RA	ts C-234	
1		CD STATES DISTRICT COURT
2	NORT	THERN DISTRICT OF OHIO WESTERN DIVISION
3		
4	UNITED STATES OF AMERICA	A, - Docket No. 3:06-CR-712
5	Plaintiff,	- Toledo, Ohio
6	. V.	- October 11, 2007 - Trial
7	DAVID GEISEN, et al.,	- -
8	Defendant.	– . –
		·
9		VOLUME 7 OF 15
10		TRANSCRIPT OF TRIAL HE HONORABLE DAVID A. KATZ
11) STATES DISTRICT JUDGE.
12	APPEARANCES:	
13	For the Plaintiffs:	
14		U.S. Department of Justice 3rd Floor
15		1400 New York Avenue, NW Washington, DC 20005
		202-514-0838
16		Thomas T. Ballantine
17		U.S. Department of Justice P.O. Box 23984
18		Washington, DC 20026
19		202-514-2956
20	For the Defendant Geisen:	Miller & Chevalier
20		By: Andrew T. Wise Richard A. Hibey
		Suite 900
22		655 Fifteenth Street, NW Washington, DC 20005
23		202-626-5801
24		` <u>`</u>
25		Nr.

TEMPLATE = SECK 032

DS 03

1	For the Defendant Cook:	Gordon & Ermer By: Denis F. Gordon
2		John F. Conroy Suite 640
3		1828 L Street, NW
4		Washington, DC 20036 202-833-3400
5	Court Reporter:	Tracy L. Spore, RMR, CRR
6		1716 Spielbusch Avenue Toledo, Ohio 43624
7		(419) 243-3607
8		
9	Proceedings recorded by produced by notereading	y mechanical stenography, transcript
10	produced by noteredding	9 ·
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		

,

	1	(Commenced at 8:35 a.m.)
	2	THE COURT: Good morning. Mr. Stickan.
	3	$ \cdot$
	4	PRASOON GOYAL, CONTINUED DIRECT EXAMINATION
08:36:24	5	BY MR. STICKAN:
	6	Q. Mr. Goyal, there was an exhibit we had showed before but
	7	did not offer; that's Exhibit 97. Do you see that in front of
	8	you?
08:36:38	. 9	A. 97?
08:36:39	10	Q. Yes.
08:36:40	11	A. Yes.
	12	Q. Can you identify what 97 is?
08:36:46	13	A. 97 is from Mr. Cook to me dated October 16, 2001.
	14	Q. And that's an e-mail; is that correct?
	15	A. Right.
	16	Q. Was there an attachment to that e-mail?
	17	A. Yes. It's from Mr forwarded by Mr. Cook to me, but
	18	the e-mail before that is from Andrew Siemaszko to Mr. Cook and
	19	Gerry Wolf. There is an attachment to this e-mail.
08:37:37	20	MR. STICKAN: I would ask that Government's Exhibit
08:37:40	21	97 be admitted.
	22	THE COURT: Any objections to Exhibit 97?
08:37:45	23	MR. CONROY: No, Your Honor.
	24	THE COURT: It will be admitted.
08:37:57	25	BY MR. STICKAN:

	08:37:57	1	Q. Mr. Goyal, you entered into what's known as a deferred
		2	prosecution agreement with the government, didn't you?
		3	A. Yes.
		4	Q. What is your understanding of that agreement?
	08:38:07	5	A. My understanding is I would give support to the
		6	prosecution. At the same time I would provide truthful
		7	testimony.
	08:38:26	8	Q. It required your truthful testimony?
		9	THE JUROR: Our screen isn't working.
·		10	THE COURT: Is everyone else's screen working?
	08:39:23	11	We'll work on it at the break.
	08:39:44	12	BY MR. STICKAN:
	08:39:44	13	Q. And in the course of your agreement with the government,
		14	you admitted to wrongdoing on your part?
	08:39:52	15	A. Yes.
	08:39:54	16	Q. With respect to the submittals that were sent to the NRC
	08:40:01	17	by FENOC; is that correct?
		18	A. Right.
	08:40:05	19	Q. Your understanding is deferred prosecution means that
		20	the government would refrain from seeking an indictment or
	08:40:19	21	initiating criminal prosecution if you cooperated in this
		22	manner?
	08:40:24	23	A. Yes.
		24	Q. And cooperated truthfully?
	08:40:26	25	A. Yes.

ζ

.

08:40:28	1	Q. And there were there are penalties to pay if you're
	2	not cooperating in this agreement; isn't that correct?
08:40:34	3	A. Correct.
08:40:52	4	Q. Let me draw your attention to Government's Exhibit 104.
08:41:00	5	A. 104?
08:41:01	6	Q. Right. Can you identify what Exhibit 104 is?
	7	A. 104 is NRC letters, Review and Approval Report, serial
08:41:17	8	number 2735.
08:41:21	9	Q. And did this is known as the greensheet; is that
	10	correct?
	11	A. Yes.
	12	Q. And various people signed off on this document; is that
	13	correct?
	14	A. Correct.
08:41:33	15	Q. That would include yourself? You signed off on this
	16	document; isn't that right?
	17	A. Yes.
08:41:43	18	Q. Let me bring your attention to Government's Exhibit 111.
	19	Do you see that in front of you?
08:41:55	20	A. Yes. 111.
08:41:58	21	MR. STICKAN: And I think that's already been
08:42:00	22	identified and admitted, Your Honor.
08:42:03	23	THE COURT: Yes.
08:42:12	24	BY MR. STICKAN:
08:42:12	25	Q. I'd like to draw your attention to page 11.

- 08:42:32 1 A. Page 11?
- 08:42:35 2 Q. Okay. And do you see your monitor? I think that's a 08:42:44 3 copy. Does that appear to be page 11?
 - 4 A. Yes.
- 08:42:49 5 Q. And I wanted to draw your attention to the paragraph 6 under RAI, FRA-4?
- 08:43:01 7 A. Okay.
- 08:43:06 8 Q. The last sentence in that paragraph requests this 9 information: Was the Davis-Besse visual examination of April 08:43:20 10 2000 performed using a written procedure?
- 08:43:28 11 A. Yes.
- 12 Q. Then there's a response underneath this question; is 08:43:34 13 that correct?
- 08:43:34 14 A. Yes.

08:43:36 15 Q. And we're looking at the October 30 serial number 2741; 08:43:43 16 is that correct?

08:43:43 17 A. Yes.

08:43:47 18 Q. And the response reads as follows, does it not? I'm 08:44:01 19 just going to read about half this paragraph.

20 The inspection conducted during 12 RFO in April 08:44:07 21 2000 was conducted using procedure NG-EN-00324, Boric Acid 22 Corrosion Control, which was developed in accordance with generic letter 88-04, boric acid corrosion of carbon steel 08:44:21 23 reactor pressure boundary components in PWR plants. That's in 08:44:26 24 25 quotes. The purpose of this procedure is to provide a

08:44:37 1 symptomatic method to identify and resolve boric acid leakage
08:44:43 2 and/or resultant corrosion. It should be noted -- let me stop
08:44:57 3 right there.

Is that what you did in 1996? Were you able to use 4 5 the boric acid corrosion control procedure to identify and 6 resolve boric acid leakage and/or resultant corrosion? A. No, in '96 there were steps which would not be followed 7 08:45:14 because of these reasons. 8 Q. The next sentence is: It should be noted that several 9 08:45:24 10 Condition Reports were generated to identify, evaluate, and 11 resolve the boron leakage which was observed in the April 2000 visual inspection of the RPV. I guess that's reactor pressure 12

- 08:45:45 13 vessel.
 - 14 A. Right.
 - 08:45:47 15 Q. I think you testified yesterday you did not see any of 16 the CRs for 2000; is that right?
 - 17 A. That's correct.

08:46:13 18 Q. And one last exhibit. Exhibit 130. Do you have that 08:46:18 19 in front of you?

- 08:46:19 20 A. 130?
- •08:46:22 21 Q. Yes.

22 MR. STICKAN: I'm sorry. I missed one. Sorry, 23 Judge, two exhibits.

- 24 BY MR. STICKAN:
- 08:46:36 25 Q. 113. Can you identify 113?

A. Okay. 113. 1 08:46:52 2 Q. Can you identify what it is? A. It's a serial number 2744, response from FirstEnergy to 3 08:46:56 NRC, October 30, 2001. 08:47:08 4 . Q. October 30, 2001. Thank you. 5 08:47:17 6 MR. STICKAN: Your Honor, I believe this exhibit had been identified and admitted. .7 THE COURT: It was identified and admitted on the 08:47:22 8 second; however, your next one, anticipating, 130, has not. 9 MR. STICKAN: 130 will be the last exhibit we'll 08:47:34 10 11 offer. This exhibit I'd like to get to right now. 12 BY MR. STICKAN: 13 Q. I'd like to draw your attention to the portion of the 08:47:45 14 report that is, I think, titled Spring 1996 inspection. Do you 15 see that? I don't know if it's numbered. It would have 1275, I think, at the bottom. 16 17 A. Is there any page number or anything? Okay, I see it. 08:48:11 Spring 1996 inspection. 18 19 Q. All right. And specifically I'd like to draw your 08:48:18 attention to page 1278. Do you see that at the lower 20 21 right-hand corner? It's a few pages into the exhibit. 08:48:27 22 A. I don't see the -- the page number on the lower 08:48:39 right-hand corner. 08:48:47 23 24 Q. It would end with 1278. Maybe your copy doesn't have 25 that.

08:48:53	1	MR. STICKAN: Your Honor, if I might approach the
	2	witness and help him locate the page.
	3	THE COURT: Fine.
08:49:39	4	BY MR. STICKAN:
08:49:39	5	Q. It's hard to see on the screen, but 1278 is a picture of
	6	a one of the pictures of the nozzles that were taken in 1996
08:49:53	7	as published in this serial; is that correct?
08:49:57	8	A. Yes. Taken from the video.
08:50:06	9	Q. The caption underneath that picture reads as follows,
	10	does it not: Some boron piles were observed at the top of the
	11	head in the vicinity of previous leaking flanges. Because of
	12	its location on the head, it could not be removed by mechanical
	13	cleaning but was verified to not be active or wet and therefore
	14	did not pose a threat to the head from a corrosion standpoint.
	15	Do you see that language?
08:50:37	16	A. Yes.
08:50:41	17	Q. Did anybody talk to you or ask you to verify whether
	18	there was any active leakage on the head in 1996?
08:50:50	19	A. No.
08:50:52	20	Q. And, in fact, you published I think you testified
	21	about PCAQ 551, 96-551; isn't that right?
08:51:09	22	A. Right.
	23	Q. Which I think is Exhibit 5. I think it's already been
08:51:14	24	admitted. That's Exhibit 5; is that correct, the first page?
	25	A. Right.

08:51:48	1	Q. Let me draw your attention to page 16 of that exhibit.
	2	Do you have that in front of you? Do you see that page
08:52:12	3	exhibited on the screen?
	4	A. Yes, I do.
	5	Q. All right. I think you testified about that before; is
	6	that correct?
	7	A. Right.
08:52:18	8	Q. And in this PCAQ, it indicates, does it not, the boron
,	. 9	acid presently on the head is believed to have come from leaking
	10	CRDMs in the past outages in past outages prior to gasket
08:52:39	11	replacements which have eliminated most leakage. But because
	12	the head has not been completely cleaned, it is not possible to
	13	make a clear determination that we do not have active leakage.
	14	Correct?
08:52:55	15	A. Yes.
08:52:57	16	Q. All right. I'd like to draw your attention to Exhibit
08:53:03	17	130. Do you have that in front of you?
08:53:12	18	A. Yes.
	19	Q. All right. And could you identify what 130 is?
08:53:20	20	A. 130 is an e-mail from Mr. McLaughlin, Mr. Dave Lockwood,
08:53:30	21	and Mr. Dave Geisen. Subject is Davis-Besse CRDM evaluations.
08:53:42	22	Q. And originally this was an e-mail that you received from
	23	Mr. R.A. Mattson; is that correct?
	24	A. Right.
08:53:49	25	Q. Who is Mr. Mattson?

