:5 51:3 57:3 67:2 75:15 107:19 108:8 123:21 126:7 ailments 55:11 air 50:11 50:16 64:21 86:25 129:6 airflow 130:25 alarm 104:10 alexander 10:19 10:19 all 3:24 4:25 5:4 5:23 7:11 7:21 7:22 7:25 14:22 14:23 18:7 18:8 18:8 20:15 21:16 26:5 35:14 38:23 41:1 41:3 43:20 44:2 45:12 47:16 50:8 52:19 53:25 54:19 61:19 62:20 63:11 64:5 64:7 64:18 65:10 65:23 66:5 66:15 70:14 70:15 70:18 72:17 76:9 77:16 78:4 78:19 79:4	allied 9:9 allow 16:21 136:4 allowing 75:16 allows 134:9 almost 42:7 51:15 54:3 104:11 along 4:7 40:18 55:22 57:11 82:1 117:4 135:14 135:20 already 4:6 38:13 77:21 95:24 96:10 96:25 97:5 97:6 97:8 98:7 alterations 91:20 alternative 118:3 always 5:10 73:9 89:3 90:7 91:7 98:21 112:11 124:3 129:10 american 38:17 amount 27:4 36:12 67:10 72:13 100:15 102:25 104:18 110:24	

<p>120:15 130:20 appointed 5:12 5:18 appointing 88:15 appreciate 44:23 73:23 74:4 75:20 80:3 133:9 appreciation 16:13 apprentice 120:17 approach 82:2 96:11 appropriate 34:20 135:24 approval 18:19 61:16 63:4 approved 14:12 31:12 95:3 approximately 23:7 23:7 april 33:13 archaic 110:10 110:22 area 10:3 10:7 10:11 12:15 23:15 24:9 28:21 28:24 34:4 36:23 49:24 50:4 51:14 52:8 53:3 53:7 61:1 87:18 131:7 areas 35:13 49:20 51:16 51:18 95:25 96:9 arkansas 121:10 around 8:8 33:5 80:4 99:9 112:5 ask 7:2 18:12 33:10 59:21 61:13 85:16 85:17 135:22 asked 27:14 27:20 80:10 80:11 asking 24:21 48:7 79:8 135:17 asme 6:1 16:18 75:3 aspect 122:10 assembly 43:8 assertion 89:3 asset 37:6 assign 137:3 assistant 20:3 20:12 55:8 56:3 56:15 assistants 56:6 56:18 assisted 6:7</p>	<p>assisting 75:11 associated 49:24 127:15 association 104:13 assuming 99:14 assured 24:22 attack 98:11 attemperation 37:25 38:14 attemperator 38:16 attemperators 38:15 attend 5:2 7:7 20:5 attendance 8:7 attendant 79:3 109:14 attended 48:4 attendees 6:14 attending 21:14 attention 34:3 40:19 40:20 40:22 attest 114:11 attributed 111:14 113:10 authority 104:14 authorized 104:3 automatic 116:19 automobiles 120:10 availability 126:19 129:7 available 14:16 101:19 121:13 121:16 121:18 avenue 72:8 aware 6:24 66:25 away 34:2 107:9 107:23 awesome 125:10 awful 92:22 92:23 awhile 54:9 aye 7:23 62:21 137:24</p> <hr/> <p style="text-align: center;">B</p> <hr/> <p>back 4:5 6:25 14:21 14:22 17:1 37:15 43:23 44:19 53:2 53:9 54:18 56:17 61:12 64:2 64:13 70:5 74:3 74:8 78:11 87:12 99:9</p>	<p>100:19 101:5 107:6 107:11 109:1 110:4 110:23 135:18 backfilled 56:14 background 17:19 18:4 71:21 backside 43:18 backwards 73:14 bad 72:21 bailey 2:15 9:15 9:15 110:7 114:11 137:11 bangladesh 131:13 bare 58:25 base 43:25 72:1 based 24:24 50:23 62:10 62:13 63:4 70:16 89:18 baseline 74:3 basic 79:9 126:1 130:20 basically 59:9 90:6 102:9 130:17 135:22 basis 94:12 97:16 bat 21:13 baughman 2:10 9:7 9:7 19:19 19:22 20:1 20:18 21:3 21:7 31:12 31:21 32:1 32:13 32:23 33:1 39:2 39:4 39:12 39:15 39:19 39:25 40:4 40:11 40:17 41:17 41:20 42:2 42:8 42:21 46:2 46:6 46:12 47:2 47:15 47:18 48:1 48:8 48:13 48:15 48:23 49:12 51:10 52:2 53:23 54:6 54:23 56:11 57:10 57:16 58:1 58:4 58:7 58:15 58:18 61:1 67:3 67:9 67:22 68:2 68:8 68:19 68:24 69:3 69:7 69:12 69:19 69:22 70:6 70:12 70:20 70:23</p>	<p>74:7 75:24 76:11 76:14 80:2 82:5 83:13 85:11 87:8 87:17 94:4 95:22 97:10 97:19 98:1 98:5 99:17 101:2 108:2 109:11 110:8 110:16 110:21 116:13 117:3 117:11 119:13 120:7 120:21 120:25 122:6 122:12 122:17 123:10 123:14 126:6 126:8 128:19 130:22 131:4 133:25 136:7 bear 4:15 6:17 117:23 bearing 44:14 89:6 bearings 53:5 became 67:13 become 91:2 116:3 136:20 becoming 66:20 bed 23:10 25:20 31:23 31:23 32:10 32:16 33:23 35:12 35:18 36:2 36:8 36:11 59:4 59:23 been 4:20 5:18 14:9 16:23 18:9 18:18 20:20 33:3 36:22 42:14 43:21 47:10 50:23 51:2 52:20 53:21 54:2 54:9 54:19 56:16 58:8 66:7 73:10 77:8 77:15 80:22 80:22 88:11 89:3 89:4 90:7 94:19 95:3 98:21 98:23 100:7 100:24 101:13 102:25 103:1 109:2 110:10 112:4 112:13 112:15 116:17 116:22 123:5 133:13 133:24 135:14 before 7:14 15:11</p>	<p>26:14 29:2 29:6 40:9 41:13 59:13 72:19 75:13 95:13 98:19 99:18 120:15 128:8 139:8 began 23:20 begin 15:11 beginning 42:9 behind 31:4 33:2 132:18 beiling 1:22 8:14 139:4 139:24 being 16:3 34:9 49:13 51:20 52:11 72:23 75:3 102:5 105:13 105:22 111:8 129:7 133:6 belief 27:3 believe 30:14 46:1 74:21 below 57:1 bench 43:10 benefits 72:23 72:25 73:3 bennett 2:17 8:16 8:16 106:1 106:13 106:19 106:24 137:1 137:7 besides 52:5 110:6 best 78:12 88:13 100:23 126:20 133:18 better 14:25 36:19 53:16 56:4 56:5 58:12 77:8 92:24 betterment 132:21 between 83:23 113:8 beverages 104:12 beyond 27:16 27:24 42:6 big 77:4 88:21 92:25 113:8 bill 127:4 billion 17:21 biomass 84:19 bit 5:22 37:25 black 51:17 119:6 blank 43:13 43:14 43:14 43:14 blast 106:4 106:11</p>
--	--	---	--	---

blasting 36:15	39:7 39:21 40:11	93:11 97:4 98:13	117:7 117:14	71:23 108:20 110:5
blinders 78:6 88:6	40:13 40:15 40:24	98:14 102:8 108:20	121:15	110:9 121:8 124:1
113:13	46:25 47:23 47:24	108:21 109:6 109:6	brings 118:22	125:6 132:2
blocked 46:9	48:3 48:23 49:7	110:12 110:13	brother 20:6 20:6	camera 46:17 46:18
blood 139:16	50:7 51:6 51:7	110:17 110:18	81:4	46:19 46:21 46:23
blow 131:1	51:25 52:1 53:12	111:11 111:12	brothers 81:10	cameras 46:7 46:9
blowing 87:1	66:22 71:17 74:6	111:17 111:23	brought 86:17 87:9	46:14 46:16
board 1:2 1:9 2:4 2:6	76:14 77:1 77:1	112:5 112:18 114:4	btu 23:7 78:16	canadian 17:20
2:8 2:10 2:18 3:18	77:4 78:17 80:9	119:7 119:8 123:5	buckman 12:5	canceled 107:11
4:3 4:9 5:11 6:2 6:4	80:14 80:15 82:13	125:23 127:16	budgets 109:18	107:12 107:16
6:9 8:17 8:25 9:2	82:19 83:3 83:7	129:20 130:3 130:7	109:19 109:22	107:17
9:6 9:8 9:16 14:5	84:15 86:4 86:6	130:21 131:6	build 84:2 85:9	candidates 65:17
16:19 16:22 18:19	86:7 86:12 86:16	131:18 132:2 132:5	building 3:20 6:15	cannot 111:20
19:21 27:20 28:3	87:11 88:1 88:3	132:25 133:2 133:6	6:15 6:17 6:19	canonico 5:15 5:23
45:20 49:6 49:7	88:11 88:16 88:19	bombs 124:22	built 16:18 39:16	5:24 6:5 81:4
49:10 59:1 63:21	88:24 90:5 91:9	bones 58:25	39:23 40:24 41:10	capabilities 37:22
63:22 63:25 64:3	91:13 92:21 93:2	books 83:3 91:25	92:2	capable 37:24
64:8 64:11 64:22	93:7 93:19 94:21	110:22	bumping 33:14	capacity 22:19 22:24
65:13 66:6 72:24	95:11 95:16 96:3	both 20:13 20:25	bunch 107:22	38:8
74:10 74:10 74:12	96:5 96:13 96:22	47:9 55:19 81:18	burdensome 133:20	captured 61:9
74:12 74:18 74:22	97:15 98:24 99:6	81:19 82:17 115:16	136:20	carbon 111:14
75:4 76:3 76:6	99:7 99:25 100:22	bought 52:16	burner 113:2 113:7	111:24 112:2 113:1
83:16 88:15 88:17	101:6 103:12	bounced 80:4	113:16 113:18	113:2
89:1 89:19 90:17	106:16 107:8 107:9	boundary 51:23	130:9	carbonated 104:12
90:19 90:22 90:22	108:1 109:9 109:10	51:24 113:17	bus 122:4	care 40:21 83:22
94:20 94:23 95:6	109:13 111:3	bowers 10:14 10:14	buses 109:20	109:15
95:9 104:21 105:2	111:10 111:12	114:18 114:18	bushing 44:2	careers 88:13
113:15 118:4 118:5	111:19 111:23	114:25 115:3 115:7	business 3:11 3:13	carlene 2:17 8:16
118:10 132:23	112:3 112:6 112:6	115:10 115:14	14:2 14:3 15:5	carried 59:12
134:3 135:7 135:21	112:8 112:10 113:4	116:7 116:15	17:22 18:1 63:11	cartridges 52:18
136:4 136:6 136:9	113:16 113:18	116:24 117:9	102:25 103:8	case 20:24 89:5
137:12 137:15	113:18 114:2	117:13 118:11	103:25 112:15	90:22 94:20 118:5
139:9	116:19 122:14	brandon 11:3 17:15	120:10 120:14	118:21 119:2 119:5
bob 11:19	122:18 122:20	20:7 20:21	134:3	cases 3:17 3:17 51:1
body 43:25	123:8 123:13	break 6:20 63:8	buss 49:5	94:23 118:10 135:5
boiler 1:2 1:9 2:8	123:15 124:10	breaker 50:12 50:12	busy 5:1	cassandra 1:22 8:13
2:12 3:10 3:16 3:18	124:13 126:14	50:15 50:17		8:14 139:4 139:24
4:4 4:19 6:3 8:19	126:15 127:3 128:2	breakfast 5:7	C	cast 119:8 119:16
9:9 9:11 10:22	128:14 128:15	brian 2:2 9:1 13:11	cafeteria 6:22	119:17
11:10 11:12 11:18	128:23 129:13	brick 53:4	cain 107:22	catastrophe 37:7
11:20 11:22 11:23	129:22 131:1	brief 133:12	calendar 31:20	catastrophic 76:21
11:25 12:9 12:11	131:14 135:7	bring 58:7 71:11	calibrate 129:2	126:25
12:13 12:15 12:19	135:13 136:5	73:19 74:13 75:6	calibrations 43:11	categories 83:19
13:1 13:3 13:9	136:13 136:15	75:13 75:16 75:25	california 130:6	83:21 83:23
13:21 14:6 17:7	136:24 139:12	76:12 78:7 78:13	call 3:7 4:4 7:22	category 126:5
18:23 19:5 22:20	boilers 5:13 5:14 9:9	81:6 100:4 117:15	56:22 62:17 62:20	cause 25:6 52:5
23:15 23:22 24:19	28:1 71:22 76:17	121:4 122:25	103:5 103:6	77:24
27:17 30:23 34:15	76:19 76:20 79:4	123:15 127:17	called 109:9	caused 47:25 48:25
36:12 37:4 37:18	80:1 82:20 82:22	134:1 134:6	calling 100:8	49:3 52:25
37:20 38:19 39:5	84:24 85:15 85:23	bringing 100:13	came 19:24 50:9 64:2	causing 76:21
	91:21 92:10 92:11			

<p>ccr 1:22 139:24</p> <p>cell 7:3</p> <p>center 9:18 32:16 50:13 124:24</p> <p>cert 85:15</p> <p>certain 27:8 27:16 51:4 72:23</p> <p>certainly 4:6 4:8 7:6 56:24 65:3 65:12 79:24</p> <p>certificate 39:5 39:6 39:16 40:3 40:25 42:4 102:1</p> <p>certificated 40:15</p> <p>certification 66:7</p> <p>certifications 98:23</p> <p>certified 85:5 98:24</p> <p>certify 139:5 139:15</p> <p>cetera 75:17</p> <p>cfm 22:19</p> <p>chairman 2:2 4:2 7:11 7:18 7:21 7:25 8:2 8:5 9:1 9:2 9:25 13:6 13:23 14:1 15:4 15:15 15:23 16:10 16:15 17:3 18:11 18:15 19:9 19:13 19:17 19:20 21:11 21:17 21:20 21:24 22:1 22:4 22:7 22:11 22:13 22:21 25:22 25:25 26:4 26:23 28:7 28:18 28:22 29:5 29:12 29:19 30:3 30:7 31:15 33:9 33:22 34:1 34:12 34:22 35:3 35:8 35:14 37:9 38:25 39:3 41:6 41:8 41:24 42:3 42:10 42:15 44:9 44:20 44:24 45:2 45:9 45:15 45:17 45:23 46:4 48:6 48:11 58:19 58:22 59:20 59:24 60:5 60:8 60:12 60:15 60:19 61:15 61:24 62:2 62:5 62:8 62:11</p>	<p>62:16 62:19 62:23 62:25 63:3 63:7 63:10 66:10 66:24 71:13 73:1 73:18 74:25 75:18 75:22 76:1 76:9 76:13 78:21 78:24 89:21 89:25 90:15 91:6 91:16 93:20 94:2 94:10 94:13 94:17 95:4 95:7 95:19 97:9 98:16 99:16 101:4 101:23 103:3 103:13 103:16 104:8 104:20 106:12 107:5 108:9 114:16 114:23 115:5 115:12 117:22 118:13 123:2 123:21 126:7 127:21 133:10 133:23 134:12 135:25 136:12 136:16 136:22 137:5 137:8 137:11 137:14 137:19 137:23 138:1 138:3 138:6</p> <p>challenges 64:14</p> <p>change 3:15 37:13 37:16 42:6 48:17 48:20 51:3 52:19 52:23 63:13 102:7 103:9 103:19 104:7 113:11</p> <p>changed 48:21 54:4 72:10 74:15 87:14 102:21 116:23 125:4</p> <p>changes 7:19 14:23 22:8 34:4 55:4 63:16 63:17 63:19 75:11 86:8 90:21 91:9 107:3 132:21</p> <p>changing 52:17 52:18 72:9 117:18</p> <p>chapman 2:12 8:18 8:18 13:11 14:18 61:5 85:25 110:20</p> <p>charged 132:22 132:24 133:24</p>	<p>check 29:17 84:12 87:24 87:25 88:1 88:2 88:3 96:18 97:16 126:2 126:5 130:2</p> <p>checked 88:2 96:23 101:13 101:21 110:18 128:20 130:7 130:8 130:10 130:11 130:14 130:15 130:16 131:2</p> <p>checking 97:5</p> <p>checklists 125:13</p> <p>checkmark 128:7</p> <p>checkmarks 128:9 128:17 130:13</p> <p>checks 59:6 129:9</p> <p>chemical 9:4 9:20 10:3 10:5 10:7 10:9 10:11 10:13 10:25</p> <p>chief 2:12 3:10 8:18 13:9 13:24 14:18 61:4 61:16 63:18 63:24 64:7 64:10 64:15 65:14 66:21 68:4 68:12 68:17 68:21 69:21 69:24 71:20 72:1 72:10 72:12 73:13 74:19 77:16 88:16 88:24 95:5 100:8 103:5 136:5 139:9 139:9</p> <p>chiefs 66:15</p> <p>chip 36:1</p> <p>chipping 33:3 33:5 36:13</p> <p>choose 90:18 92:4</p> <p>chose 39:8</p> <p>chris 106:15 110:6</p> <p>christopher 11:11 97:3</p> <p>churches 109:13</p> <p>circuit 50:17</p> <p>circulation 37:20 38:21</p> <p>cities 12:15</p> <p>citing 91:10</p> <p>citizen 125:20</p> <p>city 108:11 108:18</p>	<p>claim 114:12</p> <p>clarification 50:1 50:2 60:20 61:11 64:2 64:2 118:19</p> <p>clarity 37:13</p> <p>class 78:16 99:7 99:12</p> <p>classroom 79:14 99:22</p> <p>clean 36:13 36:14 46:14 52:25</p> <p>cleaned 46:10 46:20 46:25</p> <p>cleaner 46:23 80:20 99:21</p> <p>cleaners 46:15 86:17 86:18</p> <p>cleaning 49:15 49:23 50:24</p> <p>clear 46:22</p> <p>cleared 30:16</p> <p>clifton 9:21 9:21</p> <p>clinchfield 17:8</p> <p>clock 86:3</p> <p>close 34:3 53:16</p> <p>closed 92:16</p> <p>cms 124:12</p> <p>cna 11:8 16:1</p> <p>co 113:10</p> <p>co2 104:7 105:9 105:11 105:24 117:20</p> <p>co2meter 104:9</p> <p>code 6:1 13:19 16:18 63:14 85:13 91:4 91:11 91:23 91:25 92:4 92:9 97:22 110:10</p> <p>codes 90:25 91:19 94:7 99:20 113:4</p> <p>cognitively 81:14 81:20</p> <p>cold 117:19</p> <p>collective 100:1 111:2</p> <p>college 8:23 99:8</p> <p>colorless 111:25</p> <p>com 104:9</p> <p>comb 114:14</p> <p>combined 82:17</p>	<p>combustion 113:21 113:23</p> <p>comes 8:9 15:1 57:23 78:20 103:9 103:23 113:19 113:23 122:13 122:14 122:18 125:2</p> <p>comfortable 42:17</p> <p>coming 8:7 65:5 73:11 83:5 93:6 104:17 107:21 115:6 120:17 131:15 131:17 137:4</p> <p>comment 29:21 79:21 114:17 123:3 133:13</p> <p>comments 13:24 37:10 39:1 44:25 45:20 58:20 59:1 61:8 61:19 61:21 62:14 62:17 67:1 73:22 78:22 104:23 132:15 134:17 135:4</p> <p>commercial 102:23</p> <p>commission 63:21 64:3 64:8 64:11 75:5 124:11 125:3 125:14 139:25</p> <p>commissioner 64:13 73:24 76:4</p> <p>committee 88:15 89:13 89:18 89:22 90:11 93:17 100:13 114:5 134:1 134:8 135:2 135:18 136:4 136:8 136:23 138:7</p> <p>committees 93:24 132:13</p> <p>commonsense 96:11</p> <p>community 99:8 105:17</p> <p>companies 83:1 126:12 127:14</p> <p>company 3:4 9:4 10:3 10:5 10:7 10:9 10:11 10:13 10:15 13:1 15:20 17:5 17:21 30:12 79:8</p>
---	---	---	--	--

99:15 118:22 121:8 123:6 compared 51:5 compelling 133:14 complain 135:3 complete 54:14 54:14 completed 30:6 45:12 59:13 63:11 compliance 4:19 6:4 12:23 14:6 41:11 42:4 74:1 106:2 125:12 139:12 compliment 51:12 components 113:6 comprehension 70:8 comprehensive 51:11 133:14 computer 57:23 concern 33:6 37:2 37:5 44:5 44:10 44:12 concerned 24:20 27:7 43:17 86:2 concerning 64:12 concerns 44:4 concise 93:10 conclusions 135:20 condense 58:25 condensed 82:23 conference 4:20 5:9 6:18 21:15 confirm 26:24 30:7 59:2 60:16 confirming 47:11 conflicts 15:12 18:12 conjunction 98:20 118:6 125:19 consider 35:5 88:15 114:2 consideration 32:15 33:18 33:19 34:7 considered 67:14 constitute 88:1 constitutes 87:25 consultant 12:23 75:10 contact 106:22 contacting 77:15 contains 64:5	contingencies 62:10 contingent 61:16 61:25 63:4 continue 39:2 continuing 45:7 continuous 38:19 52:7 53:6 53:19 contractor 118:22 121:25 121:25 122:1 contractors 119:3 contradictory 32:19 32:20 contrary 67:20 contribute 4:24 control 50:13 55:7 55:14 56:3 controls 129:22 129:24 132:6 conversation 60:3 conveyor 48:24 cooling 50:11 50:16 50:18 copied 54:3 copies 14:16 copy 95:11 corp 9:20 corporate 27:18 126:19 corporation 11:16 17:20 27:18 80:15 correct 19:25 21:6 23:1 26:6 26:8 28:16 28:17 32:22 39:18 40:1 45:7 45:8 45:13 45:16 45:22 46:11 50:21 60:9 60:13 68:21 68:23 85:24 114:21 114:25 115:11 115:20 115:25 116:4 corrected 13:20 23:3 61:18 61:20 correction 23:3 correctly 66:18 70:3 71:9 87:5 87:7 correlated 51:15 correlates 129:12 corroborating 44:3	corroded 44:1 44:1 44:2 corrosion 44:1 cost 51:5 99:12 102:9 102:10 102:18 103:10 104:5 105:13 124:17 couldn't 55:3 council 108:11 108:18 108:19 counsel 2:16 9:16 counties 109:21 countless 131:13 country 131:9 county 9:22 72:3 77:20 95:17 96:1 96:15 99:5 100:6 107:8 108:5 108:10 108:13 139:3 couple 14:7 21:13 45:3 88:13 123:24 134:24 course 6:22 35:2 36:13 63:15 65:19 72:19 89:1 99:9 99:10 99:18 99:21 courses 79:16 court 1:23 3:25 8:13 8:15 128:17 cow 108:15 crack 26:16 cracked 47:7 cracking 25:5 cracks 28:11 59:2 craftsman 12:5 crazy 103:1 create 79:15 created 23:22 25:5 72:9 creates 111:19 credibility 29:23 creeping 129:1 crew 55:5 55:13 criteria 20:5 20:9 21:5 23:11 critical 7:7 51:1 110:25 cromwell 11:17 11:17 99:3 99:3 99:14 100:25 101:3	crotch 32:16 csd 91:14 113:5 113:7 114:21 115:7 115:22 132:7 ct 3:19 cti 10:5 cumbersome 133:20 curiosity 27:2 curious 119:24 122:9 current 28:10 32:11 54:9 65:24 87:14 91:18 currently 6:8 61:3 79:7 customer 44:10 customers 77:25 cut 35:6 109:18 cutoff 84:6 84:7 84:12 96:18 96:19 97:6 98:12 129:24 130:4 130:8 130:15 cutoffs 83:20 83:24 84:23 129:23 cycle 51:7 102:12 cycled 53:17 cycles 92:18 cylinder 46:24	115:9 dave 9:7 85:12 88:11 95:19 101:15 133:23 134:15 134:18 136:7 david 2:10 davidsen 11:19 11:19 day 92:15 109:8 128:9 130:7 130:8 130:10 130:14 131:23 133:5 139:13 139:21 days 51:15 53:13 53:14 100:18 110:23 116:25 dead 51:7 dealing 82:25 134:20 dealt 66:9 dean 8:23 deaths 111:13 113:9 deborah 9:11 16:2 16:13 67:25 77:2 deceased 55:7 december 3:19 16:11 54:20 73:20 75:1 76:8 135:8 135:19 decision 27:10 63:23 decreases 128:23 dedicated 51:16 deemed 64:9 deep 37:5 default 120:23 deficiencies 61:18 61:20 define 90:6 definitely 29:23 33:23 definition 38:9 degradation 51:9 degree 27:25 delay 16:3 16:7 delinquent 13:16 demonstrate 85:4 85:7 department 1:1 3:19 4:17 50:4 65:5 69:11 72:14 139:10 depending 78:16 depth 77:18
D				
			da 126:14 dad 103:1 dallas 12:8 107:7 108:2 damage 24:2 36:19 36:25 50:15 damaged 23:25 dan 2:15 9:15 danger 34:5 danny 10:21 71:15 71:16 82:8 83:14 darnell 56:2 data 23:4 39:20 40:13 40:23 41:10 42:12 43:24 44:3 59:10 59:17 102:19 database 103:15 date 59:8 60:16 60:17 75:6 87:13 117:5 dated 39:6 42:5	

followed 55:21	fuzzy 77:5	given 18:19 27:9	113:13 114:13	108:25 109:8
food 12:25		27:10 32:15 58:13	114:14 116:8 117:1	109:18 110:2
foods 11:16	G	gives 18:4 77:5 96:7	117:8 117:15	110:22 111:3 111:7
forbid 125:23	game 117:17	100:11 101:24	117:18 120:9	111:9 111:11
forced 111:19 111:23	gary 56:2 56:2	118:14 129:7	121:21 124:23	111:13 113:5
112:18	gas 84:16 84:18	giving 13:14 13:18	125:22 126:24	113:21 114:1
foreseen 48:4	113:5	14:19 132:19	126:25 128:11	116:17 117:23
forget 97:15 98:20	gases 111:25 113:3	glad 126:23	128:16 128:22	120:11 120:12
forgive 23:8	gaskets 43:19	gladson 10:8 10:8	130:1 131:19	121:9 122:14
form 43:2 89:12	gather 45:4	gleaning 78:9	131:23 132:1 132:8	122:17 122:23
93:23 105:4 125:16	gauge 26:5 43:14	global 10:15 10:18	135:14 136:13	124:9 125:8 126:11
135:17 136:7	43:14	45:5 60:21 114:19	137:1	126:13 126:15
136:23	gauges 43:10	116:17	golden 9:17 9:17	127:17 129:2
formal 79:14 116:20	gave 26:14 52:17	go 4:7 4:15 6:7 6:11	123:22 123:22	129:10 129:24
formation 93:17	ge 8:21	6:25 14:15 18:5	gone 51:2 84:25	132:2 132:4 132:5
136:4	general 60:22 65:20	18:16 21:11 23:2	112:5 133:4	132:8 132:15
formed 138:7	118:20	27:24 46:4 51:3	good 4:2 5:4 7:12	132:15 137:9 138:7
forms 43:5 43:5	generated 41:13	54:18 67:2 70:5	8:22 18:15 42:21	gotten 5:24 55:2
forth 43:11 47:20	generates 17:21	73:22 75:4 82:15	42:22 44:15 50:18	129:6
56:17 113:6 121:15	17:24	85:14 85:17 86:11	51:8 51:21 54:12	gouged 33:3 43:19
127:4	generation 57:8	86:22 91:3 91:14	55:20 56:25 57:1	43:20 43:20
forthcoming 82:10	gentlemen 17:9 63:4	93:3 93:11 93:14	57:8 60:19 60:20	gouges 35:23 36:1
forward 4:10 5:7	98:17 134:13	94:18 100:20	65:2 70:24 74:1	36:4
6:10 82:3 98:9	george 1:23 8:15	101:10 101:18	78:20 80:2 81:11	government 65:20
132:12	gerald 9:21	102:16 105:18	82:12 86:19 88:18	110:17
found 13:20 18:23	get 4:7 4:22 6:19	107:19 107:22	90:13 90:16 92:15	governor 5:12 5:18
19:3 43:18 63:16	22:25 27:3 30:6	107:25 108:8	92:19 95:22 99:9	grand 73:6
63:25	41:4 51:20 78:19	111:24 116:8	111:21 120:7	grandfathered 87:15
four 52:17 52:19	83:25 84:1 86:15	121:21 122:16	120:24 120:25	grants 121:17
68:1	86:18 91:8 93:25	123:21 125:17	134:22 134:25	great 71:14 74:7 81:4
franklin 1:24	94:3 94:3 94:15	126:7 138:10	got 4:15 7:6 8:9 20:6	100:14 108:18
free 99:11 99:13	95:11 98:17 101:16	god 125:23	21:12 28:14 34:24	111:3 117:3 119:13
french 3:20	102:8 104:12	goes 86:4 87:19	38:16 42:18 46:3	120:21 123:1 123:1
frequency 17:19	104:24 108:17	103:20 103:23	46:17 50:14 51:22	123:20 124:6
27:15 44:15	108:21 109:8	103:24 110:23	51:22 55:17 55:25	124:17 128:22
friendly 14:8	109:18 112:2	111:6 117:21	56:1 56:17 56:18	133:9 134:9
front 29:25 69:6 70:3	119:19 120:3 121:7	125:15 131:23	56:21 56:24 57:4	green 49:25
73:16 91:22 124:23	124:15 124:19	going 4:4 6:5 6:6 6:8	57:8 59:13 67:13	grew 127:25
frustrated 134:21	126:9 126:24 129:3	13:12 27:4 31:23	73:16 74:2 74:3	grilled 126:24
fudged 96:6	129:10 129:15	32:3 33:14 40:12	77:15 78:6 80:6	grow 25:13 26:16
fuel 84:18	131:2 134:16 135:2	51:13 53:25 62:20	82:8 82:12 82:15	growing 106:7
fulfill 64:15	gets 46:12 80:17	70:17 73:14 82:1	82:19 82:23 83:3	grown 25:12
full 5:3 8:11 37:19	86:16 100:15	83:12 83:17 84:19	83:4 83:4 83:15	guess 23:13 27:2
51:7	112:20	84:23 86:20 91:11	84:1 84:10 84:17	27:11 28:2 28:7
furnace 24:19 37:14	getting 74:8 83:11	92:3 92:16 92:17	85:3 85:3 86:15	33:17 41:16 43:22
37:17 37:17 38:22	94:22 131:19	92:24 93:12 96:22	87:4 87:6 92:2	70:7 76:4 114:21
46:8 130:24	give 17:19 27:12	98:17 102:9 102:10	92:21 96:8 99:25	136:5
further 60:1 65:8	29:23 30:16 77:25	102:10 102:18	100:2 100:3 100:9	guide 43:20
139:15	78:4 93:21 95:8	103:10 103:10	100:14 100:21	guideline 89:5
future 36:8 91:9	127:10 136:10	104:5 105:3 109:7	101:2 102:21	guidelines 64:23
			102:24 105:11	