,

Mattson, he was working for the Structure Integrity 1 Α. 08:53:52 2 Associates, SIA. 08:54:08 Mr. Mattson forwarded you some information? 08:54:12 3 Ο. 4 Α. And Mr. Mark McLaughlin. 08:54:16 Then Mr. McLaughlin forwarded it to Mr. Lockwood and Mr. 08:54:19 5 Q. Geisen; is that right? 6 08:54:25 7 A. Right. MR. STICKAN: Your Honor, I'd ask that Exhibit 130 8 08:54:27 9 be admitted. MR. HIBEY: No objection. 08:54:31 10 11 MR. CONROY: No objection. 12 THE COURT: It will be admitted. It may be 08:54:35 13 demonstrated to the jury. BY MR. STICKAN: 14 08:54:46 I'd like to direct your attention to the e-mail you 15 Ο. 08:54:46 received from Mr. Mattson at SIA. It indicates, I believe, does 16 08:54:50 17 it not, that, "I am sending you four calculations today: W-ENTP-11Q-306 and 309 were changed to include the vendor 08:55:06 18 19 proprietary statement. No other changes were made." 08:55:15 The second one is, "Calculations W-ENTP-11Q-308 and 08:55:18 2.0 The later one is for the refined gap analysis, 21 314 are new. 08:55:25 22 where we show that all gaps will be open. 23 "I am sending these to Prasoon's attention." 24 And this was an e-mail originally sent to you and Mark McLaughlin, right? 25

1 Α. Correct. Then Mark McLaughlin forwarded this e-mail with his own 2 Ο. 08:55:42 message to Mr. Geisen and Mr. Lockwood; is that correct? 3 08:55:46 4 Α. Right. 5 Q. And that message says, does it not: Note that the new 6 gap analysis shows all nozzles will show a gap. Is this "new" information to send to the NRC and an excuse to introduce our 7 evaluation of the industry findings? That's what it indicates, 8 08:56:06 correct? 9 A. Right. 10 08:56:14 11 MR. STICKAN: No further questions, Your Honor. 08:56:30 12 THE COURT: Cross-examination, Mr. Hibey. 08:56:50 13 08:56:54 _ _ _ 08:56:54 14 PRASOON GOYAL, CROSS-EXAMINATION 15 BY MR. HIBEY: 16 Q. Good morning, Mr. Goyal. I represent Mr. Geisen. 17 Your testimony two days ago, I think it was mentioned something 08:57:21 18 called Condition Review Board. Do you remember that testimony? A. Yes. 19 08:57:34 20 Q. And would you agree that that's also known as the 08:57:35 Corrective Action Review Board? 08:57:39 21 08:57:43 22 Α. Yeah. But at that time it was called Potential 23 Condition Adverse to Quality. 08:57:51 24 Q. Then later became CARB? Do you remember that phrase, CARB; Condition Action Review Board? You know that that board 25

1 is made up of Davis-Besse managers; isn't that correct?

A. Yes.

2

And you know also that Mr. Geisen did not become a 08:58:13 3 Q. manager at Davis-Besse until the year 2000; isn't that correct? 4 5 Α. I think I said in my testimony I did not know when he 08:58:27 6 became a member of that board. 08:58:33 Q. I'm asking you now, do you know that he became a manager 7 8 in the year 2000? He may have become a member in 2000. 9 Α. 08:58:43 You know that -- perhaps you don't, but I asked you at 08:58:48 10 Q. the time you wrote 96-551, that would be in the year 1996? 11 12 Α. Correct. 13 Q. Mr. Geisen was not a manager and was, in fact, in 14 training; do you know that? He was not manager. I know that. 15 Α. And it is also true that in 96-551, about which you 16 Q. testified, I think on a couple of days, Dave Geisen's name 17 appears nowhere on 96-551? 08:59:35 18 08:59:41 19 Α. Yes. That is correct. 20 Q. When Dave Geisen was manager of Design Engineering, and 08:59:46 you were in the group, your supervisor was Theo Swim; is that 21 08:59:51 22 right? It was Jan Hardin then Theo Swim. Theo Swim was later 23 Α. 08:59:59 24 supervisor. 09:00:10 25 Q. And you're aware, are you not, that the Design 09:00:13

1 Engineering Group is comprised of a number of engineers and 2 personnel; is that right? 3 Α. Right. And that there were five supervisors in that group; 4 Q. 5 isn't that right? 6 Α. That's correct. And there were 42 personnel, engineering personnel, in 09:00:29 7 Q. 8 the group; would you agree to that number approximately? 9 Α. Yeah. Mr. Goyal, you were shown approximately 13 e-mails to 10 09:00:42 Q. and from you in August in the year 2001 regarding serial number 09:00:53 11 2731, the response to the Bulletin 2001-01 that issued on August 09:00:57 12 09:01:07 13 3rd, '01. Do you remember that? 14 Α. I don't know. 15 Q. You were taken through a number of these e-mails that were either written to you or from you; is that correct? 16 There were a number of e-mails. 09:01:23 17 Α. Right. Dave Geisen was not involved in those e-mails in the 09:01:27 18 Q. drafting of serial 2731; would you agree? 19 Who was not involved? 09:01:37 20 Α. 21 Mr. Geisen. His name did not appear in those, did it? Ο. 22 Name does not appear, then as far as I was sending the Α. 23 e-mail, his name is not on those e-mails. That's what you're saying? 24 09:01:59 25 Q. Yes. 09:02:00

	1	Now, sir, you were asked by Mr. Stickan this
	2	morning about the fact that you are testifying pursuant to a
09:02:18	3	deferred prosecution agreement where you're with your
09:02:27	. 4	cooperative testimony here today, true?
09:02:29	5	A. Right.
	6	Q. Sir, there was no deliberate attempt to deceive the NRC
09:02:33	7	or to conceal any information by anyone you know?
09:02:39	8	A. Could you please repeat the question?
	9	Q. There was no attempt to deceive the NRC or to conceal
	10	any information; isn't that correct?
09:02:49	11	A. Initially when 2731 was written, I had the comment on
09:02:58	12	that document that we are not telling that there is a impediment
09:03:07	13	to the 100 percent head inspection, and that comment was in
	14	2731. But after that, if you remember, on 8-30 I sent an e-mail
09:03:23	15	clarifying I had second thought. That I agreed at that time,
	16	but on 8/30 I sent an e-mail saying that nowhere do we mention
	17	that there is an impediment. So when I sign 2731, there was no
09:03:41	18	problem signing. I was convinced that, yeah. But afterwards,
	19	you can see I sent an e-mail to identify the problem.
	20	Q. An e-mail that you did not send to Mr. Geisen?
09:03:58	21	A. That is correct.
09:04:01	22	MR. HIBEY: Your Honor, indulge me a moment,
09:04:06	23	please.
	24	No further questions.
09:04:09	25	THE COURT: Mr. Conroy.

09:04:11	1	MR. CONROY: I may need a little help.
09:04:24	2	
09:04:24	3	PRASOON GOYAL, CROSS-EXAMINATION
09:04:27	4	BY MR. CONROY:
09:04:27	5	Q. Mr. Goyal, how are you? John Conroy for Rod Cook. How
	6	are you holding up? All right?
	7	A. Yeah.
09:04:34	8	Q. All right. Good. We won't be long.
09:05:34	9	We've done a lot of talking about 96-551, your PCAQ
	10	from 1996 after you did the head inspection.
	11	A. Right.
	12	Q. And I want to review it with you because I want to make
	13	sure we're all clear on exactly what was happening in the
09:05:50	14	aftermath of your writing that PCAQ. Okay. Do you have a copy
	15	of it, or can you see it on the screen?
	16	A. Yes.
	17	Q. You can see it on the screen? Okay. Is that up for
	18	everybody?
09:06:08	19	What I want you to do is turn to the portion of
	20	that document that contains paragraph 4E. And that is on the
09:06:27	21	third the page numbered 3 of that document.
09:06:33	22	A. Page 3.
09:06:34	23	Q. Have you got that?
	24	A. Page 3.
09:06:36	25	Q. Okay. And there you start laying out your reasons for

why you want -- why you have written the PCAQ; is that right? 1 09:06:45 A. Right. 2 Q. And you go over to the next page, which is 4, and you 09:06:50 3 are explaining what it is that the Boric Acid Corrosion Control 09:06:55 4 09:07:00 5 Procedure says should be done; is that correct? 6 Α. Yeah. And at the bottom of that page --09:07:05 7 Q. 8 A. I'm on page 3A. Q. I apologize. It is 3A. I thought it was 4. It's . 9 09:07:11 3A, which is the continuation of 3. On that page --10 11 A. You are on that page? Q. I am on that page. You are explaining what it is that 12 09:07:29 13 the Boric Acid Corrosion Control Procedure requires? 14 A. Right. Q. And I am going to move that up so that you can see that 09:07:33 15 there's initials at the bottom, and it's dated May 3, '96? 09:07:36 16 17 A. Yes. 09:07:42 Q. And those initials are? 18 09:07:43 A. Those initials were -- I recognize. They were initials 09:07:46 . 19 20 of Mr. Ted Meyers. 21 Q. Ted Meyers. And you start speaking in terms of the 09:08:03 22 Boric Acid Corrosion Control Procedure, which is 324? 23 Right. Α. And you start explaining what should be done? 24 Q. 09:08:08 25 A. Yeah. 09:08:13

09:08:14	1	Q. Now, did you consult the Boric Acid Corrosion Control
	2	Procedure before you wrote this box?
09:08:23	. 3	A. Yes. Before I when I started writing it, I talked
	4	to one of my colleagues about what procedure should I be using
	5	to document my head inspection. So one of them suggested that
	6	I look at 324 procedure.
	7	Q. And you did?
09:08:46	8	A. I did.
	9	Q. And you read the procedure?
	10	A. Right.
	11	Q. When you were reading the procedure, were you aware of
	12	the difference, or did you recognize that there was a difference
09:08:58	13	in a procedure between using the word "should" and using the
09:09:04	14	word "shall"?
09:09:06	15	A. I do not recall the difference.
	16	Q. You don't know that there was a difference?
	17	A. Right. I do not recall the difference, that there was
	18	a difference there in the procedure reading at that time.
09:09:19	19	Q. Did you lift your language in this PCAQ from the
09:09:24	20	procedure?
09:09:25	21	A. Some of it, yes.
	22	Q. So that when you are saying in the procedure: The area
	23	should be inspected to determine do you see that in the
09:09:40	24	middle of the last paragraph? We talk about the area should be
09:09:48	25	inspected, okay?

1 A. Okay.

09:09:50 2 Q. To see if boric acid could have entered the internals of 3 a component?

4 A. Right.

09:09:56 5 Q. Above that -- I'm trying to find out where other
09:10:17 6 references to the procedure are contained. You say -- bear
7 with me a second. Here we are. I'm sorry. Go back, if you
8 will, to the first page of the procedure.

09:10:36 9 A. Okay.

10 Q. You've got it?

09:10:40 11 A. Of the PCAQ?

12 Q. Of the PCAQ.

13 A. Okay.

Q. And you are making reference to the procedure 324Revision 1, Boric Acid Corrosion Control?

09:10:50 16 A. Right.

09:10:5117Q. Then on the next page, bottom of this page and the next09:10:5918page, you start talking about the total amount of boron deposits09:11:0419and the amount of boron on each component should be estimated?

20 A. Right.

21 Q. Did you get that from the procedure?

09:11:11 22 A. Yeah.

Q. And then in B, "The area of identified boron buildup 24 should be inspected to verify..." you got that from the 09:11:20 25 procedure? 1 A. Right.

	2	Q. Then next sentence, "The area should be inspected to
	3	determine" you got that from the procedure?
	4	A. Did you move that?
	5	Q. I'm sorry; I moved it. The area should be inspected?
	6	A. Right.
	7	Q. And then we talk about the affected area should be
	8	inspected to identify, in part C?
09:11:40	9	A. Yes, any sign of corrosion.
09:11:45	10	Q. Then the next sentence, this should include an estimate,
	11	part C?
09:11:50	12	A. Right.
	13	Q. All of that came from the procedure; did it not?
09:11:53	14	A. Right.
	15	Q. So what the meaning of the word "should" is in the
09:11:57	16	procedure is what is contained in your PCAQ here?
09:12:00	17	A. Right.
09:12:05	18	Q. On page 3A, going back to it, at the bottom, is the
	19	review of the PCAQ by your supervisor?
	20	A. Yes.
	21	Q. Here's what I'm driving at, okay. After you wrote this
09:12:33	22	PCAQ, the boric acid was not entirely removed from the head of
	23	the reactor, was it?
	24	A. Right. Boric acid was not removed completely.
	25	Q. Completely. And yet the reactor restarted, did it not?

09:12:53 1 A. Yes.