66:3 79:12 89:2 guiding 16:14 guy 40:19 86:23 126:13 128:3 guys 5:22 19:6 30:16 34:5 46:7 54:15 79:22 82:7 84:24 89:11 89:16 92:13 93:21 100:1 100:12 112:4 124:13 126:23 132:23 134:7 135:17 135:23	95:16 96:25 97:3 97:4 97:4 97:13 97:23 98:2 106:15 106:15 106:16 106:23 harvey 62:15 haslam 5:12 5:18 hasn 80:21 haven 35:5 132:6 having 29:24 34:20 35:4 66:1 81:21 86:10 93:16 108:22 126:16 128:12 hayes 125:7 hca 125:11 head 89:7 headed 56:11 heading 56:13 hear 9:24 10:1 14:22 131:11 131:19 132:1 heard 58:23 131:12 hearing 7:22 15:15 70:7 131:16 133:13 137:23 heat 50:15 128:23 heater 38:10 heating 131:18 heavier 53:2 held 105:23 help 6:19 16:14 53:7 64:23 93:25 120:17 133:16 134:1 hendricks 37:18 38:9 hereby 139:5 hereunto 139:20 hero 133:5 hey 100:5 103:21 high 23:23 36:17 76:23 79:4 82:20 85:15 85:23 103:12 109:6 109:22 109:25 112:2 119:17 126:14 129:21 129:22 higher 37:23 129:13 highlighted 58:12 highly 119:5 hillman 10:2 10:2 hire 122:3	hires 118:22 122:1 hiring 67:21 120:9 historic 92:10 historical 82:22 hold 16:11 holder 43:19 44:12 44:17 hole 92:12 holt 11:23 11:23 101:6 101:6 129:18 holy 108:14 home 86:4 honest 55:17 honeycutt 57:18 honor 6:5 6:8 hoods 36:9 hope 16:24 hopefully 14:24 90:10 105:3 horsepower 77:2 79:3 80:19 hospitals 125:14 hot 126:15 hour 22:25 23:8 110:20 110:20 110:21 hours 101:3 how 4:24 39:9 47:21 47:24 48:1 48:2 48:2 51:21 51:21 53:10 67:23 74:16 74:20 77:4 77:5 77:23 78:5 80:1 81:16 81:20 84:6 84:15 85:19 86:23 87:2 87:5 87:12 88:23 97:20 102:8 104:12 104:24 105:13 105:24 106:21 110:4 112:13 119:12 120:16 120:18 122:9 131:1 131:9 135:15 however 59:5 59:15 69:4 hr 66:2 66:9 69:5 69:10 69:17 70:13 70:21 71:9 71:23 73:20	huge 84:23 113:24 117:6 human 69:10 hundred 52:24 102:15 102:23 129:14 hydro 36:14	incorporated 18:7 increases 128:24 incredible 100:2 133:3 incumbent 114:9 120:2 120:4 index 18:7 22:11 indicated 30:12 66:5 66:16 indication 26:16 128:22 individual 21:4 44:7 57:24 84:7 109:17 individuals 54:8 55:18 56:1 121:12 industries 119:5 industry 65:19 88:17 108:17 109:12 110:3 111:2 113:14 113:21 113:25 120:18 121:13 121:14 121:17 122:23 130:23 133:8 inevitably 124:21 information 42:22 43:16 44:16 54:12 58:9 58:24 64:20 64:25 71:9 78:9 78:19 91:8 95:8 100:12 106:21 117:4 117:6 129:9 informative 14:9 informing 106:6 initially 45:18 93:1 injured 131:14 131:21 injuries 111:14 113:10 innovative 96:10 input 75:21 80:3 81:9 132:14 inquirer 95:12 inquiry 95:9 inside 27:17 inspect 23:16 24:13 35:13 36:8 59:25 61:13 inspected 28:25 43:3 123:4
<hr/> H <hr/> half 56:10 hammer 36:1 hammered 81:3 hammers 33:3 33:5 36:14 hand 4:12 47:1 101:5 107:5 111:6 111:6 139:21 handle 84:17 handrails 117:19 hands 76:16 76:18 82:17 87:5 88:8 98:18 happen 69:18 103:18 131:5 132:8 happened 30:17 41:12 41:15 41:19 happening 125:24 happens 24:7 24:9 24:15 102:11 107:24 111:24 131:14 happy 71:10 hard 18:3 67:6 105:25 hardship 72:3 73:5 73:9 77:24 82:14 hardships 79:16 hargrove 2:6 5:17 8:22 8:23 37:11 37:12 38:4 38:23 harold 10:14 114:18 116:14 117:7 hartford 11:10 11:11 11:12 11:12 12:25			<hr/> I <hr/> idea 30:16 40:10 58:13 71:5 132:25 134:8 ideal 89:16 ideas 100:4 132:15 132:17 identification 39:22 125:4 identified 43:3 51:2 52:9 ifs 122:24 122:25 ignored 107:6 ii 3:8 132:3 iii 3:9 ik 47:3 47:4 47:6 imagine 99:19 impact 98:12 107:3 implement 55:15 implemented 54:20 100:21 105:14 implementing 20:4 21:5 61:7 important 57:11 58:5 58:9 96:16 improper 89:10 improvement 52:7 53:6 53:19 53:21 improvements 52:15 inc 3:3 incentive 55:19 55:23 incident 23:18 23:20 83:15 83:16 83:18 incidents 83:19 include 21:22 included 63:20 63:21 64:6 including 32:14 72:18 inclusions 32:2 incomplete 45:12	

<p>inspecting 83:6</p> <p>inspection 13:1 17:18 18:22 18:22 19:2 19:2 19:7 23:10 24:3 24:5 24:25 25:2 28:24 31:13 32:18 34:15 37:14 39:5 40:15 43:1 44:15 45:10 45:11 46:7 59:5 59:6 60:3 85:14 85:16 86:25 102:1 105:5 105:13 114:12</p> <p>inspections 13:13 21:1 25:10 27:5 27:8 36:19 60:22</p> <p>inspector 2:12 3:10 8:19 10:3 10:5 10:7 10:11 10:16 10:22 11:8 11:18 11:20 11:22 11:24 12:1 12:3 12:9 12:11 12:13 12:15 12:19 13:3 13:9 13:13 13:14 13:17 14:19 23:20 32:8 33:21 35:1 43:2 43:4 61:5 61:5 61:17 63:18 63:24 64:16 66:22 69:16 71:17 72:11 72:12 73:4 73:14 83:8 84:9 85:7 88:11 88:25 90:25 99:4 101:7 107:8 125:15 135:13 136:6 139:9 139:10</p> <p>inspectors 5:4 13:17 19:5 28:1 35:2 64:6 64:6 64:7 64:7 65:24 66:6 71:25 72:17 74:16 77:16 83:5 83:5 102:14 102:16 104:2 104:3 111:7 112:22 114:9 134:17</p> <p>install 37:25 49:8 114:3 118:23 123:16</p> <p>installation 38:18 119:20 119:22</p>	<p>126:17 127:19</p> <p>installed 15:9 38:11 38:14</p> <p>installer 112:11</p> <p>installers 114:8</p> <p>installing 111:11</p> <p>instances 123:11 123:15</p> <p>instate 119:3</p> <p>instead 52:17 52:18 66:9 70:16 103:22 120:20</p> <p>instrumental 125:7</p> <p>insurance 2:4 10:15 11:8 11:14 12:17 12:19 12:21 13:1 13:14 13:17 15:19 16:1 30:11 32:8 33:8 33:21 79:8 83:5 85:8 88:17 104:3 114:7 114:19 126:11</p> <p>interest 15:12 18:13</p> <p>interested 20:7 54:11 69:13 139:17</p> <p>interesting 47:21 70:23 76:18 110:1</p> <p>interface 24:1</p> <p>interject 28:8</p> <p>interlock 50:14</p> <p>intermediate 38:6</p> <p>internal 17:18 18:21 33:11 34:2 34:17 44:14 45:10 59:6 86:24</p> <p>internally 124:12</p> <p>interpret 91:14</p> <p>interpretation 90:22 95:10</p> <p>interpretations 3:17 3:17 94:9 94:16 94:20 94:23 135:6</p> <p>interpreting 94:14</p> <p>interrupted 50:6</p> <p>interruption 7:5</p> <p>interruptive 52:10</p> <p>interval 35:6 60:7</p> <p>interviewed 65:22</p> <p>intimate 49:14</p> <p>introduce 5:10 8:12</p>	<p>15:23 17:9 71:15 78:25</p> <p>introducing 13:7</p> <p>introduction 6:12</p> <p>introductions 3:8 4:14 5:20</p> <p>intrusive 79:17</p> <p>investigation 114:15</p> <p>invitation 65:23</p> <p>invitations 72:16 72:18</p> <p>invite 78:3</p> <p>involved 25:9 100:24 108:18 134:2 134:10</p> <p>ionic 3:3 15:6 15:18</p> <p>iron 119:8 119:16 119:17</p> <p>isn 40:21 67:6 102:15</p> <p>issue 28:15 44:13 46:13 49:6 50:24 53:1 58:9 72:2 72:5 73:10 90:4 98:12 105:9 113:2 136:21</p> <p>issues 20:16 48:24 49:11 49:15 49:16 49:18 50:6 51:22 51:22 72:6 109:19</p> <p>item 7:12 13:8 13:8 14:2 14:3 14:3 15:5 15:5 15:12 15:13 16:3 16:11 17:4 17:5 18:13 39:23 47:13 51:5 59:3 59:22 63:13 74:5 74:8 75:1 75:7 76:6 85:2 124:7 134:24 134:25 135:1 135:5 135:7 136:1 137:2 137:3 137:6 138:8</p> <p>items 3:15 4:11 4:12 30:4 45:11 45:19 49:10 63:11 63:12 127:23</p> <p>itself 30:24 33:18 35:10 46:8 49:6 49:10 51:25 98:12</p> <p>iv 3:10 13:8</p> <p>ix 3:18</p>	<p>james 9:17 11:5 17:11 58:1 123:22</p> <p>january 41:11 41:14 42:8 54:21</p> <p>jason 10:24</p> <p>jay 2:8</p> <p>jeff 10:8 10:10 10:17 12:6 116:16 117:9 117:11</p> <p>jefferson 2:13 9:13 9:13 65:4 65:9 66:11 67:8 67:11 67:24 68:5 68:16 68:22 68:25 69:4 69:9 69:14 69:20 70:1 70:11 70:14 70:21 71:3 71:6 72:15 75:8 76:7 88:22</p> <p>jeremiah 10:6</p> <p>jeremy 10:4</p> <p>jerk 77:10</p> <p>jerry 11:17 99:3 99:11 100:4</p> <p>jesse 12:14 14:19 88:10 89:21 92:20 94:4 123:2 134:8 135:12 136:2</p> <p>jim 99:20</p> <p>job 55:8 56:20 68:7 68:14 69:4 69:5 70:15 71:11 83:12 120:16 121:7 121:9 121:22 126:18</p> <p>jobs 70:15</p> <p>joe 128:4</p> <p>john 13:2 57:18 127:3</p> <p>joining 21:14</p> <p>joint 124:11 125:3 125:14</p> <p>july 20:2</p> <p>june 14:12 49:8 95:2</p> <p>jurisdiction 75:4 118:12</p> <p>jurisdictional 10:15 64:17 90:6 104:14 118:15</p> <p>jurisdictions 64:18</p>	<p>64:23 65:1 71:1 133:17</p> <p>just 4:15 4:21 6:17 6:23 8:11 14:5 16:19 19:22 21:7 21:12 24:21 26:11 27:2 27:6 30:7 31:22 32:20 34:6 34:9 35:7 37:12 37:12 37:18 41:3 41:9 41:20 42:6 45:2 46:14 47:11 47:19 48:17 49:12 49:19 50:25 52:23 53:24 53:25 54:16 55:16 56:25 57:20 58:22 58:24 59:10 59:18 60:15 61:10 64:20 64:21 66:19 66:21 66:25 67:3 67:4 69:24 70:17 72:15 73:9 74:8 74:9 75:2 75:5 78:13 78:17 84:3 84:13 84:21 85:2 87:1 88:14 89:7 89:9 91:11 91:13 92:7 93:21 94:2 95:9 95:17 96:18 98:6 98:8 98:11 98:25 99:4 99:5 100:8 101:12 101:21 102:18 102:20 103:23 105:16 109:4 109:5 109:7 111:1 117:22 118:18 120:23 122:2 124:22 125:1 126:3 126:9 128:4 129:9 133:12 134:18 135:21</p> <p>justification 23:15 108:12 108:16</p>
J				K
				<p>keep 35:7 53:15 68:16 93:18 129:17 132:11 132:12</p> <p>keeping 137:20</p> <p>keith 2:6 5:17 8:22 37:11</p>

kelly 12:12 12:12	92:13 97:2 97:22	larger 38:10	lens 46:17 46:19	119:6 119:25 122:5
kevin 11:13	98:3 98:4 101:8	largest 110:12	less 36:18 36:18	124:3 124:5 124:9
key 86:5 128:5	102:9 103:2 103:6	larry 10:19 12:20	52:25 79:17	124:25 128:20
killed 131:13 131:20	103:17 103:22	lashley 11:9 11:9	lessening 71:18	129:20 130:21
kiln 49:24 52:8 53:1	103:25 104:2	95:15 95:15	71:22 73:13	134:18
53:3	104:16 105:1 105:5	last 5:6 20:22 20:24	lessens 36:12	likely 30:1 47:7
kim 2:13 9:13 67:4	106:18 107:2	29:8 36:9 46:6	let 5:21 5:25 14:5	likes 38:9
77:1	107:21 107:24	48:19 52:13 62:17	18:11 33:10 54:1	lime 49:24 52:8 53:1
kind 6:20 22:16	107:25 108:19	92:8 95:9 124:13	56:25 59:21 65:3	limitation 87:12
40:19 40:20 58:23	109:5 110:5 110:9	125:7 131:13 138:8	65:7 72:15 73:21	line 29:8 39:21 40:19
71:19 82:21 84:19	110:14 112:6	lasted 99:10	76:15 78:14 80:14	43:6 49:2 52:12
87:18 88:12 89:4	116:13 117:6	late 52:14 133:7	92:13 94:3 126:9	87:25
89:7 89:12 90:4	117:13 117:14	later 31:20 55:6	127:9	lines 82:1
90:7 91:1 91:8	119:7 120:22 122:3	102:13	lets 131:9	lip 132:19
98:23 100:4 107:2	122:8 122:9 124:1	latest 91:18 91:22	letter 20:1 64:1	liquid 104:7
110:1 126:9 127:1	124:3 124:9 124:21	94:15 114:23 115:2	letting 75:25 76:12	liquor 49:25 50:2
127:8 135:13 136:7	125:15 125:17	115:4 115:5 117:15	level 23:24 86:9	51:17 119:7
136:11	125:20 125:21	117:16 117:17	128:6 128:11	list 18:8 19:4 30:2
kingsport 11:2 17:8	126:8 128:9 128:24	latter 56:5	128:12	30:5 45:11 45:19
17:14 17:16 17:25	129:3 129:16	law 34:13 66:1 66:4	liability 80:7 89:6	47:12 47:13 54:1
53:21	129:19 130:16	66:9 66:18 67:18	89:8 96:7 96:12	75:20 106:6 106:25
knee 77:10	130:18 131:9	67:20 68:20 69:2	127:11	listed 21:17 43:4
knew 93:3	132:11 133:18	69:3 70:11 70:12	liberty 13:2 13:4	47:13 67:16 74:15
know 5:24 6:20 14:5	133:20 133:21	70:17 70:22 72:9	118:16	74:22 116:18
20:23 24:5 24:23	134:15 134:20	75:6 75:15 75:16	license 99:6 99:21	listing 74:11
25:4 25:12 25:13	135:15	80:18 80:21 91:2	120:2 120:3 120:6	lists 43:9 54:2
25:16 25:19 27:7	knowledge 125:25	101:24 104:16	120:12 122:4	little 4:22 5:22 14:8
34:12 36:18 36:22	126:1	115:20 118:15	licensed 102:15	14:9 43:17 43:24
39:8 42:17 42:22	knowledgeable	134:22	103:20	86:3 86:5 90:8
48:19 49:17 51:11	56:25	laws 92:15	licensing 108:22	93:18 95:8 113:20
54:11 54:15 59:16	knows 105:18	layout 6:19	licensures 98:22	124:4 124:14
65:3 65:19 69:15	knoxville 10:22	lcr 1:22 139:24	life 34:6 50:25 76:22	130:25
69:17 69:24 70:18	122:3	lead 34:8 83:18	134:4	living 6:7 6:8
71:18 71:20 71:22	korea 132:4	leader 55:5 55:13	light 108:20	ll 4:10 5:20 5:21 6:11
72:8 72:11 73:3	kpph 22:24	leads 34:7	lighter 53:4	6:24 7:22 8:12 14:1
73:6 73:9 73:21	kvaerner 39:10	leaks 130:19	lighting 117:18	14:21 15:16 16:25
73:22 77:4 77:5	39:12 39:14 42:11	learn 4:23 81:14 83:7	lightly 37:6	17:19 19:10 19:22
78:5 78:6 78:14	59:9 59:16	83:8 83:9	lightning 50:7	25:25 26:1 26:3
79:8 79:10 79:17	L	learned 105:24	like 7:13 16:7 18:24	32:13 34:17 35:11
79:23 79:24 79:25	labeled 125:8	learning 42:22	41:3 49:20 52:20	39:2 39:19 49:23
81:16 81:17 81:19	labor 1:1 3:20 4:17	least 68:10 74:18	54:3 57:19 59:11	65:3 65:7 68:6
81:20 81:23 82:7	139:11	92:9 125:25 134:5	60:21 73:21 76:5	71:10 73:19 73:20
82:9 82:11 82:12	laboratories 12:5	leave 7:6 91:17 128:8	78:3 79:11 84:4	73:22 75:6 75:22
82:18 82:18 82:24	lack 113:24	leaving 25:9 123:19	86:22 87:13 88:14	75:23 76:5 76:7
83:1 83:2 83:6 83:8	ladies 134:13	left 30:5 45:11	88:22 93:5 99:4	90:3 90:10 94:3
83:8 84:13 84:15	lance 47:5 47:9	legal 2:16 9:15	100:18 100:25	95:12 125:25
84:16 85:9 86:6	landing 3:20	legislation 106:10	102:17 102:20	131:11 131:16
86:8 86:9 86:11	large 8:10 66:16	106:16 107:2	103:8 106:9 106:10	131:19
86:19 86:23 86:24	135:16 139:24	legislative 3:15 63:13	109:3 115:17	llc 17:5
87:4 87:9 89:11		leisure 8:8	116:25 117:14	located 3:20 15:9

17:7	lost 85:1	38:7 38:15 41:21	manufacturing	102:18 105:12
location 73:7	lot 28:1 36:20 36:23	46:16 61:17 66:25	41:15 59:8	109:9 113:10
locations 47:9 71:2	37:1 40:8 52:25	69:18 72:7 73:15	many 6:9 41:15 48:2	113:12 117:10
93:4	55:24 58:12 58:24	77:12 78:1 78:20	51:22 52:12 67:23	119:14 126:9 127:9
lockers 109:15	64:14 65:20 83:7	81:12 83:3 84:16	90:8 97:20 109:19	127:25 137:20
locomotive 110:23	83:8 83:9 95:25	84:23 89:20 92:15	130:23 132:24	mean 42:25 44:15
log 87:22 87:22 96:5	99:25 107:21 109:7	92:19 92:23 95:6	march 18:20 24:14	44:20 48:16 61:19
96:5 96:15 123:25	113:22 114:1	98:13 98:19 119:4	37:15 95:2 95:13	67:13 79:22 90:16
124:6 125:13 126:4	115:14 115:16	120:4 127:18 129:2	marked 28:11 30:1	92:13 97:23 98:2
126:10 126:12	116:1 116:10	130:9 131:21	marriage 139:17	101:24 104:1
126:13 126:16	117:19 122:7 132:4	134:21 134:22	marshall 20:2 20:7	128:17 133:1
126:21 127:10	133:13	135:17 135:23	20:10 20:11 20:13	135:25
127:10 127:18	lots 98:3	137:2	20:16 21:3 57:17	meaningful 78:10
127:24 129:7	low 51:5 51:17 82:21	makes 40:21 77:5	martin 103:5	means 77:11 79:7
logged 130:1 130:12	83:20 83:24 84:6	77:11 119:14	mary 10:12	79:23 79:24 93:14
login 125:1	84:7 84:9 84:12	making 7:4 52:23	massengale 11:15	measure 55:22
logs 101:18	84:22 84:25 96:18	63:23 71:25 125:8	11:15	measures 55:22
long 66:2 80:4	96:19 96:22 97:6	132:20 132:21	matrix 19:2 28:24	measuring 128:11
100:16 103:8	98:11 109:16	man 81:6 96:3	matter 53:11 53:12	meat 77:12 77:25
110:11 112:13	109:16 129:20	123:20 132:15	53:13 124:23	81:13 132:17
128:9	129:22 129:23	133:8	139:18	mechanical 2:6 5:19
longer 53:8 74:17	130:4 130:8 130:14	manage 34:18	maximum 38:19	mechanicals 123:16
74:20 88:2	132:8	manager 11:2 12:17	may 88:6 93:21	mechanics 38:17
look 5:7 14:15 28:1	lower 128:11	13:5 20:15 123:23	99:22 100:17	mechanism 77:21
34:20 35:5 39:21	lucky 124:12	mandate 77:3 87:20	129:13 129:15	108:23
42:4 43:7 43:8	luke 13:4 118:16	96:15 98:7 101:17	138:9	mechanisms 121:2
43:12 43:13 43:23	lunch 6:21 6:25	102:11 103:10	maybe 40:9 73:6	121:11
46:7 54:1 64:25	14:21 138:10	110:18 111:9	82:14 91:11 95:8	media 43:8 43:9
66:15 68:6 68:6	lynn 12:22 75:9 75:9	mandated 87:23	102:13 118:1	43:13
70:21 71:19 73:20		91:4 103:18 124:24	118:21 122:3	medical 9:18
79:11 80:5 81:22	M	129:19 132:7	123:17 131:22	meet 119:10 121:22
82:3 82:18 86:25	made 19:15 19:18	mandates 87:21	mc 3:3 15:6 15:18	meeting 1:8 3:7 3:18
100:19 102:17	36:6 45:20 46:8	mandating 101:11	mcintyre 12:24	4:4 4:5 4:9 4:10
103:7 104:6 110:2	55:3 59:6 63:17	mandatory 116:3	12:24 78:23 79:1	6:21 7:3 16:8 20:6
124:18	86:8 88:15	116:3 116:11	79:1 82:3 94:6	20:22 71:10 73:20
looked 18:24 26:17	mailing 103:20 106:5	116:11	94:11 94:14 94:24	74:14 74:14 76:8
33:20 33:20 33:21	main 17:7 30:14	manual 21:19 21:23	mckee 11:16	95:2 107:10 107:13
49:20 64:17 86:18	30:14	22:2 28:10 31:16	me 4:16 16:12 18:11	107:16 107:18
looking 6:10 28:13	maintain 27:21	45:25 60:24 61:6	20:11 20:13 20:15	134:18 135:8
37:1 40:14 41:9	34:25 116:20	61:13 81:3 81:7	23:8 26:14 29:16	meetings 65:13 90:17
49:18 50:8 51:13	maintenance 21:1	83:2	29:18 29:23 29:25	90:19 107:1 108:12
51:17 51:17 78:11	27:21 83:21 86:12	manuals 82:25	30:16 33:10 40:2	mellons 54:9
83:15 96:1 96:4	109:21 109:25	manufactured 40:8	40:21 41:5 42:22	melted 84:25
98:10 110:2 113:13	116:21	manufacturer 2:8	44:4 50:19 51:18	member 2:4 2:6 2:8
113:16 122:11	major 18:23 19:3	39:7 39:8 39:11	54:16 56:25 59:21	2:10 8:25 9:6 9:8
124:8	83:1 102:6 103:9	39:13 39:21 41:25	69:6 70:3 72:15	members 5:11 74:18
looks 76:5 109:3	majority 71:7	42:11 118:24	73:15 75:25 76:12	74:22 95:6 108:19
lose 91:19	make 6:24 14:8	manufacturers 5:14	76:15 77:5 81:14	136:7 137:13
loss 114:12 114:15	14:24 20:16 21:8	8:21 37:19 39:20	81:22 84:3 84:6	137:16
losses 98:14	23:3 27:9 34:6 36:7	40:23 41:9	94:3 100:10 100:11	memory 50:19

memphis 12:7 12:9 15:9	minutes 8:11 16:17 45:21 47:20 49:19	19:13 19:17 19:20 21:11 21:20 21:24	128:8	24:15 24:17 24:20
men 80:19	49:21 51:13 51:15	22:1 22:4 22:7	most 49:22 50:5 52:9	24:24 25:11 25:13
mention 46:8 90:13	87:24 88:2 101:9	22:11 22:13 22:21	67:15 67:16 90:24	25:15 25:17 25:18
mentioned 79:5	101:13 110:25	25:22 25:25 26:4	91:24 92:5 110:17	25:19 25:21 25:23
79:15 80:18 88:11	128:4 129:20	26:23 28:7 28:18	124:3 127:20	26:2 26:7 26:8 26:9
90:5 119:16 120:1	miss 93:12 105:3	28:22 29:5 29:12	mostly 49:24	26:25 27:1 27:13
121:1	missed 72:25 89:5	29:19 30:3 30:7	motion 7:14 19:10	28:5 28:13 28:17
merz 12:18 12:18	missing 43:16 72:24	31:15 33:9 33:22	19:14 19:15 19:18	28:19 28:23 29:1
85:10 85:10 85:12	mission 134:3	34:1 34:12 34:22	62:6 62:12 135:15	29:3 29:7 29:16
86:1 87:9 102:4	mississippi 121:5	35:3 35:8 35:14	135:23 136:2 136:3	29:22 29:24 30:4
102:4 103:4 103:14	misunderstand 60:2	37:9 38:25 39:3	136:23 137:9 137:9	30:9 30:10 30:18
103:17 104:9	mix 98:25	41:6 41:24 42:3	137:12 137:15	30:20 30:22 31:2
105:16 105:21	modifications 36:7	42:10 42:15 44:9	motions 135:17	31:4 31:6 31:7 31:8
127:22 127:22	38:7 38:16	44:20 44:24 45:2	motivation 27:8	31:9 31:11 31:12
messages 7:7	momentum 132:13	45:9 45:15 45:17	motor 50:12	31:17 31:19 31:21
metallurgy 36:25	monetarily 98:15	45:23 46:4 48:6	move 14:2 25:20	31:25 32:1 32:4
53:3	money 68:15 102:18	48:11 58:19 58:22	72:4 98:9	32:7 32:13 32:22
meter 104:10	103:11	59:19 59:20 59:24	moved 7:16 62:7	32:23 33:1 33:16
method 43:10 43:13	monies 121:15	60:5 60:8 60:12	137:17	33:25 34:11 34:19
43:14 118:2	monoxide 111:14	60:15 60:19 61:15	moving 13:8 15:4	34:23 35:4 35:9
micah 11:9 95:15	111:25 112:2 113:1	61:24 62:2 62:5	17:4 42:24 63:12	35:16 35:20 35:23
michael 2:8 5:11	113:2	62:8 62:11 62:16	73:5 73:7 132:12	35:25 36:3 36:6
michigan 100:6	month 6:6 18:17	62:19 62:23 62:25	mr 5:11 7:16 7:17	36:16 36:17 37:16
might 24:2 85:8	18:21 27:5 33:11	63:3 63:7 63:10	8:18 8:20 9:5 9:7	38:5 39:2 39:4
106:13 107:3	65:22 130:12	66:10 66:24 71:13	9:15 9:17 9:19 9:21	39:10 39:12 39:14
121:14 123:16	monthly 57:21	73:1 73:18 74:25	10:2 10:4 10:6 10:8	39:15 39:17 39:19
128:15	months 18:25 20:25	75:18 75:22 76:1	10:10 10:14 10:17	39:24 39:25 40:2
migrate 112:1	31:20 32:9 33:13	76:9 76:13 78:21	10:19 10:21 10:24	40:4 40:5 40:6
mike 5:16 8:20	33:17 47:8 48:5	78:24 89:21 89:25	11:1 11:3 11:5 11:7	40:11 40:14 40:17
133:11	48:9 52:19 72:25	90:15 91:6 91:16	11:9 11:11 11:13	41:5 41:6 41:7 41:8
mill 20:17 37:6 49:3	104:18 112:9	93:20 94:2 94:10	11:15 11:17 11:19	41:17 41:18 41:20
49:4 51:4 52:10	moorison 19:23	94:13 94:17 95:4	11:21 11:23 11:25	41:25 42:2 42:8
52:11 53:7 53:22	more 4:22 5:22 14:8	95:7 95:19 97:9	12:2 12:4 12:6 12:8	42:13 42:21 44:6
55:2 56:23 57:6	14:9 14:19 18:5	98:16 99:16 101:4	12:10 12:12 12:14	44:18 44:23 45:8
127:4	30:1 40:22 44:11	101:23 103:3	12:16 12:18 12:20	45:14 45:16 45:22
miller 12:6 12:6	51:6 56:1 56:6	103:13 103:16	12:24 13:2 13:4	46:1 46:2 46:6
mimic 71:5	56:17 58:17 65:20	104:8 104:20	13:11 15:19 15:25	46:11 46:12 46:15
mind 6:17 35:7 68:16	68:3 68:11 68:14	106:12 107:5 108:9	16:12 17:2 17:11	47:2 47:11 47:15
76:15 117:23	68:17 69:15 69:21	114:16 114:23	17:13 17:15 17:17	47:16 47:18 47:24
122:13 125:2	76:20 86:11 93:10	115:5 115:12	18:17 19:12 19:15	48:1 48:5 48:8
136:18	95:8 111:13 113:9	117:22 118:13	19:19 19:22 19:25	48:13 48:14 48:15
minded 92:17	117:9 134:4	123:2 123:21 126:7	20:1 20:10 20:18	48:16 48:23 49:2
minds 25:4 81:11	morelock 2:2 4:2	127:21 133:10	20:19 21:3 21:6	49:12 49:22 50:21
mine 86:19 102:19	7:11 7:18 7:21 7:25	133:23 134:12	21:7 21:9 21:10	50:22 51:10 52:1
minor 38:7	8:2 8:5 9:1 9:1 9:25	135:25 136:12	21:12 21:17 21:21	52:2 52:3 53:23
minute 5:21 85:23	13:6 13:23 14:1	136:16 136:22	21:25 22:3 22:6	54:5 54:6 54:17
87:23 101:8 110:3	15:4 15:15 15:23	137:5 137:8 137:14	22:9 22:12 22:15	54:23 54:25 56:11
110:5 110:6 111:5	16:10 16:15 17:3	137:19 137:23	22:23 23:2 23:5	56:13 57:10 57:13
126:2 134:14	18:11 18:15 19:9	138:1 138:3 138:6	23:6 23:12 23:13	57:16 57:17 57:20
		morning 4:2 5:7 8:22	23:17 24:7 24:11	57:22 58:1 58:3
				58:4 58:6 58:7

58:11 58:14 58:15 58:16 58:18 59:11 59:19 59:19 59:21 59:25 60:6 60:10 60:14 60:18 61:1 61:10 61:23 62:1 62:7 62:9 62:15 63:6 67:3 67:9 67:22 68:2 68:8 68:19 68:24 69:3 69:7 69:12 69:19 69:22 70:6 70:12 70:20 70:23 70:25 71:4 71:16 73:2 74:7 75:24 76:11 76:14 78:23 79:1 80:2 82:3 82:5 82:9 83:13 85:10 85:11 85:12 85:25 86:1 87:8 87:9 87:17 88:10 89:14 89:17 89:24 90:2 90:24 91:7 93:16 93:21 94:4 94:5 94:6 94:11 94:14 94:24 95:15 95:22 96:25 97:3 97:10 97:13 97:19 97:23 98:1 98:2 98:5 99:3 99:11 99:14 99:17 100:25 101:2 101:3 101:6 102:4 103:4 103:14 103:17 104:9 105:8 105:16 105:19 105:21 105:22 106:15 106:23 107:7 107:12 107:14 107:15 107:17 107:19 107:20 108:2 108:4 108:5 108:6 109:3 109:11 110:7 110:8 110:16 110:20 110:21 114:6 114:11 114:18 114:25 115:2 115:3 115:4 115:7 115:9 115:10 115:14 116:5 116:7 116:13 116:15 116:16 116:24	117:3 117:9 117:11 117:13 118:11 118:16 119:13 119:24 120:7 120:15 120:21 120:22 120:25 121:23 122:6 122:8 122:12 122:16 122:17 123:4 123:10 123:12 123:14 123:22 126:6 126:8 127:22 128:19 129:18 130:22 131:3 131:4 133:12 133:25 135:12 136:3 136:14 136:17 137:11 137:11 137:17 137:18 ms 8:16 9:11 9:13 10:12 12:22 65:9 66:11 67:8 67:11 67:24 68:1 68:5 68:16 68:22 68:25 69:4 69:9 69:14 69:20 70:1 70:11 70:14 70:21 71:3 71:6 72:15 75:8 75:14 75:19 76:7 95:1 95:5 106:1 106:13 106:19 106:24 137:1 137:7 mt 118:6 much 17:2 36:19 37:23 47:21 47:24 48:1 48:2 53:16 58:17 78:5 79:4 82:6 91:4 100:11 127:14 mud 87:1 multiple 84:10 93:3 121:13 murfreesboro 9:10 must 102:24 mutual 13:3 13:5 118:17 my 40:18 41:16 57:23 70:8 83:13 88:5 89:3 98:6 100:17 103:1	105:11 105:11 119:23 120:8 122:13 123:5 124:1 124:12 124:25 125:21 125:23 126:9 136:3 139:20 139:25 myself 57:5 77:2 96:3 100:14 134:5 <hr/> N <hr/> nail 90:10 124:14 nalco 10:25 name 10:1 15:22 39:9 134:4 nameplate 101:25 names 3:24 54:8 narrower 93:18 nashville 3:21 72:4 73:11 national 6:2 16:19 16:22 63:21 64:3 64:7 64:11 64:22 66:6 72:24 75:3 83:16 89:1 104:21 105:2 113:15 nationwide 11:14 125:14 natural 6:13 nature 87:4 nb131 64:24 nb23 104:22 nb264 16:20 nbic 91:22 97:1 97:6 97:14 97:17 97:22 98:7 104:7 104:22 114:22 115:10 115:15 115:22 117:25 118:1 118:14 nde 18:22 24:25 27:22 32:18 118:2 near 30:21 nearby 6:23 necessarily 46:13 80:22 96:20 126:20 132:6 need 7:7 16:19 19:10 25:6 34:3 44:13 59:1 60:2 60:16	61:2 61:11 61:12 62:5 65:6 65:10 66:19 73:15 74:13 75:6 75:15 76:19 77:22 78:6 81:9 81:11 81:16 81:17 81:18 81:18 81:19 84:5 84:14 84:16 85:6 88:4 92:13 98:8 103:21 106:20 117:5 118:8 122:25 129:16 132:11 needed 20:19 25:7 32:9 46:20 58:10 75:13 76:16 82:10 100:16 114:7 124:4 needing 25:1 needs 61:4 74:23 77:7 103:11 104:17 111:1 114:4 121:22 negate 65:5 negating 92:6 negative 111:21 neither 25:2 never 131:3 neville 11:5 11:5 11:6 17:11 17:11 17:12 17:17 19:25 26:25 46:1 48:5 57:20 58:3 63:6 new 3:13 5:10 8:24 15:5 18:7 36:20 63:11 96:10 103:24 106:9 116:8 116:9 131:17 news 131:11 131:20 131:21 132:1 next 3:18 6:6 6:22 7:12 13:8 16:8 17:4 31:13 31:18 33:11 47:7 56:20 57:7 59:13 71:10 74:5 84:8 115:6 135:7 135:10 137:3 nice 4:21 5:3 night 5:6 92:8 125:23 128:5 nights 101:1 nine 15:7 non 28:15 85:15	none 7:22 15:16 137:24 nor 111:10 norm 128:24 normally 79:12 norms 128:1 128:16 129:16 northern 131:17 notary 139:4 139:24 note 3:24 5:23 6:11 59:15 59:18 noted 61:1 nothing 54:4 101:10 101:11 noticed 43:1 november 42:5 now 8:9 14:13 16:21 25:16 29:16 29:18 36:13 44:22 46:7 51:1 52:19 53:8 55:14 56:6 56:21 67:22 68:3 68:16 74:3 77:4 77:9 79:2 81:1 83:23 88:6 88:14 90:7 93:10 94:18 94:19 96:5 101:20 104:24 105:14 106:25 107:24 113:11 114:20 115:17 115:18 116:3 116:10 116:11 116:17 116:18 116:22 117:1 117:8 117:22 118:7 131:15 132:16 135:3 136:2 nozzle 44:1 47:4 nozzles 47:3 nucor 12:6 number 13:13 13:19 17:7 22:18 23:1 28:12 39:6 39:22 39:23 47:20 59:3 64:20 65:2 65:22 66:16 67:11 68:17 69:13 69:15 69:15 71:2 88:5 103:6 110:12 110:17 131:5 131:6
---	---	---	--	--