09:12:55	2	Q. And you can't restart the reactor if there is a
	3	violation of a procedure still open, can you?
09:13:05	4	A. I do not know whether this modification or this
09:13:10	5	Condition Report was a MOD. Like, there are five MOD, 1, 2, 3,
09:13:22	6	4, 5. And if this PCAQ is a MOD restraint, it has to be closed
	7	before plant will start. So I cannot answer your question of
	8	whether this PCAQ was a MOD restraint or not. As far as I am
	9	concerned, I wrote it, the procedure
	10	Q. You thought that it violated the procedure?
	11	A. Right.
09:13:47	12	Q. Your boss, Mr. Donnellon, did not agree with you, did
	13	he?
09:13:55	14	A. I do not know whether this was communicated to me.
	15	It's written there. It's written there. But PCAQs do not
	16	come back to the person who wrote it.
09:14:06	17	Q. But as you read the disposition of this PCAQ, you
	18	understand that your boss had reviewed it and disagreed with
	19	your conclusion that it was nonconformance; is that correct?
	20	A. Right.
	21	Q. So he did not believe that the procedure had been
09:14:22	22	violated?
09:14:27	23	A. Please repeat again.
	24	Q. The last sentence I'm sorry; go ahead. You're
09:14:35	25	waiting for me?

Α. No, I'm waiting for me to tell you. I'm not 09:14:36 1 operations. I'm in design. And I'm writing this Condition 09:14:43 2 Report saying, we didn't meet this procedure. Normally I go 09:14:49 3 4 through and check the procedure. And I did not have knowledge 5 that they were talking about board restraint or hardware. This might be a software issue, procedure compliance. So I didn't 6 7 read the same thing what you read in the comment. That's what 8 I'm trying to say. 9 Q. Did you read the comment? I read it maybe afterwards. I don't recall when I read 09:15:25 10 Α. 11 this comment. 12 It is clear, however, from Mr. Donnellon's writing on Q. 09:15:31 13 the bottom of this PCAQ that he did not believe -- and I'm 14 looking at the last sentence. 09:15:45 15 A. Last sentence? 16 The last sentence of his comment. He says, "I also do Ο. 17 not believe that the vessel head area is nonconforming." Do you see that? 18 19 Α. Yes. 20 That means he did not believe that the vessel head was Q. not in conformance with the procedure; isn't that right? 21 22 09:16:09 MR. STICKAN: Objection. 09:16:20 23 THE COURT: Overruled. You may answer. Would 24 you restate the question? Do you want me to read it to him? 25 I'll read the question before it because it ties onto that.

The question before it was, "The last sentence of his comment he 1 09:16:39 says, 'I also do not believe that the vessel head area is 2 nonconforming. Do you see that?' 09:16:46 3 09:16:50 4 "Yes. 09:16:51 5 "Question. That means that he did not believe 6 that the vessel head was not in conformance with the procedure; isn't that right?" 7 I still didn't understand the question. Α. 09:17:00 8 MR. CONROY: Withdrawn. 9 09:17:10 10 BY MR. CONROY: Q. Mr. Donnellon wrote in response to your PCAQ that he has 11 09:17:18 12 signed the justification for going forward with your 13 recommendation; isn't that right? "I have signed the part 4E 09:17:22 justification and concurrence as a conservative measure"? 09:17:29 14 15 A. Yes. So he's going along with you to this point? 16 Q. Right. 17 Α. Now he says, "Nozzle cracking is, of course, a 18 Q. 19 significant issue." We're going to agree with that; are we not? 09:17:41 20 Α. Right. 21 "However, at present, the probability of occurrence is Ο. 22 relatively low." And you would agree with that? 23 Α. Yes. 09:17:55 "We should remove boron from the reactor pressure vessel 24. Q. 09:17:57 25 head as best we can and so as to minimize dose."

1 Did you agree with that, or would you agree with 2 that? 3 Not if you follow the procedure completely that you need Α. 09:18:14 to remove all the boron. He's making his own -- in my opinion 4 09:18:20 09:18:28 5 he's making his own evaluation of what I have written. And in 6 my evaluation, I did not use low probability. In my evaluation 7 what I use was U.S. in 1996 there was no cracking. It was an 8 industry experience which I put in the evaluation. So he is making --. 9 09:19:01 A supervisory judgment? 10 Ο. 09:19:02 11 Right. Α. Which he's entitled to do? 12 09:19:07 Q. 09:19:10 13 Α. Yes. 14And when you say that you believe -- and you believed at 09:19:12 Q. 15 the time that you wrote this document that the Boric Acid Corrosion Control Procedure required the removal of all boric 09:19:26 16 17 acid from the reactor pressure vessel head? 09:19:32 Α. Right. 18 09:19:35 19 You are saying that because you believe, as you read the Ο. word "should", that it is a requirement? 20 21 Α. I think it goes back to what was the purpose of the 09:19:55 22 inspection of this head. 23 Q. Can we try to just see if we can answer my question? 09:20:07 24 MR. STICKAN: Your Honor, I ask the witness to 25 finish the answer.

THE COURT: May I ask you to rephrase the question 09:20:16 1 as to his interpretation of the word "should." 09:20:19 2 BY MR. CONROY: 3 Your interpretation of the word "should" made it a 4 Ο. 09:20:29 5 requirement; is that correct? 09:20:33 6 A. If you are looking only from the procedure point of 7 view, yes. But if you are looking in a bigger global picture 8 that what we were trying to do, then it becomes a shall. 9 Ο. But now you recognize a difference between should and shall? 10 09:20:51 11 Α. Yes. 12 And should is a recommendation; it is not a requirement? 09:20:52 Ο. 09:20:59 13 Α. True English. 14 Q. True to the procedure at the plant; is that correct? 15 Yes. Α. So that if your supervisor decided that we did not have 16 Ο. 17 to remove all of the boric acid from the head at the time that you wrote your PCAQ, it would not violate the procedure? 18 19 Should is not a requirement. Shall is a requirement. 09:21:28 Α. 20 09:21:36 Ο. That's fine. One of the things that you agreed with 21 the government about when you signed this non-prosecution 22 agreement with them was that you had told a falsehood when you 23 said that the inspections that were carried out at Davis-Besse at 10 RFO were done in accordance with the Boric Acid Corrosion 09:22:15 24 25 Control Procedure? 09:22:21

Α. Yes. 1 09:22:21 Q. And the reason that you signed it is because you thought 2 that "should" was a requirement; isn't that a fact, or you 3 09:22:26 believed in your own mind that you were required to take that 09:22:30 4 boric acid off? 09:22:33 5 ' 09:22:43 6 THE COURT: Could you break it down into one question, then another question? 7 MR. CONROY: I'm getting ahead of myself. 8 09:22:47 BY MR. CONROY: 9 09:22:47 You signed a deferred prosecution agreement? 10 Q. Α. Yes. 09:22:52 11 You admitted to not telling the truth about the '96 12 Ω. 13 inspection? 09:22:58 14 Α. Right. Q. And what you didn't -- what you were untruthful about 15 09:22:59 was the fact that you followed the Boric Acid Corrosion Control 16 09:23:03 Procedure? 17 A. Right. 18 Q. But, in fact, you didn't violate the Boric Acid 19 20 Corrosion Control Procedure, did you? 09:23:12 21 A. If you use the word "should", no. But if you use the 09:23:15 word "shall", yes. 22 09:23:21 Q. So you agreed that you had done something wrong when you 23 09:23:22 were really not sure you had done anything wrong? 24 Α. (Witness nods.) 25 09:23:31

09:23:32 1 Q. And as you sit here today, you're not sure you did 09:23:35 2 anything wrong, are you?

Α. I thought that we did not comply with the procedure. 3 09:23:40 Ο. Fine. When you got engaged in a discussion with 4 09:23:48 respect to the first Serial Letter, 2731, this is in August of 09:23:59 5 2001 shifting forward now, initially there was a debate about 95 09:24:05 6 7 percent of the head being visible or inspected?

09:24:21 8 A. Right.

9 Q. Then it was 90 percent or a majority of the nozzles; do 09:24:28 10 you remember? You were talking there about the as-found 11 condition of the head at 12 RFO; were you not?

12 A. I think. I ask the question, what does 90 percent 13 mean? Are we talking about as-found condition or are we 09:24:46 14 talking after the head? Did not get an answer to that.

Q. But you did, your own testimony, did you not, because you said Mr. Cook and Mr. Siemaszko came to your office, and Mr. Siemaszko said to you, I can see the whole head?

09:25:04 18 A. This was written related to my comment on 2731?

09:25:12 19 Q. Right.

09:25:13 20 A. And Mr. Siemaszko -- let me go back.

09:25:18 21 2731 did not address any limitations to the head
09:25:28 22 inspection. And I put down a comment that this does not
23 address any limitations to head inspection. And so the comment
09:25:48 24 needed to be resolved before I signed. That's where Mr.
25 Siemaszko and Mr. Cook came, and Mr. Siemaszko said: No

1 problem; I can see the head.

.

09:26:06	2	Q. Can see the whole head?
	3	A. Whole head. And that's where I signed the greensheet
09:26:19	4	on 8-28. At 8-30 my e-mail went out saying: No, we can't say
	5	we can inspect 100 percent head. There was impediment. So I
	6	don't know where this 90 percent is coming into picture in that
	7	statement because this 90 percent issue wasn't clear; 90 percent
	8	of the majority, or was it part of 2731? I can't recall.
09:26:55	9	Q. Well, let me tell you. Okay. The evidence in the case
09:27:00	10	as we're standing here and you're sitting there today is that
	11	the 95 percent/90 percent/majority debate all took place before
09:27:10	12	2731 was signed. Do you understand that?
	13	A. Right.
09:27:14	14	Q. Do you accept that?
	15	A. Based on so many e-mails.
09:27:18	16	Q. Okay. That would mean that that debate was about the
09:27:24	17	as-found condition of the head; would it not? Mr. Siemaszko
	18	came and told you that he could see the whole head as left; did
	19	he not?
09:27:40	20	A. Yes.
	21	Q. So therefore the majority of the nozzle, 90 percent, 95
09:27:45	22	percent, back and forth dialog, whatever you want to call it,
	23	was about the as-found condition?
09:27:52	24	A. Yeah.
	25	0 Now when you were having concerns about what do we mean

25 Q. Now, when you were having concerns about what do we mean

by 90 percent, or is this as-found or as-left, and you were 1 09:27:57 sending an e-mail about it, Mr. Cook brought Mr. Siemaszko to 2 your office, correct? 3 4 Α. Yeah. Wasn't that Mr. Cook's job? He had to resolve any 5 Q. problems with the language of the document before it could go 6 out for greensheet signing; isn't that right? 7 09:28:19 A. Yeah, resolve the problem. But he also have to see 8 what followed after the greensheet signup. 9 I understand that. But in bringing Mr. Siemaszko to 10 0. 09:28:32 you, he was doing the resolution of a factual problem that's 09:28:36 11 required of the Regulatory Affairs guy, isn't he? 12 13 Α. Yeah. All right. Now, when did you first meet Mr. Cook? It 14 Ο. 09:28:46 wasn't until the 2731 process started, was it? 15 09:29:01 I don't recall when I met him. I think he used to work 16 Α. 09:29:05 there, but I don't remember -- Mr. Cook used to work at 17 Davis-Besse, and then he became consultant afterwards. 09:29:19 18 19 Ο. You might have met him on another occasion; you don't 20 know? 21 Α. I don't recall. 09:29:27 22 All right. When you spoke during your direct Q. examination that Mr. Siemaszko and Mr. Cook as well as you, 23 yourself, were working on the response to Section 1D --24 09:29:46 25 Α. Right.

09:29:48	1	Q did you did you understand and did you intend for
	2	people to understand that Mr. Cook was working on the entire
09:29:56	3	document?
09:30:00	4	A. But I think that was specifically assigned to three
	5	people. He was working on, but 1D was specifically
	6	somewhere it mentioned Section 1D was specifically assigned to
	7	three people: Goyal, Cook, and Mr. Siemaszko. I don't recall
09:30:30	8	where.
	9	Q. You think that's the case?
09:30:32	10	A. Yeah.
09:30:33	11	Q. What about paragraph 1C? What about paragraph 3A?
09:30:37	12	Who was assigned to that?
09:30:39	13	A. I don't remember.
	14	Q. Do you know whether Mr. Cook was do you know whether
	15	he had the whole document?
09:30:45	16	A. Yeah.
	17	Q. He did?
09:30:47	18	A. (Witness nods.)
09:30:52	19	Q. And in your dealings with Mr. Cook, you were never
	20	involved, were you, in a scheme with Mr. Cook to lie to the NRC?
09:31:03	2,1	A. No.
09:31:04	22	Q. And you don't know that Mr. Cook did?
09:31:09	23	MR. STICKAN: Objection.
09:31:11	24	MR. CONROY: I'm asking for his knowledge.
	25	THE COURT: Overruled.

.

/

09:31:16 1 A. As far as I'm concerned, my comments were not

09:31:21 2 corroborated, either in 2731 or in 2735.

09:31:27 3 BY MR. CONROY:

09:31:27 4 Q. All right. You were concerned when you wrote your 09:31:37 5 comments about impediment?