numbers 23:6 128:16 129:11	54:2 55:5 55:7 55:10 55:20 57:6 57:18 58:8 59:12 59:21 72:19 72:19 74:8 74:9 74:10 75:12 77:24 78:12 78:23 80:3 81:5 84:11 84:21 85:2 85:17 87:20 89:16 91:10 91:17 92:9 92:25 94:2 95:23 96:1 96:5 96:6 96:14 97:25 99:22 100:23 102:14 103:24 104:10 104:10 104:10 110:21 112:18 114:14 119:18 121:9 122:12 122:22 124:10 125:2 125:11 125:17 126:13 128:19 129:1 132:23 133:17 133:21 134:2 134:18 137:12	127:15 129:14 132:9 operation 17:6 46:13 48:3 48:10 49:21 76:25 77:3 79:18 96:22 110:12 119:22 122:20 128:2 130:24 operational 21:2 48:25 51:19 operations 78:2 98:13 118:23 123:18 operator 3:16 74:6 76:14 77:17 78:18 83:7 83:20 85:5 89:25 90:2 95:18 97:11 99:7 100:22 102:20 108:1 109:10 111:7 118:20 119:18 119:21 123:6 127:9 133:15 133:19 136:13 136:15 136:24 operators 55:7 55:15 82:13 84:10 84:11 85:17 85:18 85:19 86:12 98:25 99:6 102:7 107:10 114:3 114:8 114:11 119:1	22:16 23:8 27:2 33:12 33:23 36:11 36:21 41:25 46:5 51:15 55:6 55:12 56:16 56:19 57:23 59:10 59:12 59:14 63:25 64:21 64:24 71:1 72:24 72:25 73:16 77:14 82:12 83:16 84:4 85:14 85:17 86:22 86:25 89:15 91:8 92:14 93:4 93:23 94:18 95:25 96:11 98:21 99:5 99:25 100:15 101:20 102:8 102:12 102:13 102:16 103:9 103:11 103:15 103:20 104:12 104:24 107:21 109:8 111:24 112:1 113:24 115:6 119:3 121:12 121:16 122:1 122:19 124:1 124:14 124:22 126:3 126:19 129:6 130:21 131:8 131:17 132:5 133:1 133:16 134:25 137:4 outage 27:5 28:9 29:9 31:24 32:18 36:9 47:8 47:18 48:7 48:12 48:17 50:9 50:10 outages 47:20 outcome 139:18 outlet 38:10 outlined 55:4 outside 24:3 50:3 90:16 over 6:11 43:25 47:19 52:13 53:25 54:3 59:12 65:22 72:4 73:7 80:8 81:3 111:16 112:15 114:13 114:17 123:5 125:6 125:16 128:10 128:25 overall 80:22 130:18	overlooking 24:22 overly 133:20 133:20 overtime 55:16 55:25 overview 51:21 own 109:25 127:19 133:1 owner 2:2 2:10 5:13 9:8 79:6 80:1 80:8 88:19 102:20 105:1 116:19 121:25 122:21 owners 9:4 79:23 102:7 119:1 119:2 owns 80:14 80:15 103:12
objection 135:10 observe 91:4 observed 63:9 obstructed 30:15 obstruction 30:13 obvious 26:16 obviously 90:17 occur 89:9 89:9 occurred 23:14 23:18 24:2 35:22 49:23 october 6:6 31:18 33:11 59:5 139:21 odorless 111:25 off 4:16 13:12 19:22 21:13 30:5 40:8 49:5 53:4 53:6 54:10 79:10 83:6 84:15 84:18 103:23 108:25 109:2 124:8 126:1 129:4 130:9 131:23 offered 16:5 offering 73:19 offers 68:14 offhand 67:3 office 3:20 9:12 10:23 offs 123:18 often 87:2 131:2 134:16 oil 84:18 old 3:11 14:2 14:3 94:8 103:23 116:25 132:6 older 92:9 92:11 once 61:21 76:4 86:3 87:3 110:20 130:10 130:11 one 4:6 4:7 4:21 13:21 14:3 19:23 19:24 20:8 22:15 30:10 31:10 37:1 50:11 51:14 52:3 52:4 52:18 53:23	ones 95:3 105:10 105:20 130:17 ongoing 77:8 online 79:16 83:4 open 3:15 23:16 42:19 63:12 63:13 74:9 80:16 130:5 opened 30:24 opening 23:25 38:1 opens 50:16 operate 74:21 77:1 81:16 81:20 128:14 128:15 129:15 130:3 operated 59:7 110:13 110:13 127:3 operates 17:22 110:17 operating 18:1 37:3 51:21 60:23 76:17 76:19 79:12 81:7 81:23 96:4 96:12 101:25 102:1 111:10 127:2 127:5	opportunity 35:10 48:18 opposed 7:25 62:23 138:1 opt 106:3 106:17 106:21 order 3:7 4:5 27:3 29:14 32:17 88:19 original 39:11 39:13 originally 19:24 others 33:8 56:16 77:18 78:7 82:7 131:14 otherwise 3:24 33:8 85:8 121:20 ourself 79:9 ourselves 44:22 44:22 out 5:1 16:24 18:18	pace 42:17 package 16:17 113:18 page 3:1 22:17 22:22 26:10 39:23 40:3 41:1 41:4 41:23 59:1 59:3 paid 53:6 99:15 109:16 paper 3:4 11:2 11:4 17:5 17:20 17:24 18:2 18:3 41:21 81:18 81:19 119:6 124:6 paragraph 30:21 parks 6:16 parkway 1:23 part 16:16 21:2 33:1 33:6 40:18 43:6 44:11 56:4 56:5 56:5 64:22 67:6 67:18 69:17 71:24 72:23 77:9 97:22 98:5 98:9 99:23 100:20 103:22 108:2 108:9 109:11 111:16 112:7 113:3 113:4 114:4 116:17 121:14 132:1 133:25 participate 4:9 participating 63:22 particular 20:5	
			P	

23:14 27:19 39:7 43:22 51:16 53:3 80:21 80:23 111:5 116:14 119:20 119:21 121:3 121:6 121:7 130:2 136:21	performing 25:10 61:17 84:9 84:10 perhaps 22:20 period 27:5 46:18 48:9 100:17 108:11 128:25 131:21 periodic 116:21 perking 86:5 permanently 55:9 permit 115:24 perry 11:21 11:21 persinger 10:24 10:24 person 55:23 96:23 109:14 134:2 personal 105:8 personally 20:19 29:17 31:9 103:7 personnel 6:13 81:8 109:25 123:19 125:22 127:2 127:6 127:9 peters 10:21 10:21 71:16 71:16 73:2 82:9 phase 57:3 phone 100:8 phones 7:3 phonetic 26:6 phonetically 3:24 photo 28:8 photograph 26:14 26:18 photographs 26:11 36:4 picked 64:21 picking 100:7 picture 29:4 29:8 29:10 105:17 pictures 28:20 piece 81:17 81:20 106:9 119:14 124:6 pieces 38:2 pike 104:18 pipe 113:22 pipng 30:14 30:15 pischke 2:8 5:11 7:16 8:20 8:20 41:5 41:6 41:7 41:18 41:25 42:13 59:11 62:7	62:9 105:8 105:19 105:22 133:12 137:17 pit 25:6 26:5 pitted 24:18 pitting 24:8 25:4 25:12 36:5 place 6:14 25:10 43:2 52:5 52:7 57:7 60:4 61:22 77:21 78:10 80:6 83:2 94:15 100:9 108:23 108:24 110:6 110:10 121:2 121:11 129:17 placed 16:3 places 51:4 107:25 plagiarism 88:22 plan 33:22 plans 61:4 plant 11:16 17:25 51:20 85:18 plants 18:1 85:19 plastic 52:21 plate 26:9 plates 117:19 play 112:25 122:24 please 9:25 17:10 73:21 92:12 106:25 pluggage 30:24 plumbers 102:24 103:19 103:19 113:22 plus 20:20 pmb 1:24 point 25:5 25:5 33:17 37:23 38:6 40:18 55:2 65:25 74:23 80:2 88:5 90:11 95:23 96:21 98:6 98:19 98:24 99:5 101:16 109:2 110:25 pointman 73:16 points 41:25 poisoning 111:15 policy 73:20 pool 23:23 37:4 poor 83:21 109:21 port 46:23 46:25	position 56:15 64:15 65:7 65:15 65:18 66:22 72:7 72:7 72:14 72:20 72:21 72:22 73:3 73:10 73:11 104:2 104:4 118:21 positions 65:11 66:21 66:22 70:19 positive 84:12 96:17 111:20 possession 94:8 possibly 16:23 83:4 88:17 98:8 121:2 post 104:25 posted 101:11 potatoes 77:12 77:25 81:13 potential 76:20 76:21 76:23 120:20 pounds 22:25 23:8 37:3 128:14 power 8:21 20:14 49:4 powered 82:20 practice 133:18 precedent 117:23 preemptive 51:3 prepare 75:7 prerequisite 66:2 present 4:11 17:10 26:15 26:19 35:10 45:25 54:20 76:5 77:23 89:19 133:5 136:8 presentation 7:4 14:20 78:20 presented 37:21 76:3 135:16 presenting 20:24 presently 74:18 president 11:6 pressure 4:24 9:3 10:11 15:1 15:7 36:17 42:24 42:25 43:15 51:23 79:4 82:20 82:21 82:21 85:15 85:23 91:20 91:21 92:11 93:2 93:7 93:11 103:12	109:6 111:15 111:20 111:22 112:23 113:17 118:3 126:14 128:13 129:12 129:20 129:21 129:22 129:23 pressured 119:17 pressures 43:11 pretty 26:15 34:3 50:18 79:4 88:18 91:4 133:3 prevent 45:6 preventative 116:21 previous 91:25 previously 33:4 40:15 primary 17:23 printed 57:22 prior 23:18 26:1 47:7 priority 110:1 private 65:19 68:14 privilege 134:16 probably 30:14 35:20 50:5 54:17 57:17 57:18 58:11 59:11 59:11 79:17 79:22 79:24 79:25 90:25 124:9 problem 16:9 31:3 34:15 42:1 42:1 52:6 52:20 131:10 132:2 problems 131:7 proceed 15:16 18:16 135:19 136:11 proceeded 19:1 proceedings 138:12 139:8 process 16:14 20:23 50:1 50:2 52:6 52:7 52:12 52:23 53:6 53:9 53:20 54:21 55:1 55:15 55:21 57:2 57:9 58:17 63:23 65:23 69:17 77:13 77:22 90:23 104:23 114:5 124:2 125:5 134:6 processes 52:4
--	---	--	--	--