6 A. Right.

09:31:42
Q. With the fact that the whole head could not be inspected
09:31:48
8 through the mouse holes; is that right?

9 A. Right.

Q. But you knew that that wasn't so, isn't that right; that you could, in fact, inspect the whole head through mouse holes? A. I couldn't inspect it in '96.

13 Ο. Was it not discussed with you that the issue with regard 09:32:06 14 to inspecting the mouse holes was a matter of technique? 09:32:11 15 Α. I think what NRC asked at the time in response that you 16 provide the inspection based on technique, what technique we 17 were using. If you use control, maybe you could see the whole 18 thing. But it's not the question. What technique are you 19 using? The technique was on a three-foot pole/wire we attach a 20 light, and another one that has the camera. We stick it through 21 the mouse hole and we see what we can see. I personally 22 09:32:51 performed that inspection. And I know, have a rough idea what 09:32:58 23 we could see. We couldn't reach to the top to clean it because 24 the tools we were using was a broomstick; you attach it, and you 25 scrape and vacuum it. I'm just trying to explain that in my 09:33:16

1 mind; with the techniques we were using, we couldn't see 100
09:33:41 2 percent of the head.

3 Q. But the answer that was being given to the NRC in Section 1D had to do with whether or not that problem would be 09:33:49 4 09:33:55 5 solved at the next refueling outage; isn't that right? 09:34:01 6 Α. Which section? I have to see it. I have to see it. 7 MR. CONROY: Fine. 09:34:08

09:34:38 8 BY MR. CONROY:

09:34:38 9 Q. I'm going to read you the sentence from question 1 D of 10 the bulletin that speaks to this issue.

09:34:53 11 A. Okay.

12 Q. And it says -- well, let me read the whole paragraph for 09:34:59 13 completeness. This is question 1D.

09:35:0214A description of the VHP nozzle and RPV head09:35:0915inspections (type, scope, qualification requirements, and09:35:1416acceptance criteria)that have been performed at your plant or17plants in the past four years and the findings.

09:35:26 18 Next sentence: Include a description of any 19 limitations (insulation or other impediments) to accessibility of 20 the bare metal of the RPV head for visual inspections -- excuse 21 me, for visual examinations.

22

Is that what you recall?

23 A. Right.

09:35:51 24 Q. Now, with regard to the answer that you were given, was 25 it your understanding that what people understood the question

to mean was are there limitations to accessibility of the bare 1 09:36:01 metal for visual examinations in the future in the design? 2 09:36:06 My understanding was they were looking for the 3 Α. No. past inspections. What future is going to do when they are 09:36:18 4 5 asking to assess the current situation, that is your plant 6 susceptible? If you have not performed visual inspections, 09:36:29 qualified visual inspections, the plant need to shut down by 09:36:35 7 December 31st. So in future what we do in my opinion has no 8 bearing on. We did provide some future NDE type, all that for 9 There was, I think, a logic tree. 09:37:03 10 future. But NRC was asking for the past inspections that 11 09:37:11 12 have you performed a qualified inspection without any 13 impediment. And we did have impediment. So that was my 14 understanding of this 1D. So your reading -- and I'm placing 1D up on the screen 15 0. 16 now, and I'm not getting -- I see what's wrong here. There's question 1D. And I believe that's all on the screen. 17 Question 1D talks about the past inspections in the first 09:38:14 18 19 sentence; does it not? 20 Α. Right. 09:38:20 21 And then it asks to include a description of any Ο. limitations (insulation or other impediments) to accessibility of 22 09:38:25 23 the bare metal of the head for visual examinations. And you thought that that was a question about past inspections as 24 25 opposed to the design of the head? 09:38:38

Α. Yes. It was -- if you read from the impediment, what 09:38:40 1 it says, has been performed at your plants in the past four 2 years and the findings. So this is continuing after the 3 09:38:52 4 The first sentence talks about performed at your response. 09:39:04 5 plant in the past four years and the findings, include the 09:39:12 6 description as to accessibility of RPV head for visual examinations. My understanding, your past four inspection was 09:39:21 7 done to bare metal, and did you have any problems in the 8 09:39:27 inspection? That was my understanding of this 1D. 9 09:39:31 10 But there is no question, is there, Mr. Goyal, that the Q. answer that is provided to that question speaks to future 11 09:39:37 12 inspections? 09:39:43 09:39:44 13 Α. I did not read it that way. 14 Q. Let me read it to you. This is in the Paragraph Number 15 2 in the response, second sentence. "As stated previously, a 16 gap exists between the RPV head and the insulation, the minimum 17 gap being at the dome center of the RPV head where it is 18 approximately two inches, and does not impede visual 09:40:08 inspection." 19 09:40:12 20 Now, you understand that to be a description of the 09:40:13 21 design of the head; do you not? 22 Α. Right. And it did impede the inspection in the past. 09:40:18 23 But that's not what the answer says. They're talking Q. 24 in the answer, are they not, about the design of the head? 25 Α. Let me go back and put it in perspective. That what 09:40:39

09:40:48 1 are we trying to provide, what information are we giving to NRC? 2 Are we providing future or are we providing past?

Q. Yes.

3

So if we are combining both of these in the same 09:40:58 4 Α. 09:41:05 5 paragraph, it is very hard for me to figure out which way this 6 information is. I always started -- the intent was to see how good inspection you have done in past four years, have you done 7 09:41:19 a good inspection. And if you didn't do good inspection, shut 09:41:23 8 9 down and do good inspection. So okay.

10 Q. So okay what?

11 A. I did not read it that way.

12 Q. Oh, but you read it?

09:41:42 13 A. I mean, I didn't think that we were talking about 14 future.

09:41:48 15 Q. Did you not have a discussion with Mark McLaughlin 09:41:54 16 about impediments?

17 I had a discussion about my e-mail of 8/30, where you 09:41:58 Α. see there is a statement that there is no impediment. A work 18 09:42:07 request had been initiated to cut the holes in the service 09:42:23 19 structure. And in the same e-mail we had -- I had a discussion 09:42:30 20 21 that we cannot inspect 100 percent of the head because of the 22 mouse holes, inspection to the mouse holes. 09:42:44

Q. And did you not have a discussion with Mr. McLaughlin that that problem would be cured the way it was cured at Arkansas Nuclear 1, by using a crawler?

09:42:59	1	A. Yes, I did have a discussion with Mr. McLaughlin, and
09:43:05	2	that's what they used there. But if you are providing a
	3	response on the past inspection where you have not used that
	4	technique, then how can we take credit for the technique?
09:43:20	5	That's all I'm trying to say.
	6	Q. I understand. But, Mr. Goyal, when you sent your
09:43:27	7	e-mail and you had this concern, who did you see about getting
	8	your name off the greensheet?
09:43:36	9	A. I didn't see anybody. I sent the e-mail, and I talked
	10	to Mark McLaughlin.
	11	Q. And is that the e-mail in which you say management needs
	12	to know?
	13	A. Right.
	14	Q. And did you go to your management? I mean, you knew
	15	who your management was?
	16	A. I knew who my management was. But the recipients also
09:43:57	17	knew who their management was, and one of them, the person in
	18	there was in management, Mr. Miller.
	19	Q. So you were trying to tell Mr. Miller that you had a
	20	concern?
09:44:07	21	A. I was trying to tell Mr. Miller, Mr. Cook, Mr.
	22	Siemaszko.
09:44:13	23	Q. Mr. McLaughlin?
09:44:16	24	A. McLaughlin, I don't remember was on that list.
09:44:19	25	Q. You did know at the time that 2731 went out that a

complete inspection of the head could be done at 13 RFO using a 1 09:44:26 crawler as was used at Arkansas Nuclear 1; isn't that right? 2 3 Using a crawler, yes. Α. MR. CONROY: I don't have anything further. 4 Thank 09:44:40 you. 5 09:44:46 6 THE COURT: Redirect? 09:44:46 MR. STICKAN: Yes, Your Honor. 09:44:49 7 8 09:44:49 PRASOON GOYAL, REDIRECT EXAMINATION 9 09:44:49 BY MR. STICKAN: 10 09:46:51 11 Q. Mr. Goyal, you recall Mr. Conroy was asking about future inspections. I think he was going through Section 1D of the --09:46:57 12 13 I think it was 2731, which we have marked as Government's 14 Exhibit 60. Do you recall that? 09:47:10 15 Α. Yes. I draw your attention -- I'm going to try to put this on 16 Q. 09:47:21 the overhead here. See if I can do this without making people 17 sea sick. 09:47:36 18 19 Do you see Section 3A of the bulletin? 09:47:41 20 Α. Yes. 21 Okay. It reads: If the susceptibility ranking for your Ο. 22 plant is within 5 EFPW of ONS3, addressees are requested to 23 provide the following information: Your plans for future 24 inspections (type, scope, qualification requirements, and 25 acceptance criteria) and the schedule. Correct?

	1	A. Right.
	2	Q. There was a question about future inspections, but that
09:48:12	3	wasn't until 3A of the bulletin; isn't that correct?
	4	A. Right.
	5	Q. 1D was a question about the last four inspections, last
	6	four years going back four years; isn't that correct?
	7	A. Right. That was my understanding.
09:48:34	8	Q. Do you remember a question by Mr. Conroy about whether a
	. 9	response that was given to Section 1D was supposedly relating to
	10	the design of the reactor?
09:48:51	11	A. Yes.
	12	Q. Do you remember that question? And, in fact, there is
	13	a question about design, but that's question 1C, is it not, a
09:49:11	14	description of the RPV head insulation type and configuration?
	15	Do you see that at the bottom of the page?
	16	A. Yeah, 1C.
09:49:24	17	Q. Is that question calling for a design response?
09:49:28	18	A. Could you just move it up, please I mean down.
09:49:36	19	Q. I'm looking at the bottom of the page.
09:49:38	20	A. Right. 1B. Then the bottom of the page is 1C.
	21	Q. Yes. I'm referring to you to 1C.
09:49:45	22	A. Okay.
09:49:48	23	Q. That deals with the design of the reactor; does it not?
09:49:52	24	A. Yes.
09:49:54	25	Q. Okay. Now, do you recall questions by Mr. Hibey

.

-

regarding whether any of the e-mails went to Mr. Geisen? 09:50:14 1 Do you remember that? 2 3 Right. I think there was a discussion of there were Α. 4 quite a few e-mails, and I don't remember which one went where 09:50:31 5 unless I have them in front of me. 6 Q. Okay. Well, first of all, I want to draw your attention 7 to Government's Exhibit 26. I'll put this on -- I don't know 8 if I can get the whole thing on the screen. Maybe I can zoom 9 out. Do you see that whole document? 10 A. Yes. Q. Now, that is what we've referred to? 11 09:51:02 12 MR. HIBEY: Excuse me, Your Honor. I want to 09:51:05 09:51:08 13 interpose an objection. This is not proper redirect. This 09:51:13 14 particular document which is up on the screen was written before 15 the bulletin even issued. It is not, therefore, a proper 09:51:18 09:51:25 16 redirect of the cross I put to this witness. MR. STICKAN: Your Honor, if we're going to have a 17 09:51:29 18 speaking objection, this witness testified --19 MR. HIBEY: Then let's go to the bench. 20 THE COURT: All right. 09:51:36 21 MR. STICKAN: Do so. Do so. 22 MR. HIBEY: I'm ready to do that if Your Honor will 09:51:39 23 take this at the bench. 24 (Whereupon the following discussion was had at the 09:55:57 25 bench outside the hearing of the jury:)

1	THE	COURT:	This	is Govern	ment'	s Exhibi	lt 60)?
2	MR.	STICKAN	: No,	Your Hond	or.			
3	THE	COURT:	26.	Purpose?	The	purpose	for	which

4 you intend to use it?

MR. STICKAN: Well, first of all, Judge, I've got 5 some other e-mails to follow this. But the purpose is, one, 6 the defendant -- I don't know if the defendant's challenging 7 8 whether this is an e-mail or not or the substance of it, but 9 this witness has already testified that they knew the bulletin 10 was coming. And then they issued -- this is the JCO, Justified Continued Operations, memo that Mr. Geisen signed off on. 11 So 12 they knew the bulletin was coming. And they were already 13 making contingency plans to shut down and discussing whether 14 they had to inspect or not. So the bulletin was already being 15 anticipated at that point in time. And he was given an 16 assignment by management to prepare this document. 17 THE COURT: "He" being? MR. STICKAN: Mr. Goyal. That's his testimony. 18

19 So it ties into the bulletin.

20 MR. HIBEY: The questions I put to him were whether 21 Mr. Goyal copied Mr. Geisen on any of, something like what I 22 counted, 13 e-mails that addressed writing the response to 2731, 23 to the bulletin in the form of 2731, that's what I asked him. 24 Now what they're doing is coming in with documents, whether he's 25 been copied or otherwise addressed, that are before the bulletin 1 ever issued.

THE COURT: Well, you didn't, as I recall, touch on anything except the 13 e-mails.

MR. HIBEY: Respecting the writing of 2731 to or 4 from him, or commenting on 2731. But 2731, not before the 5 6 bulletin ever issued. That's what they're trying to do here. MR. STICKAN: Your Honor, if he's trying to leave 7 the impression Mr. Geisen didn't know what was going on with 8 respect to what led up to 2731, which I think is the impression 9 he's trying to leave, this document clearly shows he was 10 involved from the very beginning in what was going on that led 11 up to the response in 2731. 12 13 THE COURT: He's already testified to that. 14 MR. STICKAN: He's testified --

15 THE COURT: All I'm suggesting is that you are 16 correct, but if he's already testified to it, and he was not 17 crossed on that, then it's not proper redirect. That's the 18 only point that is being made. And the rest is for oral

19 argument on closing.

20 MR. STICKAN: Can I have one minute, Your Honor?
21 THE COURT: Sure.

22 (Discussion had off the record.)

23 MR. STICKAN: Your Honor, I'll move on.

24 THE COURT: Okay.

09:55:59 25 (End of sidebar discussion.)

1 BY MR. STICKAN:

	2	Q. Mr. Goyal, with respect to e-mails that were issued, I
09:56:07	3	think Mr. Hibey asked you about e-mails that were issued to
	4	various people and whether Mr. Geisen received such an e-mail?
	5	A. Right.
09:56:15	6	MR. HIBEY: Objection, Your Honor. That was not a
	7	proper characterization of the question put to the witness.
09:56:21	8	THE COURT: Overruled.
09:56:50	9	BY MR. STICKAN:
09:56:50	10	Q. Let me show you what's marked as Government's Exhibit
	11	36. It's already been identified and admitted. Do you see
09:57:00	12	that?
	13	A. Yes.
09:57:01	14	MR. HIBEY: Objection, Your Honor, to that exhibit.
	15	That's the one we just had the sidebar on.
09:57:06	16	THE COURT: No, that was 26.
09:57:12	17	MR. STICKAN: 36.
	18	THE COURT: We're now on 36.
	19	MR. HIBEY: The same objection, Your Honor.
09:57:29	20	THE COURT: This is the response?
09:57:34	21	MR. STICKAN: Yes, Your Honor.
	22	MR. HIBEY: With respect to drafting. That's the
	23	point.
09:58:04	24	THE COURT: I'm going to overrule the objection
	25	having read the first paragraph.

MR. STICKAN: All right. Thank you, Your Honor. 1 BY MR. STICKAN: 2 09:58:15 All right. Can you identify Exhibit 36? Do you have 3 Q. 09:58:16 4 that in front of you? 5 Α. Yes. It's an e-mail from me to Mr. Geisen, Mr. Theo 6 Swim, and carbon-copied to Mr. Dale Wuokko. 7 Q. This was an e-mail sent on August 11, 2001, correct? 09:58:41 8 Α. Right. In this e-mail you discussed the MOD 5 head inspection 9 Q. 09:58:54 recommendations; do you not? 10 09:58:59 11 Right, MOD 5. Α. I'm sorry, the JCO --12 09:59:03 Q. 09:59:06 13 Α. JCO, yes. 14 Q. That's mentioned in this document; isn't that correct? 15 Right. Α. 16 Let me point out the second to last paragraph. 09:59:33 Q. This 17 e-mail indicates, does it not, that I indicated that we plan for 09:59:41 100 percent volumetric examination even if we do not commit to 18 09:59:46 19 NRC. Directors were in agreement that we should plan for it in 20 the 13th RFO. It was pointed out that we cannot clean our head 21 through the mouse holes, and Andrew Siemaszko is requesting 22 three large holes to be cut in the service structure for viewing 23 and cleaning. 24 Isn't that correct? 25 Right. Α.

This e-mail was sent to Mr. Geisen; was it not? 10:00:09 1 Ο. 2 Α. Yes, it was. Q. Let me show you what's been marked Government's Exhibit 10:00:48 3 27. We've already identified this, and it's been admitted. 10:00:51 4 5 Do you see it? Just so you can see the exhibit sticker. Do 6 you see that? 7 A. Yes, I see 27. Q. And the top header of this e-mail? 8 MR. HIBEY: Your Honor, respectfully, the same 9 10:01:02 objection that was made at the bench. 10 10:01:04 (Whereupon the following discussion was had at the 10:06:31 11 bench outside the hearing of the jury:) 12 THE COURT: Let me explain where I'm having 13 14 trouble. There were, as I recall, significantly more than 13 You asked about 13 e-mails. And what I'm concerned 15 e-mails. with is leaving the impression that those were the only e-mails 16 17 with the jury. 18 MR. HIBEY: 13 e-mails respecting drafting. This has nothing to do with drafting. This came before the -- this 19 is a July 10th. It hadn't even come out. 20 21 MR. STICKAN: This is 1D information right here. 22 MR. HIBEY: It could be 1D information, 1E, whatever you want to call it. The point is with respect to 23 drafting, this predates the bulletin. And that was the point I 24 25 made to this man.

MR. WISE: Judge, can we have one minute? 1 (Discussion had off the record.) 2 MR. HIBEY: The bulletin came out August 3rd. This 3 memorandum or e-mail is written on July 10th. It's a month 4 5 before almost. That's the point. 6 THE COURT: Well, I thought we all were under the impression -- I was under the impression that FirstEnergy and 7 its staff was aware of the coming of the bulletin and was 8 preparing for a response before August 3rd when it came out. . 9 Clear that up through this witness and you can get that on for 10 redirect. 11 MR. WISE: At the risk of incurring the Court's 12 13 wrath, let me just say this: The reason the question was so 14 narrowly tailored to the drafting of 2731 was because it was specific to that sole point. The government's put all these 15 16 things in. They have it for argument. The question I think, if the Court goes back and reads it, you'll see the question 17 says: The 13 e-mails relate to the drafting of 2731. 18 19 THE COURT: I understand that. The question is, 20 is it his objection or it is John Conroy's objection? What does 21 this hit on? 22 MR. WISE: It's our objection because what the 23 government is trying to do is put these exhibits back in front 24 of the jury to show Mr. Geisen's knowledge when the question was 25 about specifically his involvement in the drafting of 2731,

period. 1 THE COURT: Off the record. 2 (Discussion had off the record.) 3 THE COURT: That's not the issue. I'm trying to 4 5 ferret out what John Conroy asked him about. And if John 6 Conroy touched on the drafting, and if John Conroy talked about knowledge, then this is proper redirect. 7 MR. HIBEY: But he started the question by saying 8 9 "Mr. Hibey asked." 10 MR. GORDON: And he's directed these to Mr. Geisen, not Mr. Cook. 11 12 MR. BALLANTINE: This e-mail doesn't copy Mr. Cook. 13 So to be fair, I don't think that issue relates to this exhibit. 14 THE COURT: I'm mistaken. It's Mr. Siemaszko. Let's move on. This has been before the jury too 15 I'll sustain the objection, only because it's 16 much. 17 duplication. (End of sidebar discussion.) 10:06:42 18 MR. STICKAN: Your Honor, we have no further 10:06:43 19 20 questions. 21 THE COURT: You may step down, sir. 10:06:47 22 This is an appropriate time, ladies and gentlemen, 23 to take our mid-morning break until 20 after the hour. Please remember previous admonitions not to discuss the case among 24 25 yourselves, nor with anyone else, or permit anyone else to

	1	discuss it with you. And do not make up your mind on the
10:07:07	2	ultimate issues which you will address when you deliberate at
	3	the end of the case. Thank you. Enjoy your break.
10:26:40	4	(Recess taken.)
10:29:03	5	THE COURT: Mr. Ballantine, please call your next
10:29:07	6	witness.
	7	MR. BALLANTINE: The United States calls Steven
10:29:11	8	Moffitt.
10:29:13	9	(The witness was sworn by the clerk.)
10:29:27	10	
10:29:27	11	STEVEN MOFFITT, DIRECT EXAMINATION
10:29:39	12	BY MR. BALLANTINE:
10:29:40	13	Q. Good morning, Mr. Moffitt.
	14	A. Good morning.
	15	Q. Would you please state and spell your full name for the
	16	court reporter?
	17	A. Certainly. My name is Steven Moffitt. Steven,
	18	S-t-e-v-e-n, Moffitt, M-o-f-f-i-t-t.
10:29:54	19	Q. Mr. Moffitt, have you worked at the Davis-Besse Nuclear
	20	Power Station?
	21	A. Yes, I used to work there.
	22	Q. What title did you hold?
	23	A. I had two jobs at Davis-Besse. I was the services
10:30:07	24	director and the technical department of engineering director.
10:30:13	25	Q. I'm sorry; did I get two?

I'm struggling to remember the exact title. My first 1 Α. job there I was in charge of services, services was 10:30:19 2 administration and security, and I'm trying to remember what the 10:30:22 3 third thing was. I'm nervous up here. 4 The second I was in the technical department, which 5 10:30:35 6 was the Engineering Department. Training was the third part of the first one. 10:30:37 7 In those capacities were you a director? 8 Q. Yes, I was a director of both departments. 9 Α. I'd like to go back and have you tell the jury about 10 Q. your background and work up to those jobs. So tell the jury 11 how you, I guess, first came in contact with anything nuclear. 12 Well, there was a recruiter in 1975 when I was going to 10:30:57 13 Α. 14 join the Navy. At that time the nuclear business was quite 15 vibrant. I joined the Navy in the nuclear program in '75. Ι was in that for six years, from '75 to '81, working as an 16 operator in the propulsion plant, which was a nuclear plant that 10:31:16 17 essentially ran a turbine and made the ship move. 10:31:20 18 After the service I went to college on the GI bill 19 20 in Ohio; I went to Cleveland State for electrical engineering, 21 got my degree in electrical engineering. And then worked for 10:31:34 22 what's now FirstEnergy. It went through different companies 23 over the years; it started as CEI at that time, then Centerior, then FirstEnergy through different mergers. My jobs were 24 10:31:42 25 primarily in engineering at the Perry plant from '83 to '99. 10:31:46

So I was at Perry for 16 years. I spent a good deal of time in
 operations training and in the control room I was on shift for a
 while, and I worked on our valve testing program in the
 maintenance department for a short while. Out of those 16
 years I was primarily in engineering.

6 Then I went to Davis-Besse in 1999 and, as I said, at that time the training I forgot was the problem area that had 7 8 been identified at Davis-Besse as having problems, so our chief operating officer instructed me to go there essentially in 9 10:32:21 10 I was in that job until, I believe, September January of '99. of that year when our engineering director was transferred to 10:32:30 11 12 the Beaver Valley Station, and I became the engineering director 13 in around September of '99. And I was in that job until after 10:32:37 14 we discovered the corrosion in the head in March of 2002. Ι 15 left the company in the fall of 2002. Since then I've been 16 outside the nuclear business. I'm in sales of electrical 10:32:55 17 equipment to the power industry.

10:32:57 18 Q. The microphone you've got there is three direction. If 19 you pull it over to the side --

20 A. This way?

21 Q. That's fine. All right. Could you provide the jurors 22 a little more detail about your shift, your move from the Perry 23 Nuclear Power Plant, I think you said you worked, over to 10:33:21 24 Davis-Besse?