<p>produces 111:24 113:3</p> <p>product 105:20</p> <p>production 18:2 50:6</p> <p>professional 127:6</p> <p>proficiency 85:3 85:4 85:6 119:21</p> <p>proficient 84:5</p> <p>program 44:12 60:23 60:23 60:24 61:3 119:9 133:15 133:19 133:19</p> <p>programs 121:18</p> <p>progress 55:22 57:25 82:4</p> <p>progression 75:2</p> <p>project 11:4 33:12</p> <p>prominent 50:6</p> <p>proof 28:13</p> <p>propagate 26:17</p> <p>propagates 26:21</p> <p>propagating 28:9</p> <p>property 76:22</p> <p>proponent 88:21 126:12 126:16 127:13</p> <p>propose 88:14</p> <p>proposing 89:10 136:14</p> <p>proposition 113:12 119:19 122:22 132:10</p> <p>protect 34:10</p> <p>provide 29:20 60:2 89:2 89:4 106:21 118:25 121:12</p> <p>provided 3:24 16:17 16:20 19:8</p> <p>provides 123:6</p> <p>providing 91:3</p> <p>provisions 16:21</p> <p>psa 24:24 32:14 32:21 34:24 35:21 45:5 60:21</p> <p>psi 129:14 129:15</p> <p>pt 118:6</p> <p>public 4:9 89:15 104:23 105:17 105:17 132:22 132:24 135:16</p>	<p>139:4 139:24</p> <p>pull 54:7 73:8</p> <p>pulling 72:3</p> <p>pulp 17:23 18:4 119:6</p> <p>pump 36:11</p> <p>pumped 36:11</p> <p>punch 19:4 30:2 30:5 45:11 45:19 47:12 47:13</p> <p>purchase 91:5</p> <p>put 16:24 30:1 33:13 36:9 46:5 52:4 52:7 56:25 72:20 77:22 78:9 81:10 81:13 83:14 88:13 90:23 100:13 112:8 112:11 112:17 112:19 120:22 121:18 128:9 132:17 133:1 135:2</p> <p>puts 80:7 83:16</p> <p>putting 89:7 111:4 111:12 121:15 132:13 132:14 132:17</p> <hr/> <p style="text-align: center;">Q</p> <hr/> <p>qc 43:2 43:4</p> <p>qualification 71:19 73:17 79:21 88:24</p> <p>qualifications 55:16 71:24 73:13 80:7 88:20</p> <p>qualified 56:18 65:6 65:10 65:16 72:13 79:6 82:12</p> <p>qualify 55:12 80:1</p> <p>qualifying 56:6 56:19 80:8 80:12</p> <p>quality 44:12 55:20 60:24</p> <p>quarter 52:18</p> <p>quarterly 1:8</p> <p>question 7:22 18:12 26:13 30:11 30:11 33:10 37:12 48:19 59:22 62:20 80:10 80:11 87:10 94:6 114:17 119:13</p>	<p>120:7 124:25</p> <p>questions 13:23 15:2 19:6 19:11 19:21 21:13 21:16 22:16 37:10 39:1 44:25 58:20 62:17 67:1 74:2 78:21 79:9 118:18 123:1 123:24</p> <p>quick 6:12 77:9 123:24</p> <p>quite 37:25 49:20 77:15 88:9</p> <hr/> <p style="text-align: center;">R</p> <hr/> <p>rainey 12:4 12:4</p> <p>raise 4:11</p> <p>raised 98:17</p> <p>raising 107:21</p> <p>ran 18:24 46:18 66:11</p> <p>randall 10:2 11:7 12:12 15:25</p> <p>randy 12:4</p> <p>rate 38:19 38:20 53:12 133:8</p> <p>rationale 41:17</p> <p>rationalize 27:12</p> <p>ray 11:15</p> <p>rbi 60:23</p> <p>re 4:11 6:6 6:8 6:9 6:20 14:23 16:6 16:16 21:18 22:8 24:22 27:4 27:6 27:14 28:2 28:10 30:19 33:7 33:9 33:14 34:9 37:3 42:19 45:20 48:7 49:24 53:25 54:11 55:14 56:8 56:9 56:19 56:23 57:1 57:3 58:13 58:16 61:3 61:7 61:19 63:11 66:23 70:17 71:22 72:24 73:6 73:12 73:14 74:14 79:8 79:13 81:6 82:25 83:17 85:13 85:22 86:22 87:1 87:18 90:4 91:4</p>	<p>91:13 91:24 92:5 92:16 92:17 93:12 93:24 94:7 94:17 94:22 96:20 98:4 98:10 100:19 101:16 101:24 102:2 102:10 102:13 102:17 102:18 103:1 103:9 103:25 104:1 104:3 104:21 104:25 105:2 105:2 105:19 106:25 107:23 108:19 113:16 114:10 115:21 116:1 116:8 116:9 116:9 116:10 117:15 117:24 118:19 118:25 119:3 120:9 120:19 121:21 122:11 123:7 123:8 123:11 123:12 123:19 124:7 124:11 124:16 124:18 124:22 126:24 126:25 127:7 127:12 127:15 129:4 129:5 129:19 130:1 131:18 132:1 132:18 132:19 132:20 132:22 132:23 133:2 134:20 137:1</p> <p>reached 70:25</p> <p>reacted 23:24</p> <p>reaction 77:10</p> <p>read 33:4 91:22 115:15</p> <p>readable 102:22</p> <p>reading 45:3 47:19 49:12 49:14 54:13 117:8</p> <p>readings 26:5 112:3</p> <p>reads 33:18 91:13</p> <p>ready 63:8 75:2</p> <p>real 6:11 89:8</p> <p>reality 37:22 125:25</p> <p>realize 27:6</p> <p>realized 66:1</p>	<p>reason 24:13 24:18 24:21 28:19</p> <p>reasoning 33:2</p> <p>reasons 52:4 57:6 133:14</p> <p>recall 35:18</p> <p>recap 58:23</p> <p>recaust 49:24 52:8</p> <p>received 64:25 134:13</p> <p>recently 5:12</p> <p>reception 5:6</p> <p>recess 63:9</p> <p>recognizing 51:6 107:9</p> <p>recommendation 33:4 38:17</p> <p>recommendations 32:2 32:15 33:7 136:9 136:18</p> <p>recommended 35:6 47:8 64:22 93:17</p> <p>recommending 34:6</p> <p>reconsider 89:12</p> <p>record 10:1 21:21 26:11 70:2</p> <p>recordkeeping 51:12</p> <p>records 54:19 61:2</p> <p>recovery 17:7 20:3 20:11 20:14 20:14 22:18 23:22 27:17 28:1 36:22 49:6 49:7 49:10 50:3 50:7 53:17</p> <p>recurring 49:15</p> <p>red 83:24 129:8</p> <p>redundant 64:9 66:7</p> <p>reference 28:2 91:2 92:8 92:9</p> <p>references 91:11 91:18</p> <p>referring 30:19</p> <p>reflected 22:9 54:24 61:4</p> <p>reflectively 52:14</p> <p>refractory 32:17</p> <p>regard 72:16</p> <p>regarding 90:5 94:7</p> <p>regional 12:17 13:5</p> <p>register 102:24</p>
---	---	--	---	---

<p>104:15 registration 16:22 regular 48:17 94:12 97:16 regulate 118:19 122:11 regulating 120:19 regulation 6:4 14:6 73:25 83:3 106:2 122:10 regulations 4:18 12:23 82:19 82:24 94:9 95:17 139:12 reinhart 11:13 11:13 reinstalled 46:21 reinvent 95:21 95:24 related 49:5 51:23 51:24 51:24 113:21 139:15 relates 53:24 111:16 113:5 relationship 34:24 reliability 52:24 53:11 relief 22:18 22:24 38:8 38:11 42:25 43:7 44:4 129:24 130:11 rely 53:10 remember 66:17 70:3 71:8 71:8 117:25 remind 107:1 remote 109:21 removal 33:2 63:19 63:20 63:22 63:24 remove 23:16 25:6 32:9 35:12 36:1 66:4 removed 31:7 31:24 32:5 59:4 64:4 69:1 removing 32:16 renew 62:13 renewal 17:6 17:18 18:6 18:8 21:17 21:18 22:8 renewals 98:22 rental 122:14 123:5 reorganization 3:2 3:12</p>	<p>reorganize 14:4 93:10 rep 32:9 repair 43:1 44:19 92:3 repaired 43:21 44:2 repairs 46:16 91:20 replaced 25:2 25:3 30:25 43:21 46:21 47:10 47:14 replacement 47:5 47:9 replaces 5:15 replied 64:13 report 3:10 13:10 13:22 13:24 17:10 29:13 30:12 30:19 32:14 32:21 39:20 40:23 41:10 42:12 45:3 46:9 51:11 57:21 57:23 58:12 59:10 59:17 83:15 83:16 90:18 90:19 135:18 reported 20:15 reporter 3:24 3:25 8:13 8:14 9:23 15:21 97:2 reporting 1:23 8:15 reports 18:7 18:9 18:10 19:7 23:19 24:25 40:25 43:18 44:8 49:13 54:7 83:18 131:16 represent 5:19 9:3 representative 2:2 2:4 2:6 2:10 15:17 88:16 90:19 representatives 89:15 representing 5:13 5:19 8:21 9:8 15:20 17:12 request 16:3 17:17 62:12 requesting 15:7 64:1 requests 17:5 require 64:18 66:17 68:3 68:9 69:20 78:15 81:1 90:21</p>	<p>97:11 98:21 99:6 108:14 required 24:4 27:17 32:5 47:4 67:19 67:23 68:11 68:21 69:16 69:24 70:10 87:11 90:9 97:6 97:13 105:10 requirement 27:21 64:4 64:8 66:4 66:5 66:8 69:1 69:6 77:20 97:1 106:18 108:13 120:19 121:6 128:6 requirements 63:18 64:5 64:17 64:24 70:16 70:22 76:24 77:17 77:18 77:19 78:18 88:24 90:7 91:12 93:4 119:11 120:12 121:22 requires 28:3 98:22 104:23 rescinded 34:9 34:16 research 110:4 resigning 6:1 resolution 30:17 resolved 59:9 resource 69:10 response 7:10 7:20 7:24 8:1 8:4 13:25 15:3 15:14 18:14 32:25 45:1 58:21 62:4 62:18 62:22 62:24 63:2 73:23 110:15 127:23 137:22 137:25 138:2 138:5 responsibilities 74:12 responsibility 112:24 responsible 20:4 20:8 105:23 112:22 118:25 122:20 123:7 rest 5:8 108:14 restamped 38:18 restaurant 104:11 104:13 105:1 105:15</p>	<p>restaurants 104:6 result 65:16 resulting 23:17 retirement 57:3 retract 108:13 retrofitted 87:13 revamp 88:4 revamped 111:1 revealing 36:4 revenue 17:21 17:25 review 57:12 57:13 58:2 71:12 104:23 118:8 reviewed 19:7 24:11 45:18 57:15 reviewing 23:19 revised 14:14 42:14 74:23 revising 21:19 revision 14:12 21:22 92:18 revisions 18:8 revolution 132:3 rhone 9:11 9:11 68:1 95:1 95:5 rich 112:5 112:7 richard 9:19 12:10 right 6:22 7:11 7:21 20:10 21:13 22:3 25:15 25:17 26:1 26:15 29:16 29:18 34:19 35:3 35:15 36:21 38:23 39:17 41:14 50:9 50:19 53:12 54:25 56:12 56:14 57:21 60:11 70:14 71:25 76:7 76:10 79:2 81:1 84:2 86:1 87:18 88:9 91:16 94:18 94:19 97:9 98:1 101:20 101:24 102:2 103:15 105:2 105:14 112:23 127:12 129:3 133:10 134:12 136:1 136:2 137:15 137:19 138:6 risk 25:9 34:18 ritter 12:20 12:20</p>	<p>robinson 2:4 7:17 9:5 9:5 19:15 21:12 21:21 21:25 22:9 22:12 22:15 23:2 23:6 23:13 24:7 24:15 24:20 25:11 25:15 25:18 25:21 26:9 27:1 28:5 28:13 28:17 29:1 29:22 30:10 30:20 31:2 31:6 31:8 31:11 35:16 35:23 36:3 36:16 70:25 71:4 89:14 99:11 107:12 107:15 107:19 108:4 108:6 115:2 115:4 115:9 116:5 131:3 137:18 rolling 95:25 ron 12:16 114:6 room 5:3 8:10 55:7 55:14 56:3 86:7 98:4 100:2 102:14 109:8 112:3 135:9 rooms 112:6 root 52:5 rosa 6:16 round 5:20 routine 48:17 row 53:14 53:14 rt 118:6 rule 3:2 3:12 3:17 3:17 14:4 14:14 14:20 63:16 79:2 80:6 80:24 85:23 87:21 87:23 88:1 88:4 89:23 90:3 91:18 93:2 101:8 103:9 110:3 110:5 110:6 110:22 115:21 129:20 135:5 rules 1:2 1:9 3:18 4:4 14:8 66:19 74:10 74:12 74:17 75:14 82:19 82:24 86:10 87:14 91:9 91:13 92:15 92:21 93:19 94:9 102:6 102:21 103:19 104:7</p>
---	---	---	---	--

134:21 run 18:18 18:21 34:14 38:6 51:7 53:7 53:10 60:1 60:7 67:19 109:20 112:5 131:22 running 36:12 42:16 42:19 60:25 66:23 112:6 129:5 runoff 23:22 runs 53:13 53:14 rupture 24:10 ruptures 24:16 24:18	128:15 129:21 130:2 136:19 sand 89:7 sanders 10:6 10:6 sarvela 13:2 13:2 satisfied 61:21 satisfy 120:18 saw 92:7 92:25 107:5 say 7:23 24:2 29:25 30:18 39:9 57:19 61:6 62:20 65:1 65:2 68:17 70:2 72:16 80:14 80:24 92:22 95:1 100:25 102:18 102:22 107:15 113:15 119:5 121:25 122:2 122:21 137:24 saying 33:7 35:17 68:9 68:25 100:9 101:15 102:10 104:21 116:9 116:10 117:16 117:24 says 20:2 29:6 34:13 39:16 40:24 45:5 47:3 68:20 85:13 88:1 91:23 97:18 113:7 118:12 scaffolded 28:21 28:25 29:9 scale 128:12 scaling 129:5 scallop 26:9 scary 132:10 schedule 32:12 scheduled 3:19 28:24 31:13 47:8 59:4 135:8 schedules 5:1 school 79:19 82:16 121:4 121:8 126:23 127:7 schools 9:22 109:7 109:13 109:23 121:13 schroeder 12:22 12:22 75:9 75:14 75:19 schwonke 12:16	12:16 114:6 114:6 scope 19:2 27:23 89:22 seals 26:10 seams 112:1 seat 44:1 seats 43:15 second 7:17 19:19 19:20 30:20 54:14 55:10 55:13 56:6 56:15 59:22 62:14 62:15 62:17 94:3 137:10 137:18 secondary 129:23 130:10 130:15 secretary 2:18 8:17 14:11 section 16:21 22:6 29:9 sections 93:9 sector 68:14 security 6:13 125:22 see 5:3 5:4 14:17 14:22 16:25 19:4 27:1 32:9 34:4 34:4 41:10 43:4 44:3 49:23 53:10 68:12 76:15 76:18 78:15 81:15 84:11 86:13 90:3 93:7 93:8 103:8 109:12 119:12 124:5 125:19 127:9 128:20 129:1 130:23 130:25 131:4 131:5 131:7 seeing 35:19 81:15 81:21 seek 32:7 seem 54:2 seen 35:25 36:23 36:25 84:24 88:23 123:10 123:15 segment 17:23 18:1 80:21 segments 17:22 52:22 segregated 80:23 selected 93:22 send 59:17 60:10	61:11 79:18 90:18 95:11 95:12 100:10 124:12 sending 126:19 sends 61:5 sense 73:15 77:11 118:20 119:14 sent 20:2 42:12 63:25 63:25 74:2 separate 17:22 separator 49:8 september 1:10 14:13 139:13 serious 37:8 132:20 serve 65:6 65:17 served 134:11 serves 50:19 104:11 service 6:9 12:25 16:24 105:4 132:20 serving 8:23 sessions 7:1 set 22:24 27:4 38:14 55:3 55:8 55:10 55:10 56:7 56:8 56:9 64:23 74:17 82:11 82:14 99:20 123:16 139:20 sets 80:7 setting 123:7 seven 74:2 74:2 77:15 several 4:15 16:4 24:8 57:4 123:4 shale 53:2 shall 113:8 113:11 115:17 115:18 115:23 116:20 117:1 shalls 116:18 116:23 118:7 shape 105:4 sheet 8:7 22:17 22:17 87:22 87:22 123:25 124:6 124:7 125:1 125:9 126:4 126:10 126:13 126:16 126:21 127:18 127:25 129:7 sheets 23:4 96:5 96:6 96:16 125:13	126:12 127:10 127:10 shelby 77:20 95:17 96:1 96:14 99:5 100:5 107:8 108:5 108:10 108:13 shelbyville 108:4 shibley 127:16 ships 113:17 shop 41:11 42:4 44:10 shops 42:16 short 33:16 35:6 56:17 91:3 131:21 shouldn 72:9 shoulds 115:16 116:22 118:7 show 26:19 71:9 76:15 84:6 85:6 88:7 109:9 123:17 127:7 showed 26:5 showing 22:8 28:9 29:13 29:14 86:6 shows 39:22 54:7 54:8 128:10 shut 34:16 46:14 79:10 84:15 84:17 90:5 124:8 126:1 130:8 130:9 shuts 50:17 shutting 51:5 sick 54:9 54:10 side 6:16 6:16 79:19 81:19 99:24 sides 11:1 11:1 17:13 17:13 20:10 20:19 21:6 21:9 23:17 24:17 24:24 25:13 25:17 25:19 25:23 26:2 26:7 27:13 30:22 31:4 31:7 31:9 31:19 31:25 32:4 33:16 33:25 34:11 34:19 34:23 35:4 35:9 35:20 35:25 36:6 36:17 37:16 38:5 39:10 39:14 39:17 40:6 44:18 44:23 45:8
--	---	---	---	--