25 A. Yes. As we evolved as a company, going back, a little

,

bit of background to your point, Davis-Besse and Perry were two 1 nuclear plants, then later we included Beaver Valley. My point 2 10:33:32 bringing that up is the management of FirstEnergy changed the 10:33:36 3 culture to some extent to where they started transferring 4 management people around to try to have a cross-pollination, if 5 6 you will, of talents and perspectives and standards consistent with that in -- I'm trying to remember when it was -- '99. Т 7 quess it's probably late '98. Lew Meyers, who was at that time 10:33:58 8 our leader, identified the problems in training at Davis-Besse, 9 and although I had no specific background in training other than 10 10:34:09 my Navy time, told me he'd like me to go there, which I thought 11 would be a good opportunity. It was a promotion. I was a 12 13 manager; it was a director's job, and I took that job. 10:34:22 Can you indicate to the jury what the sort of -- I don't 14 10:34:26 Q. want to say food chain, but I just did, the levels there at 15 10:34:30 management at Davis-Besse? 16 10:34:33 17 The organization started with the individual Α. Yes. contributors, then the supervisors that would watch over the 10:34:38 18 daily activities of the people, the supervisors, managers, much 19 10:34:44 20 like a pyramid at many corporations. I was started at the 10:34:50 21 Perhaps I'll start at the top; it will be a little bottom. 22 easier. The site vice-president, that was the person in 23 24 charge of the power plant. Working for that person were

10:35:08 25 approximately three or four directors. Under the directors

1 were probably the same number, three to five maybe, managers. 2 Then managers had supervisors, so usually there were more of 3 them, maybe six or seven. Then supervisors would typically have ten to 20 individual employees. So a director, I had about 4 5 140 employees in my first job, and I think around 110 or so in 10:35:29 6 my second. 7 When did you come to Davis-Besse? 10:35:35 Ο. 8 Α. In January of 1999. 10:35:37 10:35:40 9 Q. And what was the next sort of big event there at Davis-Besse? 10:35:46 10 10:35:47 11 Α. Well, we had the mid-cycle outage in '99, then we had 12 the refueling outage in 2000 were probably two big events, if 13 you will. 10:35:58 14 Before the refueling outage in 2000, did you change Q. iobs? 15 10:36:02 16 Α. Yes. Yes. 17 What job did you then take? Q. 10:36:06 18 Α. That was the second of the two I mentioned. I was the 19 services director. Then I became the Director of Technical 10:36:10 20 Services, it was called, essentially in January. 10:36:16 21 Q. Who did you supervise as Director of Technical Services? 22 We had two main organization changes. First we had -- I Α. 23 had Regulatory Affairs, System Engineering, and Design 24 Engineering, and then Regulatory Affairs went to another 10:36:28 25 10:36:31 department. And I started a group called Life Cycle

Management, which was more long-term engineering activities. 1 10:36:35 2 So in those jobs I had Mr. Dave Lockwood, Dave Geisen -- I'm In the engineering job I'm describing, Dave Geisen and 3 sorry. Dave Eschelman. Then Mr. Lockwood went off to Regulatory 4 Affairs, and Joe Rogers became the Life Cycle Management 10:36:53 5 6 director. 7 Ο. Which job did Mr. Geisen hold? 8 Α. Mr. Geisen was the Design Engineering manager. Q. So what did you do to prepare for the outage in 2000? 10:37:04 . 9 10 The 2000 outage, my main -- there were two main areas I Α. would describe. One of them was my line organizational goal. 11 10:37:16 12 The second was probably what I called the organizational 13 dynamics of managing the outage itself.

14 In the former, we were responsible primarily to 10:37:30 15 give modification packages so they'd be ready for the 16 implementation during the outage. During the outage there was 10:37:34 a lot of maintenance work that went on. Hundreds of people 10:37:37 17 would come to the power plant, and part of the activities 18 19 involved making changes to the power plant. So to answer your 20 question, that was probably the main part of getting ready, was 21 making sure that the packages, which are documents and drawings 22 and such things, were ready.

10:37:24

23 Then on the second part it was really to understand 10:37:56 24 how Davis-Besse did refueling outages and what the roles of the 25 different people and expectations and accountabilities would be

10:38:08 1 related to that dynamic.

10:38:10 2 Q. Was this your first outage at a commercial pressurized 3 water reactor?

4 A. It was my first commercial outage other than --10:38:20 5 Q. Perry?

6 -- was BWR, which is a boiling water reactor. Α. 7 Davis-Besse was a PWR, which is pressurized water reactor. 8 Were there differences between the plant designs? Ο. 9 That reminds me, there was one significant difference I Α. 10 learned about, I was interested in too. The BWR essentially 11 took water, boiled it in the vessel of the reactor, then the 12 boiled water, which became high quality steam, went directly to 13 turbine, which made electricity.

14 PWR, pressurized water reactor, operated at 2,000 10:38:49 15 pounds compared to 1,000 pounds that the boilers, as we called 10:38:53 16 it. Because of that, there was another main difference that 10:39:01 17 the steam generators were between in a PWR was a primary loop 10:39:07 18 and the secondary loop. And these steam generators had a lot 19 of extensive inspections in the 2000 outage. And there was 10:39:17 20 almost like a mission control set up where people from the 21 reactor designer set up a lot of monitoring communications 22 equipment so that as these tubes of these steam generators were 10:39:27 23 inspected, people back at the reactor manufacturer could weigh 24 in on the material condition of the tubes. So that was the 25 biggest difference. And then obviously the design of the

10:39:43

1 reactors are different.

The boiling water reactor doesn't have -- I can see 2 this model doesn't have the control rods on top of the reactor 3 but underneath the reactor because there's boiling going on on 4 5 it. And similarly, the reactivity, which is the gas pedal of 6 the plant, is controlled in a different fashion in a BWR versus In BWR it's controlled with what amounts to bubbles; it 7 a PWR. 8 called a void, coefficient void. Whereas in the PWR, in addition to control rods, which are common, there's boron, which 9 10:40:19 10 is certainly part of this topic, that controls essentially how 11 much power is being made.

O. Would you tell the jury about the 2000 outage; in 10:40:36 12 10:40:39 13 particular, anything with respect to what you might have learned 14 about the head of the reactor at Davis-Besse at that time? 15 A. Certainly. The two pieces that I learned about the head, one was on the flanges, the history related to leakage on 16 the flange; then the other was the efforts by Andrew Siemaszko 10:40:55 17 to clean the boron, which we believe was the result of these 18 flange leakages off of the head. Those were probably two main 19 20 things that I learned related to the head. I'm trying to think if there was anything else. Nope. 21 That's it.

10:41:15 22 Q. Tell the jury about how you came to learn about boric
23 acid being left -- well, boric acid on the head of the reactor.
10:41:24 A. I remember Andrew Siemaszko coming to me when I was in
10:41:30 25 the area outside the plant manager's office telling me he had a

need for some support because he wasn't successful in getting
 this reactor head cleaned. He was attempting to do a cleaning.
 He had a tape with him that he showed me at the time in the
 10:41:47
 operations manager's office. I asked him questions about:
 10:41:51
 What is this; why is it on top of the reactor; where is it
 10:41:55
 coming from?

7 Q. I'm sorry, you said: What is this? What was it that 8 you were seeing on the tape?

9 A. There was boron, boric acid, dried boric acid that was 10 on top of the reactor head. And Andrew described -- Andrew and 11 others described to me this history of flange leakage that we 10:42:07 believe to have been the cause of that. It was viewed -- to 12 10:42:11 continue, Guy Campbell was my -- he was a site vice-president, 13 14 as I described it earlier. Guy was in the area. He was at 15 the plant manager's office, so I had him come take a look at that too. We believed it didn't meet the standards that I 16 discussed about before as far as how we wanted to operate the 17 18 plant, to have the plant be clean. We didn't view this as a technical issue because of the mindset that this was not 19 20 detrimental to this metal, the temperature, but we essentially 10:42:43 10:42:47 21 wanted to support -- Guy, we thought, was someone trying to do 22 the right thing.

I talked to people in the outage central, which was 10:42:54 24 the nerve center, if you will, of the management of the outage. 10:42:58 25 I believe I talked to the shift engineering manager, although as

I sit here today I couldn't swear to it. I do remember there 1 was a difference of opinion related to the -- really whether 2 10:43:05 Andrew should proceed on the reactor head. And then I remember 3 being updated that he was proceeding again. So we felt good 4 5 about that.

10:43:20

6

Q. And when you say proceeding, what was it that you understood him to be doing? 7

A. He was cleaning the head. I learned later in more 8 detail that there were certain pressures of water that he was 9 10:43:27 using, which I believe was one of the issues within Engineering, 10 10:43:30 whether that was wise or not. But I knew he was getting the 11 12 support he needed. I believe the support was primarily being 10:43:41 13 needed in the area of health physics. We have had a very 14 robust group of people who would ensure that dose was minimized 10:43:48 15 in the power plant. And there was some debate, I'd call it, 16 whether the right thing to do was to continue or not. Q. I'd like to have you take a look at two exhibits, 17 10:44:03 Government's Exhibit 1 and 15. I'll bring them up to you. 18 10:44:07 10:44:19 19 Α. Okay. 10:44:20 20 Ο. Actually, just for the record, is there a document up

21 here that is sitting on the stand?

22 A. Yes, there is.

23 Is that a document that you brought up here? Q. 24 It's got Mr. Goyal's name on it, so I would assume it's Α. 25 his. 10:44:33

Q. I'm just going to take it off the stand. 1 10:44:34 THE COURT: Thank you. 2 10:44:38 BY MR. BALLANTINE: 10:44:41 3 Starting with Government's Exhibit 12, without getting 10:44:41 4 Q. 5 into the content of the document, can you tell the jury --6 Government's Exhibit 12? I just want to make sure, it is 782. 7 Α. There should be a sticker in the lower right-hand --Q. 10:44:55 8 Oh, good. Yes. 9 Α. 10:44:58 Without getting into the content of the document, can 10 Q. 10:45:01 you explain to the Court and to the jury what it is? 11 12 This is a Condition Report. It was the way that we had Α. 13 our people initiate corrective action at the power plant; they 14 would identify something that could potentially be a problem at a low threshold. Then the management team would review this 15 and see that it went to the right people to be addressed. 16 10:45:22 And what did this particular Condition Report relate to? 10:45:28 17 Q. Number 1 related to the need to address the flange 10:45:36 18 Α. leakage on top of the reactor with control rod drive mechanisms. 19 10:45:43 20 Q. Was this the issue that you were just describing that 21 Mr. Siemaszko had brought to you? 22 Yes, this one and the one next to it, 15, together were Α. those two pieces. This one was flanges. I'm not reading every 23 10:45:55 word on it. This one was the boron on the head itself. So 24 25 there were two -- I'll call them complimentary issues that

1 together added up to what I described.

10:46:10	2	Q. And again, I believe you may have already testified to
	3	this, but what is the purpose of a Condition Report?
	4	A. We, being Davis-Besse and the nuclear industry in
	5	general, would initiate corrective action through a formal
10:46:26	6	process to identify what is the event or the issue that needed
	7	to be resolved. So the Condition Report was used by all of the
10:46:34	8	employees. If memory serves me, I had about 3,000 of these a
10:46:40	9	year. From the initiator it would go to the control room, us,
10:46:44	10	because that's the person that was driving the plant
	11	essentially, so they would take the first cut as to the
10:46:49	12	significance based on their license capabilities. Then it
	13	would go broader to the management team where we would challenge
10:46:56	14	from a cross perspective, if you will, what this issue is about
10:47:01	15	and what could be its potential significance, what's its onus.
10:47:06	16	And if it was something reportable, it would be reported to NRC,
	17	as an example. So that's, in general, what the Condition
	18	Reports are for.
10:47:19	19	MR. BALLANTINE: Your Honor, I'd move to admit
10:47:23	20	Government's Exhibits 12 and 15 that Mr. Moffitt's been
	21	testifying about.
10:47:27	22	MR. GORDON: No objection.
10:47:28	23	THE COURT: Government's Exhibits 12 and 15 will be
10:47:31	24	admitted. I believe the first day of trial we only admitted
10:47:35	25	the photos appended to written material on 12. So both

~ exhibits will be admitted at this time and may be shown to the 1 10:47:45 2 jury. BY MR. BALLANTINE: 3 10:47:48 4 Q. These documents, were these things that rose to your level? 5 10:47:52 Α. I'm sorry? 10:47:57 6 7 THE COURT: It's fine. I don't remember these two documents in particular. 8 Α. I remember the issue. We, as I mentioned, as things percolated . 9 up, there was an issues board and, at the outage management 10:48:09 10 central, I remember this was being tracked as an issue to be 11 10:48:13 12 dealt with. 10:48:16 13 Q. How did this issue end up getting resolved as you 14 recall? 15 There were two issues, and they were resolved in two Α. The flange leakage was believed to have been the 16 ways. 17 problem, and it was resolved by repairing a number of flanges, I believe around four or five flanges. The boric acid on the 18 19 head was resolved by cleaning the boric acid off the head, but it wasn't totally cleaned off the head. It was believed -- it 20 was resolved by analysis and by intent, I call it. It was 21 22 disposition. What I mean by that, there was a belief that 10:48:47 having this boric acid on a 600 degree head didn't constitute a 23 10:48:51 24 That was part of the belief at the time. corrosion issue. 25 And then there was an intention in here to have it fully cleaned 1 before it was returned to service. But the reality was that
2 wasn't done.

10:49:09 3 Q. And with respect to that last piece of testimony, I'd 4 like you to have a look at Government's Exhibit 15, and I think 5 there will be a number at the bottom right corner that ends in 10:49:23 6 445. The last page.

10:49:27

7 A. I'm sorry. Yes.

8 I'm going to pull that up on the monitor over here. Q. Is 9 that the way -- you were talking about resolved by intent. Is 10 that -- is this a record of how that was resolved? 11 A. Yes. I believe -- Dave Geisen, who signed this, believed this was going to be fully cleaned before it was 12 returned to the reactor vessel. Let me read that. 10:49:49 13 I haven't 14 read it in a long time.

15 The Reactor Vessel Head will be cleaned of all 16 boron deposits following completion of CRD flange repairs by FTI, which is Framatome. The cleaning is scheduled and will 17 10:50:06 occur first, prior to the head is moved from the head stand. No 18 10:50:08 evaluation is needed to support a Mode 4 entry, therefore this 19 10:50:08 CR can be removed from the Mode 4 restraint list, it says at the 10:50:15 20 21 top, which is consistent with being on the board and trackings. 22 Q. What does it mean that something is a mode restraint? 23 There's different operator modes for the power plants. Α. I think Perry had five and Davis-Besse had six, if I remember. 24 25 And they're kind of like gears on a car where you would go to

1 different states of how hot the plant was, how much electricity
10:50:39 2 you generated. To answer your question, that's what the word
10:50:42 3 mode means.

10:50:44
10:50:44
10:50:47
10:60:47
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:50:50
10:

10:51:07 9 Q. You testified about the belief at the plant in 2000 that 10 there was flange leakage. You said you were present for the 10:51:15 11 1999 mid-cycle outage?

12 ' A. Yes.

13 Q. Were you aware at that time of any reviews that were 14 done of the flanges on the reactor vessel head?

10:51:26 15 A. No.

10:51:32 16 Q. All right. Were you on-site at the end of the 2000 10:51:39 17 outage?

18 A. No, I was at Turkey Point Station in Florida at the end 19 of the 2000 outage.

20 Q. Why was that?

A. The industry had an organization called INPO, Institute
10:51:54
22 for Nuclear Power Operations. I was to be a period evaluator
23 at the outage at Turkey Point, which is operated by FPL in
10:52:04
24 Florida.

25 Q. Is that Florida Power and Light?

1 A. Yes. So I went there, if memory serves, two or three 2 weeks is how long those take as an evaluator. So I was gone 3 for the --

10:52:18 4 Q. When you returned to the plant, what were your general 10:52:21 5 duties day-to-day while the plant was running?

I'll have to take some water to explain all that.

6

Α.

7 It doesn't have to get into a huge amount of detail. Ο. Briefly then, as a director I oversaw my management 8 Α. 9 responsibilities for my three sections. The way we did that is 10:52:38 10 as far as a team, we would have daily meetings. The daily 10:52:42 11 meetings were a lot of people, more than the jury probably, as 10:52:47 far as the people that would be at the morning meetings. 12 10:52:52 The reason I bring it up, it was an important part of our rhythm. 10:52:56 13 I might take something to the control room. 14 The control room 15 would be the first group to talk because they were driving the ship, if you will. Then the other organizations would 16 sequentially go around the table and talk about the affairs of 17 10:53:10 the day. 18

I bring up this meeting because that was an 19 10:53:13 20 important distributor in the engine, how we did business. In addition to the daily ways we did business, we had metrics that 21 22 we used as a broader management team where we would have monthly 23 meetings, different color codings for how we were performing with respect to safety, people in production. So we would have 24 10:53:32 25 different types of meetings. 10:53:40

10:53:41 1 Certainly between that there were a lot of things 2 we would do, safety committee meetings with the employees to make sure they have the right equipment, employee organization 10:53:48 3 things, the modification packages. As you might imagine, there 4 5 was a lot of just work that goes on at the plant. Then 6 certainly addressing the day-to-day issues that evolve with 10:54:00 7 equipment; a lot of times there were broken valves, pumps, 8 things like that. 9 Then corporate --10:54:12 10 At one of these management meetings did you come to Q. 11 learn of renewed interest in the industry with respect to

10:54:20 12 control rod drive mechanism nozzles, particularly cracking of 13 those nozzles?

14 A. Yes.

15 Tell the jury about how you learned of that issue. Q. 16 Α. There was a new issue, as it was characterized to us, 17 that related to circumferential or circular cracking of the 18 control rod drive penetration into reactor head. Up to that 19 time there had been axial cracking of the head, is what I 10:54:44 20 learned subsequent to this. But at that time this was 21 something new.

Q. You said "the head". Were you referring to the Davis-Besse head?

A. It's a good question. The issue was an industry issue. 10:54:54 25 It applied to Davis-Besse as well as to other pressurized water

reactors. So this was brought to our attention from another 1 10:54:58 power plant for the kind of review I described with the 10:55:02 2 Condition Reports where we would challenge each other as to what 3 does this mean to us, that kind of thing. 10:55:10 4 5 Q. Who was it who brought this issue to your management 6 team? 7 Α. I remember Dave presented the issue to the management team in a general sense, drawing pictures and describing the 10:55:19 8 J-weld and what this meant compared to normal. 9 10:55:25 10 Q. And what was your understanding of the cause of this -causes of these cracks? 11 I don't know if I could testify to cause. I know 10:55:41 12 Α. 10:55:45 13 attributes that contributed to susceptibility. 14 Ο. What were those? Were these things Mr. Geisen related 10:55:49 to you in his management meetings? 15 He was the management representative. At the 16 Α. 10:55:54 17 management meetings, I don't remember as I sit here. I couldn't testify I remember the cause and the attributes that contributed 18 10:56:02 19 to it. My recollection of that one was more general. Here's 20 what this issue is. And then I suspect, although I can't 21 swear, I recall we talked about general susceptibility, how it 10:56:15 10:56:19 22 applies to us, that would certainly be logical. Did there come a time when Mr. Geisen made another 23 Q. presentation about this subject? 24 10:56:25 25 Α. Yes. I believe there were two, although they weld

1 together in my mind, if you will. We had a couple of guests 2 from the NRC. We went over issues that we thought would be of 3 interest to them when they visited the power plant. And we put 4 together more of a presentation for those. And David gave the 5 presentation on what this particular issue is, what we're doing 6 about it, how we're keeping abreast of things, what we're going 7 to do in the future.

> 8 Q. Were there sort of three general areas that you -- that 9 were focused on during this presentation?

10:57:01 10 A. Yes.

11 Q. What were those?

12 Well, the first one was susceptibility. As I mentioned Α. 13 before, I'm not sure I could state a cause. But how 10:57:06 10:57:10 14 susceptible you are related to a time and temperature model, it 15 was called. That was similar in my mind, as I was considering 16 this, to how many miles you might have on a car. It was how hot had the plant been and how long had you been running? 17 The 18 industry had shown that those were the main factors related to 19 how susceptible you were, much as we age. The other issues 20 were: Where do you fit into that; are you connected with the 10:57:38 21 industry; and what are you going to do as far as future inspections to make sure you don't have a problem? 10:57:47 22 That's --23 although I still can't remember both meetings, one at a time, I 24 remember we had presentations, and those were the areas at the 25 senior level where we communicated with the regulator.

-		
	1	Q. Did Mr. Geisen have a background for being the presenter
10:58:06	2	for these meetings at these meetings?
	3	A. Dave was on the Steering Committee. I wouldn't know
	4	that he would be a subject matter expert, but he was certainly
	5	the representative on our team, as was I as Engineering
	6	director, which made sense why he would be the one that
	7	provided he is certainly a capable engineer.
	8	Q. As a Steering Committee for what?
	. 9	A. I don't remember exactly what steering committee he was
10:58:31	10	on, either EPRI or B & W Owners Group. But I remember he was
	11	on a committee that essentially allocated focus for the industry
10:58:40	12	group that was involved, which issues would get which funding,
	13	kind of like a deliberation congress or something.
10:58:50	14	Q. Approximately when I mean season of the year,
10:58:54	15	month were these meetings where the NRC guests, as you called
	16	them, came to your plant?
	17	A. It must have been in the spring or summer of 2001, but
10:59:06	18	I'm not certain. It might have been a little bit earlier.
	19	I'm sure it was not after August when this bulletin came out; it
	20	was before that.
10:59:17	21	Q. You mentioned a bulletin. When did you first become
10:59:21	22	aware that the NRC might be issuing a bulletin?
	23	A. I don't know exactly when, but I believe in the summer
	24	of 2001 we heard that there may be a bulletin. Certainly in
	25	August of 2001 there was a bulletin.

		· · · · · · · · · · · · · · · · · · ·
10:59:35	1	Q. And what was your understanding of what a bulletin
	2	just generically what an NRC bulletin was?
	3	A. A bulletin was a pretty high level document. There
	4	were not many of them. The NRC would issue things, I forget
	5	their exact names. Informations, letters, things like that.
	6	A bulletin was more of a high-level quick-response type thing.
10:59:56	7	We had you had a very limited amount of time to reply to it.
11:00:00	8	So it is something as the name implies, bulletin.
	9	Q. Do you remember how much time there was to respond to
	10	the bulletin?
	11	A. We had a month, 30 days.
	12	Q. So when did you or tell us about how you came to
	13	learn the bulletin had been issued.
	14	A. I learned in the second half of August, roughly. I know
	15	where I was at the beginning of August; I was at another as
11:00:26	16	often, I was at an INPO. In this case I was a mentor at the
	17	D.C. Cook plant in Michigan the first week; I was on vacation
11:00:34	18	the second week, so certainly when I got back from vacation I
	19	knew of the bulletin.
11:00:39	20	Q. What was your responsibility with respect to the
11:00:43	21	bulletin?
	22	A. I was the Director of Engineering, so all the technical
	23	information that went into the bulletin was my responsibility.
11:00:52	24	Q. Were you involved in the preparation of the bulletin in
	25	any way?

1 A. I was not involved in the actual preparation of the 11:00:58 2 bulletin response, which is what I'm assuming you're referring 3 to.

4 Q. You're right. Thank you. I meant the bulletin 5 response.

11:01:04 6 So -- well, did you keep abreast of how Davis-Besse
11:01:08 7 was responding?

8 A. Yes. I remember generally a meeting that I held in my 11:01:14 9 office with the key players. I believe it was on August 28 10 because I checked my calendar the last couple years, and it was 11:01:22 11 essentially pulsing, do we have the right people involved, maybe 12 15-, 30-minute type meetings with the key players involved in 13 responding to the bulletin.

14 Q. Who were those key players?

I remember Lonnie Worley. I'm going make assumptions, 15 Α. and I don't really want to do that. I remember about five 16 people in there. It would be people in Regulatory Affairs; it 17 11:01:51 would be people in Engineering. I remember Lonnie was there 18 19 because he was my peer. I would guess Dave Lockwood was there; 20 I'm not positive. I doubt Mr. Cook was there. I'm not sure 21 if Dave Geisen was at that particular meeting because I don't 11:02:05 have that kind of recollection that I could swear in the 22 11:02:08 23 courtroom to that. But I remember we had such a meeting, and it was maybe five or six people. I believe we had some type of 24 25 matrix that showed; it was a very big response. We were 11:02:19

1 responding to it.

11:02:26	2	Q. When a communication goes out to the NRC, is there a
	3	document, an internal document? Was there an internal document
	4	within Davis-Besse that tracked who was responsible for
	5	different parts of it?
	6	A. Yes. A routing sheet, I call it, known as a greensheet
11:02:42	7	that would track, as I suggested on this matrix. Then you break
	8	that down into a lot more detail, and the Regulatory Affairs
	9	group would make sure that all the appropriate parties had an
	10	opportunity to contribute and review the product as it went
	11	through draft.
11:02:58	12	Q. I'd like you to take a look at Government's Exhibit 59,
	13	which has been offered and admitted. Is that the document you
	14	were referring to?
11:03:12	15	A. That's correct. This is the initial bulletin response
11:03:17	16	from September 4th of 2001.
11:03:21	17	Q. All right. I'm going to bring that up for the jury to
11:03:25	18	see. I want to ask you about do you have the first page up
11:03:33	19	on here?
	20	A. Yes, sir.
11:03:35	21	Q. I'm going to ask you to look at I have it as the
	22	fifth page. I don't know if you can see it on the monitor and
11:03:49	23	match it up with what you have in front of you.
	24	A. Yes.
	25	Q. There are two blocks that I'd like to draw your

attention to. The first is the top one. Which block is that? 11:03:55 1 What does that block --2 11:04:04 That's Design Engineering Manager block. 3 Α. Who initialed that block? 4 Ο. 5 Α. Mr. Geisen. Q. Then there's another block with your name on it? 11:04:11 6 Yes. 7 Α. At that point you were the Director of Technical 8 Ο. Services? 9 10 Α. That's correct. Who signed off on that block? 11 Ο. 12 Α. Mr. Geisen. 13 Q. What were the circumstances that Mr. Geisen was signing 11:04:21 for you? 11:04:25 14 A. I don't know exact circumstances, but it wasn't unusual 15 11:04:26 16 to have alternates, which would be the next level in the organization if someone was absent or assigned to some other 17 function. So I'm sure he was authorized to do this as my 11:04:39 18 19 alternate. 11:04:42 Q. What were you doing at the end of August of 2001? 11:04:43 20 At the end of August we had a couple events. We had 21 Α. Senator Voinovich's visit, but more importantly, we had a INPO 22 11:04:51 23 evaluation. I mentioned earlier how I had gone to Turkey Point 11:04:56 24 for their evaluation; I was the host peer on preparation for that evaluation, which was coming up for essentially the entire 25

11:05:06 1 month of September.