S

46:11 46:15 48:14 48:16 49:2 49:22 50:22 52:1 52:3 54:5 54:17 54:25 56:13 57:13 57:17 57:22 58:6 58:11 58:16 59:19 59:21 59:25 60:6 60:10 60:14 60:18 61:10 61:23 62:1 sight 87:25 91:19 sign 8:8 43:2 104:10 106:5 106:6 signature 41:11 signed 41:14 59:14 significance 108:22 signing 83:6 silence 7:2 similarly 130:3 simple 37:12 78:17 simplistic 19:23 since 4:20 8:10 20:8 50:9 55:5 94:19 94:21 122:2 single 52:11 56:7 56:8 sir 23:12 30:9 38:4 38:24 39:14 39:25 48:1 59:20 95:14 99:2 102:4 127:21 sisters 81:10 sit 4:22 75:5 site 40:8 61:17 61:25 63:5 86:22 114:10 122:15 123:9 123:19 sitting 86:4 99:22 situation 66:12 66:23 73:12 119:15 sitz 11:25 11:25 six 31:20 33:17 52:19 99:10 99:21 101:1 101:3 size 78:16 119:18 122:22 sized 50:18 skim 93:25 skin 92:22 slash 109:10 slow 77:13	slush 18:3 small 105:16 131:5 131:7 smelt 23:10 23:22 23:23 23:24 31:23 31:23 32:10 32:16 33:15 33:23 35:12 35:18 36:1 36:8 36:11 36:11 37:4 59:4 59:22 smith 12:14 12:14 14:19 88:10 88:10 89:17 89:24 90:2 90:24 91:7 93:16 93:21 94:5 123:4 123:12 128:4 135:12 135:12 136:3 136:14 136:17 sneed 11:3 11:3 17:15 17:15 18:17 19:12 21:10 22:3 22:6 22:23 23:5 23:12 24:11 26:8 28:19 28:23 29:3 29:7 29:16 29:24 30:4 30:9 30:18 31:17 32:7 32:22 39:24 40:2 40:5 40:14 44:6 45:14 45:16 45:22 47:11 47:16 47:24 50:21 58:14 snyder 10:12 10:12 society 133:3 software 57:23 solar 133:1 solution 16:5 16:6 solutions 3:3 15:6 15:18 solve 136:20 solved 16:9 solving 52:6 somebody 7:4 68:13 72:3 73:16 79:5 79:18 79:18 80:1 81:21 86:7 88:18 91:13 97:12 104:17 120:17 122:18 128:14	somehow 41:3 someone 61:13 66:12 something 14:24 29:14 44:18 64:21 65:11 66:13 67:20 77:23 78:10 81:17 82:11 82:15 83:14 84:1 84:4 85:8 87:6 87:19 89:5 89:11 89:18 93:12 93:25 100:18 102:21 103:8 103:11 103:18 104:4 106:10 106:14 109:4 117:4 122:5 128:10 128:17 129:6 sometimes 109:19 somewhat 32:19 44:5 47:21 somewhere 40:18 41:3 93:13 130:21 133:16 133:17 sonoco 10:20 sooting 129:5 sorry 5:14 15:21 107:14 108:6 108:8 135:11 sought 18:18 71:1 source 84:18 southeast 12:17 13:5 southwest 99:7 100:5 121:1 spacecraft 133:1 spangler 12:2 12:2 speak 4:12 9:23 9:25 65:4 65:8 82:13 speaker 95:20 special 16:7 64:6 specialized 119:5 specials 15:8 specific 55:4 93:25 95:9 126:17 127:18 128:1 129:11 specifically 4:18 53:20 123:13 specification 79:7 specifics 80:17 spelled 3:24 spent 56:4	spindle 43:20 spoke 16:2 23:9 spot 34:17 spout 23:25 36:9 spouts 48:19 48:20 spread 100:15 spring 33:24 stack 111:17 111:17 111:20 112:10 112:24 128:21 128:21 128:23 129:13 staff 65:24 stainless 52:22 stamp 44:12 44:17 stamped 16:18 16:19 16:19 40:9 40:12 40:13 stand 75:9 127:1 138:9 standard 25:10 27:19 standardize 125:12 standardized 123:25 124:5 125:1 125:9 125:21 126:4 126:4 126:10 126:13 127:14 standards 27:16 94:7 standing 135:1 standpoint 41:21 41:22 42:16 47:19 54:12 80:5 81:22 96:3 97:11 120:8 126:22 130:24 start 8:13 13:12 19:22 53:9 78:9 84:1 100:21 131:16 132:16 started 83:11 83:17 84:4 106:3 108:21 133:6 starting 90:11 130:21 state 1:1 1:8 2:14 2:16 2:18 4:25 8:24 10:22 11:18 11:19 11:21 11:23 11:25 12:3 12:8 12:11 12:12 12:14 13:13	13:16 14:11 14:25 22:14 27:16 27:20 32:8 35:2 38:9 39:4 40:3 40:24 41:2 45:6 60:21 60:24 64:1 64:16 65:18 65:20 70:15 71:23 72:17 74:15 77:19 77:21 78:11 79:5 79:19 81:12 83:5 85:7 85:13 85:22 89:4 93:6 94:16 95:21 97:20 98:10 99:4 100:20 101:6 101:17 102:16 102:20 103:11 103:15 103:20 104:13 104:16 107:7 114:20 115:1 115:19 116:4 116:7 119:4 122:19 122:19 123:25 133:15 135:13 139:2 139:5 139:24 stated 22:18 statement 33:18 35:17 60:11 116:6 states 22:2 40:25 66:15 66:16 71:7 77:14 77:16 78:15 78:15 78:17 88:23 131:17 statewide 95:18 static 111:21 stating 28:10 91:12 118:5 stations 75:17 stats 66:17 status 54:9 90:20 stay 57:2 103:7 steam 11:10 11:12 12:25 22:20 22:25 43:9 95:16 97:4 99:6 106:16 110:24 110:25 119:18 126:14 129:22 steaming 37:21 53:12 steel 12:7 52:22 step 52:6 54:13 54:14
---	--	---	---	--

56:19 stephen 12:18 steve 11:1 11:21 17:13 19:23 20:6 20:13 20:21 20:22 20:23 35:24 85:10 85:11 90:4 102:4 127:22 stick 32:11 67:21 sticking 98:24 still 19:1 21:3 23:8 37:2 38:20 44:18 46:2 51:24 57:3 65:1 74:22 74:23 86:4 88:3 92:10 94:11 94:22 99:23 127:17 132:4 132:5 133:2 133:7 stone 1:23 8:15 54:10 stonecrest 9:18 123:23 stood 22:16 stop 26:19 51:7 84:14 84:15 87:10 87:11 134:19 stopgap 55:22 stopped 26:24 28:11 28:14 29:13 29:15 59:3 stops 87:12 story 131:22 straight 137:20 street 17:8 strike 50:8 struggling 134:21 stuck 57:14 studied 37:19 study 37:18 37:20 38:21 81:17 stuff 46:3 93:5 115:18 115:22 116:9 116:10 117:20 123:20 127:13 128:5 stupid 102:17 subject 118:12 submit 74:25 submitted 71:9 76:2 successful 14:9 18:18 successfully 16:25	sufficient 128:7 suggest 93:18 suggested 25:3 35:17 suite 1:24 summaries 45:4 summarize 61:9 summations 45:5 super 38:10 47:15 75:24 superintendent 20:3 20:12 20:14 supervisor 9:12 12:25 supply 9:9 124:13 126:15 supplying 105:20 supposed 79:11 85:14 85:21 98:4 128:25 sure 21:8 27:13 41:21 61:17 63:8 69:18 70:4 79:22 83:3 84:17 90:13 92:15 95:6 98:3 112:4 114:11 120:4 122:6 123:14 125:8 129:2 130:9 surely 133:2 surge 49:3 suspect 41:12 switch 90:6 130:25 131:1 system 116:19 116:20 133:2 <hr/> T <hr/> table 58:8 78:7 78:14 100:5 100:13 109:1 109:2 122:25 127:18 134:2 tacking 136:18 tag 103:23 tagged 125:4 125:9 tags 125:4 125:4 tailored 119:19 126:17 127:24 take 6:14 8:11 33:23 37:5 37:8 44:13 44:19 53:4 57:7 66:3 68:13 72:20	77:10 80:25 81:23 81:25 82:16 83:2 83:22 85:5 89:19 99:19 99:21 120:8 134:5 136:10 taken 29:10 33:19 40:21 60:3 103:14 108:25 109:2 114:13 139:8 takes 14:13 100:12 109:15 110:24 111:1 134:4 taking 5:1 50:13 58:16 81:14 96:11 talent 56:25 57:1 talk 4:23 34:23 69:10 100:5 100:5 100:6 100:6 113:14 114:1 117:14 talked 65:12 75:12 78:14 99:17 99:18 127:24 talking 23:19 31:22 56:7 73:6 79:13 79:14 79:16 94:7 100:8 109:5 114:5 116:2 129:19 132:18 135:15 talks 47:2 92:20 117:18 117:19 117:20 tank 23:21 23:23 23:24 105:11 126:14 tanks 104:7 105:24 117:21 target 122:10 tasteless 112:1 tca 3:15 teach 97:24 teacher 109:8 109:10 tech 22:17 22:17 technical 40:22 46:3 80:5 96:3 99:24 121:1 technically 83:9 91:2 teeth 79:22 82:15 101:14 118:14 tell 5:22 40:2 84:13 92:22 92:23 93:15	102:16 104:17 106:17 telling 129:8 temperature 128:21 128:21 128:24 129:12 129:13 temporary 46:17 46:18 ten 63:19 64:18 65:1 66:4 66:8 66:12 67:15 67:17 67:19 69:1 73:6 tend 85:23 tennessee 1:1 1:8 1:24 2:14 2:16 2:18 4:3 4:25 6:4 8:24 9:2 9:6 10:22 11:2 11:18 12:3 12:9 14:4 14:11 14:25 15:8 15:10 17:8 17:14 17:16 17:25 35:2 39:5 63:14 63:22 64:16 75:6 76:2 76:6 77:19 87:14 94:8 97:20 99:8 100:20 103:23 104:16 107:8 108:14 114:20 115:1 116:8 118:4 125:20 135:13 139:2 139:5 139:10 tentative 89:4 tenure 100:17 term 56:17 test 23:4 27:22 30:13 42:25 43:8 43:9 43:10 43:11 43:13 43:13 43:14 43:15 43:24 44:3 81:14 81:24 81:24 81:25 82:16 84:6 85:5 118:3 121:7 121:9 tested 43:22 44:4 testing 27:23 43:1 43:8 43:24 75:3 83:4 84:5 116:15 116:21 testings 116:1 texas 100:6 112:9 thank 4:16 4:25 5:5	5:6 13:6 13:22 15:24 17:2 17:3 21:13 31:8 31:11 38:24 41:7 53:23 58:18 63:5 63:6 70:24 73:19 76:10 94:5 117:11 134:17 135:4 137:20 thankful 14:23 thanks 13:11 75:24 76:11 82:5 94:4 117:7 their 15:9 16:7 17:6 21:19 21:22 25:4 33:7 38:16 42:1 42:12 42:18 44:14 48:9 57:4 57:25 59:10 66:18 66:19 71:20 71:21 76:21 79:25 83:16 88:20 88:23 98:18 103:24 104:25 106:3 108:12 108:16 109:25 119:9 120:12 them 4:12 6:15 7:5 7:6 15:20 16:5 16:5 16:14 16:20 16:25 25:3 28:14 34:25 44:16 44:22 45:12 48:21 52:19 55:24 55:25 65:2 67:15 67:16 90:23 91:1 91:5 95:2 97:24 99:17 101:9 102:8 102:17 103:10 103:21 104:5 104:13 104:15 104:17 105:4 106:22 111:18 112:12 124:15 129:17 132:6 132:7 132:16 theme 135:14 themselves 5:22 8:12 91:15 therefore 119:11 thermal 37:20 38:21 thermometer 129:2 thermometers 129:3
---	---	---	---	---

<p>they 9:23 15:6 16:2 16:6 16:6 16:8 16:8 16:12 16:17 16:18 17:1 20:15 21:18 22:8 24:9 29:10 32:2 34:3 34:9 34:25 35:1 35:5 36:10 37:19 42:12 42:19 44:9 44:13 45:20 47:12 47:12 47:13 49:24 53:10 54:3 55:24 55:25 56:8 56:9 56:9 56:23 57:8 59:9 59:10 59:10 59:13 61:19 64:14 64:16 66:18 66:19 66:19 67:14 69:11 69:17 72:4 74:1 78:8 79:10 79:25 80:13 83:17 84:17 85:22 86:11 86:11 86:12 86:18 88:19 90:25 91:2 91:13 92:16 93:7 93:8 95:12 97:7 97:16 97:17 97:24 97:24 99:5 99:7 101:7 101:9 101:10 101:12 101:12 101:18 101:19 102:12 102:13 102:13 102:16 102:17 102:18 103:6 103:25 103:25 104:24 105:5 105:12 105:19 105:22 106:18 106:20 107:10 107:11 107:12 107:15 107:17 107:20 107:23 108:1 108:19 108:19 108:20 109:8 109:24 110:18 111:22 113:15 115:19 117:25 118:25 119:3 119:7 119:9 119:10 120:12 120:15 121:21</p>	<p>122:3 123:7 123:8 123:11 123:12 123:15 123:16 124:16 124:18 124:25 125:12 127:6 127:17 130:3 130:13 130:14 131:18 132:5 134:19 136:9 thick 92:21 thing 4:21 51:21 53:24 70:8 74:9 80:16 83:10 84:3 88:25 91:1 91:9 91:17 92:7 96:6 103:4 105:17 106:1 110:1 118:14 121:10 121:24 124:10 125:11 127:24 128:13 131:25 things 27:14 36:21 40:20 43:21 48:2 48:17 49:14 52:12 53:9 53:15 69:18 74:11 74:15 74:20 78:12 79:9 80:4 83:18 84:22 87:4 87:20 90:8 92:25 95:23 96:1 96:2 96:14 98:3 100:23 111:13 114:1 114:14 115:15 122:12 126:24 128:19 130:23 136:18 think 14:15 16:8 19:23 22:1 28:12 28:19 29:3 31:17 34:19 37:24 41:24 50:19 53:19 54:17 58:9 59:8 60:1 70:3 71:18 71:23 72:9 73:14 73:15 76:3 76:16 78:8 78:11 81:13 89:6 89:15 90:15 93:15 96:2 96:16 96:19 97:21 99:24 100:23 101:15 103:25 106:5 107:3 113:9</p>	<p>114:4 114:9 119:19 119:25 120:8 120:16 126:20 127:19 131:6 133:4 133:16 133:21 134:1 134:9 134:10 137:12 thinking 33:10 81:25 83:25 88:5 96:11 third 27:25 35:1 56:18 thomas 12:2 thompson 56:2 thought 77:22 119:23 120:23 120:25 134:6 thoughts 32:24 78:5 78:7 82:8 83:13 84:3 thousand 22:24 102:23 three 47:16 67:24 67:25 79:9 84:22 133:17 through 16:14 20:23 45:3 49:13 51:2 51:13 52:15 57:2 75:2 83:17 86:7 90:3 92:18 93:14 104:15 105:5 107:22 112:1 121:16 125:17 128:4 throw 98:25 throwing 84:3 126:3 ticking 124:22 tight 43:15 tim 11:23 101:6 timbuktu 125:15 time 4:22 5:1 6:24 18:18 18:21 20:24 27:15 31:22 33:5 35:22 37:3 46:18 47:21 48:2 48:9 48:12 51:16 65:14 65:25 74:24 78:20 80:4 81:3 81:5 84:8 85:16 85:20 86:3 86:13 86:22 88:5 90:13 93:6 96:21</p>	<p>96:23 100:15 100:16 102:6 106:7 107:10 108:11 110:11 110:24 124:22 124:23 128:10 129:1 131:15 131:22 132:16 133:5 134:6 136:19 timeline 94:24 97:17 times 41:15 51:6 tmn 26:6 tn 3:21 today 5:3 15:18 20:16 61:16 61:25 90:10 92:3 110:12 115:12 133:8 together 4:22 71:12 78:9 78:19 81:10 82:17 83:10 83:11 83:14 90:23 100:14 111:4 113:19 132:14 132:17 toiling 88:12 told 102:24 tons 18:2 18:3 took 33:19 38:5 49:7 49:19 50:22 51:14 66:14 84:21 84:22 85:2 99:8 108:17 121:8 toole 13:4 13:4 118:16 118:16 119:24 120:15 120:22 121:23 122:8 122:16 tools 36:21 tooth 124:14 toothed 114:13 top 28:8 30:21 54:15 83:19 topic 133:9 topics 93:22 tosha 135:9 total 13:15 13:16 13:18 touching 81:15 tough 65:25 towards 121:15 track 56:22 56:23</p>	<p>127:12 tracking 57:2 63:15 train 55:24 57:6 81:21 84:7 109:24 113:5 119:8 119:14 119:17 121:3 trained 55:9 55:25 56:1 109:16 109:16 111:8 120:5 120:5 123:13 127:4 132:8 132:9 training 3:16 53:24 53:25 54:1 54:2 54:11 54:13 54:15 54:19 54:21 55:1 55:4 55:16 55:21 57:9 57:14 57:24 58:5 58:17 61:1 61:2 61:3 61:12 74:6 76:15 76:16 77:3 77:18 78:18 79:13 79:14 81:1 81:2 81:2 81:6 81:7 85:13 86:1 86:21 86:21 86:23 87:19 89:10 90:1 90:2 90:3 99:24 100:3 100:22 108:23 109:24 111:6 111:7 111:10 112:7 114:7 114:10 118:25 121:3 121:12 121:16 121:18 124:10 124:19 126:22 127:1 127:5 127:7 127:8 133:15 133:18 133:19 136:13 136:15 136:24 transcript 139:8 transfer 128:23 transferred 54:10 travel 5:25 travelers 12:21 tri 12:15 tried 71:4 93:9 trip 49:7 tripped 49:4 49:4 truck 121:5 true 64:10 65:11</p>
---	--	--	--	---

91:6 101:23 104:8 104:21 105:21 139:7 truly 52:9 try 14:7 82:14 88:25 133:22 trying 51:20 64:14 64:15 65:14 72:6 82:11 93:19 93:24 93:25 95:21 101:16 104:4 107:9 107:23 118:19 120:16 tube 24:18 25:5 25:7 26:17 26:22 tubes 24:8 24:9 25:1 25:1 25:9 26:5 26:10 28:12 31:22 33:3 47:9 85:1 tubocktu 125:16 tune 111:24 113:7 tuning 124:4 turn 123:17 128:5 turned 134:25 turns 122:1 two 5:10 17:22 50:5 55:14 56:1 56:6 57:18 74:18 75:12 77:9 83:18 83:19 83:23 84:21 97:25 98:17 101:1 102:12 102:13 124:13 126:24 130:16 133:17 134:14 twofold 82:2 type 66:23 108:23 111:20 112:2 112:17 128:15 types 40:22 69:18 typically 109:16 typo 22:20	understand 34:11 40:17 117:24 126:18 understanding 69:23 70:8 unfired 9:3 82:21 unfolding 119:12 unfortunately 65:24 88:12 unidentified 95:20 union 56:23 unique 119:9 unit 4:19 6:3 14:7 22:18 37:3 37:22 39:22 50:3 50:13 50:22 51:8 94:21 95:11 139:12 units 27:21 27:22 36:24 50:18 106:9 university 8:24 unleft 45:19 unless 3:24 40:7 unscheduled 47:23 48:6 48:12 until 16:8 24:12 25:19 41:14 46:19 55:17 55:25 59:7 up 9:24 9:25 30:16 30:25 33:14 35:21 44:16 50:13 52:24 54:7 54:13 55:3 55:8 55:10 55:10 56:8 56:19 57:2 64:23 74:13 74:18 75:6 75:9 75:16 75:25 76:12 81:5 81:6 81:11 82:11 82:15 86:17 86:25 87:9 87:10 88:15 90:21 94:22 97:14 99:20 100:7 101:5 104:15 105:3 106:5 106:6 113:8 114:15 117:5 117:7 120:11 123:8 123:16 123:19 127:25 129:1 131:18 131:19 135:19 135:24 138:9 update 3:2 3:12	132:7 updated 18:9 22:14 23:1 42:11 59:17 61:2 75:15 94:19 95:2 updating 54:18 upon 78:16 85:9 120:2 120:4 ups 56:7 56:9 us 3:3 13:14 13:18 20:25 27:15 27:20 35:12 36:7 37:2 37:5 37:7 41:15 44:19 52:17 52:25 53:7 56:1 72:20 73:21 78:4 92:13 92:22 92:23 93:15 93:22 106:21 114:10 124:21 125:20 132:23 134:9 136:10 usable 92:19 use 14:25 23:16 52:5 52:25 71:2 91:23 92:4 111:20 112:20 118:6 121:24 used 19:3 43:10 106:14 115:15 115:18 115:23 116:2 116:11 133:6 useful 134:22 user 2:2 2:10 14:8 97:14 116:19 121:25 users 5:13 9:3 9:8 97:20 uses 121:25 using 61:3 68:18 119:25 122:2 133:2 ut 118:6 utilities 11:1 11:4 12:5 20:15 utility 20:12 utilize 33:5	38:12 38:18 42:25 43:22 43:24 44:4 44:19 49:9 84:16 124:8 129:25 valves 43:7 125:3 125:8 126:2 126:5 130:11 vanderbilt 125:6 variables 129:16 variance 13:21 17:6 17:18 18:6 18:19 20:4 20:9 21:5 34:9 34:14 34:16 45:7 81:2 87:21 variances 81:5 82:25 various 38:2 73:25 ve 4:15 4:20 7:6 8:9 14:9 20:6 21:12 27:10 27:14 28:14 34:24 35:25 36:22 36:23 36:25 44:21 46:2 54:19 55:5 56:14 56:17 56:18 56:21 56:24 57:4 57:8 58:16 58:23 59:8 61:18 61:20 64:14 66:5 67:4 68:19 74:3 75:15 76:3 76:4 77:8 77:14 77:15 78:6 78:12 78:14 80:4 80:6 81:3 82:12 82:23 83:3 83:4 83:4 84:1 84:10 84:13 85:3 85:3 85:21 86:15 92:2 92:21 93:9 94:20 95:11 96:8 99:25 100:2 100:2 100:7 100:14 100:24 102:25 106:5 109:18 110:22 111:3 111:7 111:9 111:11 111:13 112:5 112:11 112:15 113:5 113:21 114:1 116:17 117:23 120:12 122:14 122:17 122:23 123:4 123:10	123:14 124:9 126:11 127:17 129:1 129:10 129:24 132:2 132:4 132:5 132:8 132:15 132:15 133:13 135:14 137:9 138:7 vehicle 81:23 118:9 vehicles 120:13 vent 111:21 112:2 verbal 7:10 7:20 8:1 8:4 13:25 15:3 15:14 18:14 32:25 45:1 58:21 62:4 62:18 62:24 63:2 110:15 137:22 138:2 138:5 verify 69:11 70:5 101:12 120:11 version 117:15 117:16 117:17 versus 43:22 70:22 98:23 129:14 vessel 9:3 10:7 10:11 16:23 42:24 92:2 93:3 93:8 102:24 111:15 112:23 113:17 vessels 15:7 16:18 91:21 92:11 93:11 vi 3:13 15:5 vibrate 7:6 view 46:22 60:22 109:24 vii 3:15 viii 3:17 vintage 132:5 violate 101:9 violation 115:19 115:24 116:4 violations 13:19 116:12 116:25 117:2 virtually 54:4 visit 61:17 61:22 61:25 63:5 visual 32:17 118:2 volkswagen 93:5 volume 37:14 37:17 volunteered 135:3
<hr/> U <hr/>				
ultimately 80:13 unattended 86:16 uncle 110:16 under 27:3 31:22 43:7 70:13 89:19 92:10 115:21 136:6 136:10				
		<hr/> V <hr/>		
		vacancies 56:8 vague 82:22 90:8 valve 22:19 22:24 23:4 30:25 31:5		

vote 61:24 89:11	130:8 130:15	wheel 95:21 95:24	whole 53:20 70:8	104:12 104:24
voted 136:1	waxes 109:14	95:24	75:20 95:21 96:17	107:7 107:7 107:14
voting 8:3 63:1 138:4	way 14:21 29:10	when 6:20 7:3 14:25	109:20 117:17	107:17 107:20
vr 44:10 44:12 44:17	36:20 50:20 55:23	23:24 30:13 31:13	117:21	108:5 109:3 113:11
vt 118:1 118:6	57:1 70:17 71:11	42:16 43:23 45:17	whomever 88:16	wording 97:14
<hr/> W <hr/>	74:17 88:7 88:13	51:14 53:8 53:17	why 22:4 27:12 40:7	words 97:16 119:16
wacker 9:19	90:20 93:24 99:20	59:9 63:24 67:13	44:22 87:6 92:17	work 20:13 27:22
wait 94:2	102:11 104:21	67:13 68:17 70:25	95:20 100:15 104:4	29:14 74:3 90:16
waived 56:24	105:25 112:11	71:23 78:20 79:11	106:17 110:6 119:7	90:20 91:24 92:5
walk 34:2	119:10 125:19	79:13 80:10 80:17	119:16 122:9 134:5	92:24 95:6 100:19
walked 86:7	139:17	83:14 86:24 87:13	wide 42:19 126:19	101:16 124:14
walking 128:3	waybright 10:17	91:12 91:21 92:20	will 5:13 5:18 5:25	124:16 130:4 134:3
wall 23:25	10:17 116:16	93:10 94:18 101:9	6:14 6:19 13:9	worked 14:7 55:12
want 4:8 5:10 5:15	116:16	102:21 103:9	14:19 15:8 16:9	workforce 1:1 3:20
6:24 8:10 14:17	ways 102:19	103:21 105:11	16:10 17:9 20:5	4:17 55:11 121:19
24:22 41:21 45:24	website 14:14 94:19	108:24 109:18	21:3 21:4 23:6	139:11
54:6 59:15 67:19	104:25 106:3	111:23 113:9	29:20 30:8 33:16	working 20:20 34:24
70:1 70:4 72:12	106:25	113:14 113:23	34:8 34:16 59:6	55:25 57:4 77:8
77:10 78:18 79:15	wednesday 3:19	114:10 122:14	61:16 61:25 66:8	94:18 94:21 125:22
80:25 81:15 84:11	135:8	124:1 130:5 130:6	74:19 75:23 77:11	134:20
84:12 87:12 89:22	week 5:9 14:16 57:24	131:6 131:20	77:23 78:10 106:10	workplace 4:18 6:3
90:12 91:17 92:18	87:3 95:9 99:21	whenever 121:24	115:6 116:3 116:4	12:23 14:6 73:25
93:23 98:19 119:7	101:1 101:3 130:11	where 5:24 6:7 6:20	116:12 117:2	96:10 106:2 139:12
129:10 134:15	131:13	30:18 35:21 40:2	121:24 131:21	works 16:24 20:11
134:19 136:19	weeks 75:13 99:10	49:18 54:11 54:13	131:22 134:10	93:23
wanted 4:16 5:23	101:1	55:3 56:7 56:9	134:23 135:1 135:9	world 132:3
16:12 21:7 54:16	weighing 98:21	66:12 73:12 75:16	137:6	worn 43:19
55:24 66:25 72:20	weight 53:4 53:5	84:14 84:16 86:9	williamson 139:3	worried 85:22 89:6
78:13 134:5 135:22	welcome 4:3 4:11 5:5	86:14 86:19 90:21	willing 65:17	worry 86:11
wanting 34:10	5:16	91:3 92:24 94:15	willis 54:10	worse 37:1
107:22 108:12	welder 105:11	101:16 101:17	wise 48:24 48:24	worth 128:20
war 132:3	welders 113:22	105:18 109:19	48:25	wouldn 24:6 50:23
warehouse 80:20	went 14:24 18:20	110:9 112:24	withhold 115:24	65:12 93:8
warm 77:4	20:23 38:11 48:2	118:21 118:25	within 18:1 38:21	wound 18:3
warning 134:14	52:14 52:21 52:24	123:11 123:15	72:8 72:13 77:21	wow 108:15 113:24
wasn 20:16 20:22	53:2 55:6 108:24	123:17 126:1	78:10 81:12 98:10	132:7 133:8
22:9 49:5 50:24	110:4 121:8 126:23	131:18	98:13 99:18 100:16	write 97:7 129:11
watch 53:9 53:16	127:6	whereof 139:20	100:19 110:3	written 75:20 81:24
128:5 128:8	weren 25:1 30:5 48:3	whether 53:13 53:14	120:13 121:7	97:17 118:15
watching 125:23	49:10 130:13	84:18 107:24 119:3	126:11 139:7	wrong 23:9 111:17
water 36:18 37:4	130:14	124:24 135:16	witness 139:20	112:10
38:13 60:24 83:20	whack 129:6	white 20:3 20:7 50:2	won 7:5 25:19 109:1	<hr/> X <hr/>
83:24 84:6 84:7	wham 85:20	who 57:16 65:17	wonder 40:21	xyz 127:7
84:9 84:12 84:22	whatever 79:20 91:5	66:15 67:12 67:14	wood 84:19 127:4	<hr/> Y <hr/>
84:25 96:18 96:19	100:17 120:13	76:16 80:11 80:15	woodfin 11:7 11:7	yeah 29:6 29:17 31:4
96:22 97:6 98:11	121:16 130:19	98:17 103:5 106:4	15:25 15:25 16:12	33:16 41:24 42:13
126:15 128:6	131:23 135:18	112:7 112:23	17:2	44:6 44:20 48:9
128:11 128:12	whatsoever 48:20	118:19 122:20	wooten 10:4 10:4	57:22 85:11 89:17
129:23 130:4 130:4	49:1 76:25 76:25	whoever 80:14	15:19	
	77:17	127:15	word 12:8 12:8 102:8	

89:24 94:17 95:7 101:21 103:3 107:17 114:18 117:13 120:25 121:20 121:23 129:9 133:3 135:25 year 18:20 19:5 24:14 28:25 31:18 31:20 31:20 33:15 39:16 39:22 41:10 41:13 42:6 52:13 56:10 59:12 59:13 60:7 60:16 66:4 66:8 69:1 83:19 83:20 83:22 102:12 109:20 111:14 113:10 115:6 124:13 125:7 131:15 131:15 years 4:20 6:9 14:7 23:13 24:4 24:6 32:6 32:12 33:17 35:6 35:18 36:23 60:1 63:19 64:12 64:18 66:13 66:17 67:16 67:17 67:19 67:23 67:25 68:3 68:9 68:20 69:7 69:23 69:25 70:9 71:19 72:10 77:9 80:10 102:13 102:25 103:1 112:16 123:5 134:24 yesterday 52:14 york 127:16 yosemite 130:6 younger 57:7 yourselves 13:7 17:10 <hr/> Z <hr/> zero 43:15 48:15 48:16 zippers 52:21 52:23 zurich 12:16 12:18 114:7 127:22 <hr/> 0 <hr/> 00 3:19 128:8 135:9 000 18:2 18:3 23:7	37:24 38:3 38:19 38:20 03 3:12 3:12 14:4 14:4 14:14 14:14 07 94:20 0800 3:12 14:4 14:14 14:20 098 13:18 <hr/> 1 <hr/> 10 18:7 22:6 22:11 22:17 22:22 54:14 135:5 100 17:8 106 3:15 63:14 63:17 64:8 107r 41:1 1089 1:25 109 64:4 109r 41:1 10r 41:1 11 135:7 110 34:13 111r 41:1 113r 43:5 43:12 43:23 114r 43:25 115r 43:6 117r 43:6 12 3:3 3:14 15:6 18:25 121r 43:9 122 3:15 34:13 63:14 63:17 64:4 64:4 90:21 122r 43:19 123r 32:14 59:3 125 128:14 13 3:4 3:14 17:5 18:1 39:6 47:13 132 64:25 14 3:2 3:19 13:19 25:2 50:9 54:20 137:3 137:6 14th 135:9 15 3:2 3:3 3:12 14:3 49:8 54:20 54:22 55:9 56:5 139:25 16 3:3 3:4 3:14 3:14 15:6 17:5 137:3	137:6 1600s 133:7 17 3:4 34:2 115:6 1700s 133:7 18 18:17 18:21 20:25 27:5 32:9 33:11 33:13 47:8 48:5 48:9 65:22 72:25 180 53:13 189 125:14 19 26:1 26:3 33:13 33:24 1963 92:3 92:4 1995 83:17 1999 99:9 1s 42:18 42:20 <hr/> 2 <hr/> 20 3:2 3:12 14:3 51:15 85:23 87:23 87:24 88:2 101:8 101:9 101:13 110:3 110:5 110:6 110:25 111:5 126:2 128:4 129:15 129:20 2001 39:23 40:12 40:13 40:24 41:10 2002 39:16 40:9 40:16 40:25 41:2 41:12 42:5 42:7 2007s 83:22 201 13:14 2010 118:1 20116 139:13 2012 95:10 114:21 115:8 115:9 2014 24:12 25:14 26:15 26:18 28:9 29:4 30:1 30:5 32:10 45:18 50:10 2015 53:2 114:22 115:10 115:15 115:22 2016 1:10 3:19 14:12 39:6 45:10 45:14 56:5 139:21 2017 31:24 32:18 33:11 59:5 2019 24:13 59:4 59:7 2020 1:23 139:25	21 1:10 21st 139:13 22 88:5 89:23 90:3 220 3:20 221 1:25 234 1:24 240 13:14 25 42:18 112:16 250 37:3 25th 139:21 26 47:6 47:17 27r 26:12 28:8 29r 59:1 2nd 31:18 <hr/> 3 <hr/> 30 14:20 92:21 300 18:3 63:16 30th 20:2 31 47:6 47:17 131:13 32 47:3 47:4 47:17 365 53:13 37069 1:24 371 1:22 139:24 3r 40:4 <hr/> 4 <hr/> 40 36:23 400f 128:25 42 131:1 423 18:2 43r 47:2 441 13:15 447 13:17 45 26:10 28:12 128:7 <hr/> 5 <hr/> 50 42:19 77:14 103:1 500 104:5 104:10 50s 132:4 545 38:19 57 28:12 580 38:20 <hr/> 6 <hr/> 600 23:7 60s 57:5 132:4 615 1:25 62 133:5 63 54:1	63r 54:4 640 38:3 642 37:24 65 42:19 651 13:17 67 54:13 68 3:15 34:13 63:14 63:17 64:4 64:4 90:21 69 28:12 6r 26:10 <hr/> 8 <hr/> 800 3:2 77:1 90:22 93:2 826809 39:6 85 17:24 8th 42:5 <hr/> 9 <hr/> 90 53:14 128:15 900 1:24 91r 30:20 95s 83:22 97r 42:4 98 39:24 39:25 98r 39:23 99 85:20 9r 54:7 9th 41:11 42:8
--	--	--	--	--