11:05:08 2 Q. You've testified, I think, that a bulletin is a pretty 3 important thing to respond to?

4 A. Right.

11:05:13 5 Q. So was there something about an INPO evaluation that 6 would take you away from sort of direct supervision of the 11:05:22 7 bulletin?

A. Well, the INPO evaluation, by necessity, when it's going 8 on you're not doing your regular job if you're on the evaluation 9 Some of these activities occurred in preparation for the 10 team. 11:05:30 So I don't want to suggest the evaluation was at the 11 INPO. My recollection at this time, I was pretty 11:05:39 12 exact same time. much preoccupied with getting the site ready for the evaluation 11:05:42 13 14 team. And certainly throughout the month of September I was a part of that team to Davis-Besse. 15

16 Q. Was an INPO evaluation a big deal?

Well, I was just speaking yesterday about it to someone. 17 Α. An INPO eval. is essentially how the industry measures its 18 11:06:01 performance against its peers from a different perspective than 11:06:08 19 20 a regulatory performance. Regulatory performance is to make 21 sure you're in compliance with regulations and operating safely 22 for the public. INPO is intended to be a higher bar where you 11:06:21 take the best practices of your peers in the industry and apply 23 them to your power plant. So the INPO evaluation was a big 24 11:06:30 25 team, maybe 20 people would come to your site and be quite

1 intrusive and coming down at the working level up through the 2 executive level and finding how you're doing, then making sure 11:06:47 3 what they saw needs to get to excellence were being implemented. 4 Q. After the bulletin response went in and you were working 11:06:58 5 during the INPO evaluation, what was your expectation about what 6 would happen concerning this issue?

My recollection was the bulletin was framed as a bunch 11:07:06 7 Α. of information request type, show us the design of your power 8 plant, your inspection history, your susceptibility -- I think 9 that was it. Anyway, it was a big document. We answered the 10 Then I wasn't sure how we would hear back as far as 11 question. 12 the response to that in September. I certainly heard back on 13 September 28 when we got a call; "we" being Guy Campbell, from 11:07:35 Bob Saunders, was our chief nuclear officer, that Brian Sharon, 14 11:07:42 who was a very senior person in the NRC, Dr. Sharon had called 15 16 Bob Saunders and indicated that -- this is secondhand admittedly. What Guy told me was that -- Guy Campbell -- was 17 11:07:56 that Dr. Sharon felt we didn't have enough information to 18 19 satisfy them as far as continued operation beyond year's end. 11:08:05 20 Q. I'd like to go back or come back to September 28 in just 11:08:10 But before we do, were you involved at all in 21 a moment. getting resources for Davis-Besse, outside resources for 22 11:08:24 Davis-Besse to prepare for the 13th refueling outage? I don't 23 24 need to be -- did you speak with Greg Gibbs during that time? Certainly. Well, wait. I know I called Greg Gibbs 25 Α.

into Davis-Besse to help Mark McLaughlin. I know he said that 1 he talked to me after he was done. I don't remember talking to 2 And I don't know if I talked to him before. I would 11:08:47 3 Greq. assume I must have because I commissioned him to provide 11:08:51 4 5 oversight for Mark McLaughlin because I wasn't going to be in my 6 job in preparation for the refueling outage. Q. Okay. So you hired or had --11:09:02 7 Yes. 8 Α. 11:09:05 . 9 -- Mr. Gibbs brought on site to assist with preparation? Q. Greq, I thought, was a very capable person. 10 11:09:09 Α. Yes. 11:09:12 11 Greq was my predecessor as the Engineering director, and I 12 thought he was very senior and very wise, in addition to being 11:09:19 13 knowledgeable. And I had used him before to help mentor some 14 of our people as they work together, and because I just couldn't help Mark as a sponsor because of INPO, I asked Greg through 15 16 Yvonne, if I remember my admin, to come in, and then he was to 11:09:36 take a look at our level of preparation for the upcoming outage. 17 18 Ο. Do you recall what findings he made? 19 Α. I know I've read his report after we found the event. 20 And his report, the bottom line was he thought the group was on 21 the right track as far as in general. I know he expressed differences of opinions internal to the group related to 22 23 modification. Those were probably the key issues I remember. 11:10:03 24 Q. All right. So now turning to September 28, what were 11:10:09 25 you doing on that day?

On that day that was the goal line of the INPO Α. 1 11:10:13 evaluation. So we -- as I described earlier, INPO talks at a 2 very high level of the organization. This is what they call 3 their site exit. So the team assembled, and the team being the 11:10:28 4 INPO evaluators, and then our team being the hosts at 5 Davis-Besse, people including our vice-president. So on the 11:10:38 6 28th we were having our debrief, which is sometimes painful, but 11:10:42 7 it's a growth process if you're objective about it, but you're 8 criticized in front of your boss, essentially, as to you should 9 do this better by doing it this way. And then we respond as 10 far as where we see the issue and how we're going to address 11 I remember in general that it was a detailed inspection. 11:11:04 12 that. 13 It was -- I certainly felt tired from the whole thing. That 14 was the 28th. 11:11:15 15 Well, at some point during that meeting were people Ο. 16 called out? I don't know if it was during the meeting or if it was 17 Α. right while we were exchanging good luck and so longs after, but 18

19 it was right when people were still there, I remember Guy

11:11:29 20 Campbell and Dave Lockwood, I believe Dave Geisen, although I

11:11:34 21 can't swear to it right now, but certainly Guy and David
22 Lockwood were called out for a call with Bob Saunders. That

23 was the call I talked to earlier where Dr. Sharon had talked to

24 Bob Saunders.

25 Q. So you believe that Mr. Geisen was called out?

A. I think so. I think so. I'm not absolutely -- I know
 I wasn't because I was the INPO host peer. So for whatever
 reason, Guy didn't elect to have me on that call. He took
 probably people that were closer to the issue is, what I would
 guess.

11:12:05 6 Q. When the INPO -- when that meeting was over, when the
11:12:09 7 folks had left, did you later on come to learn what that call
8 was about?

9 A. Absolutely.

10 Q. And what was your understanding of what that call was 11 about?

12 A. Guy Campbell personally discussed it with me and 13 instructed me to take an enhanced role, I'll call it, with 11:12:25 14 respect to the issue of circumferential cracking. Guy had personal knowledge on that as a technology and he believed that 11:12:30 15 11:12:34 16 the NRC and the industry had differences of opinion as far as these growth rates and these type of details. The message I 11:12:39 17 18 got was I was to get involved personally now and, as the 19 Engineering director, come up to speed on the issue, and then 11:12:53 20 engage in the dialog at the NRC to either reach some middle 21 ground or to form one group to find that the other one was, in 22 fact, on the right path. So it was quite a challenge, and I remember that discussion; I remember where I was. 11:13:07 23

Q. Why was this an important issue? What were the possible outcomes that Mr. Campbell was concerned about?

	1	A. Well, certainly the outage was scheduled for the year
. 11:13:20	2	next, 2002, in March or April of that year. The way that Guy
	3	communicated it was it required the shutdown by December 31,
	4	around Christmastime. So that the impact was rather
	5	significant seeing as how the plant had been running well for a
	6	year and a half, and we didn't we being the people I just
11:13:42	7	discussed Guy was involved with didn't feel that this issue
	8	was at that level.
	9	Q. I'm sorry. At what level?
	10	A. As far as the crack propagation, the critical flaw
	11	sizes, all these things that I learned much more about in the
	12	month of October.
11:13:58	13	Q. And so what I mean, what's the consequence? Why is
	14	shutting the plant down a big deal?
	15	A. There's a lot of different pieces to that. Certainly
11:14:08	16	the fuel I guess step back.
	17	The way we came to understand it was we had a
	18	24-month fuel cycle. And the opinion at that time would have
11:14:20	19	necessitated only 18 months. So to illustrate the difference
11:14:24	20	between those views was quite severe. It wasn't just this
	21	outage; it was for the next 20, 40 years you would not be
	22	operating at your full tank of gas as you saw it. Then there
	23	was fuel; there was cost; there was certainly morale, a
11:14:39	24	Christmas outage; there was dose. And in my opinion there was,
11:14:45	25	looking back self-critically, I believe we had we believed

our own sense of confidence. I think that was one of the 1 things that we didn't do well as a team at Davis-Besse. 2 11:14:54 3 The plant ran quite well. It had a history of

good reviews. And we believed it ourselves. And I know Guy 11:15:04 5 believed that about this issue. And so that was why December 6 versus April became this issue of great discussion.

11:15:00

4

7 Q. And you mentioned some other factors. I think you said fuel cost and morale. Can you break those out a little bit for 11:15:17 8 the jury? What's the issue with respect to fuel? 9

A. Well, the fuel, I don't remember the exact fraction, but 10 11:15:23 take that head off the reactor, then you essentially put about a 11 11:15:26 12 third or a quarter or a half of the fuel that's in the reactor 11:15:34 13 comes out and goes to a pool. Then you get this new fuel, 11:15:39 14 which is the most costly aspect as far as expensive pieces of 15 the plant; it has to be fabricated and delivered in trucks and unloaded into these pools of water. And so refueling outage 16 required fuel to refuel. And the availability of the fuel 17 wasn't certain at that time, I believe. And so that was one of 18 11:15:58 19 the factors.

20 Q. So if you went into an outage at the end of December, 21 2001, was there a desire to be able to turn that into a 11:16:07 22 refueling outage? Is that the idea? 11:16:11

23 A. Well, we certainly wanted to span an operating cycle, let's say, and minimize dose on the employees. And so those 24 25 two aspects of it, at that time it was 18 months versus 24. Ιt

11:16:27 1 was shut down in December and potentially again in April. So I
11:16:30 2 understood the issue as to why those were certainly relevant
3 considerations.

11:16:36 4 Q. You also mentioned morale. What was the issue over 11:16:45 5 morale?

- A. I think being in tune to the people, to be hurried into an outage during the holiday season certainly wasn't what may have been at their best performance. I remember we worked people a lot of hours in doing certain upgrades and --
- 11:17:03 10 Q. And then cost?
- A. Well, cost, particularly if we didn't have fuel. If we didn't have it, you'd run two outages. I described the outage earlier. I would guess there's over 500 people that come onto the site for the outage. Certainly that's not cheap. Then all the effort in taking the machine apart and putting it all back together adds up to a lot of money.
- 11:17:25 17 Q. Is there an expense associated with buying power when 18 the plant is shut down?

11:17:29 19 A. That was out of my expertise, but my general

11:17:33 20 understanding -- because that's the transmission world -- is

21 that you have certain contingency plans to have power available

22 if you should have outages, so I don't know that I'd want to

- 23 testify under oath related to that kind of detail.
- 11:17:5124Q. All right. So what was your reaction to the meeting25with Mr. Campbell? What was the next thing that happened?

A. Well, to be honest, my reaction was very disappointed
because I was tired, and we thought we were at the goal line of
this INPO eval. I realized I had to learn and lead, and I
wasn't sure that we would be making an issue of this. I hope I
answered your question.

6 Q. Then what did you do? I take it you pulled your --Certainly. Well, we had set up a call on October 3rd 7 Α. of 2001 to talk to the NRC's experts because, you know, we had 8 provided all this information, and their executives communicated 9 11:18:33 to ours that there wasn't an adequate amount of information to 10 11:18:37 11:18:41 11 justify the operation. And so I was instructed to try to 11:18:46 12 assemble the meeting of the minds, if you will, to ascertain 13 their basis to communicate ours and to hopefully resolve the 14 issue.

11:18:54 15 Q. So please tell the jurors about that October 3rd 11:18:59 16 telephone call.

17 A. I've got not as good a recollection as before. I read 11:19:00 documents over that, refreshed my memory on it. October 3rd, 18 19 we had three main groups on the call. It was in my office; Guy 11:19:13 20 Campbell was there with me, but I was leading the call. Other 21 people included Mr. Geisen, Mr. McLaughlin, Mr. Lockwood, 11:19:17 probably four or five other people maybe and -- on our end. 22 11:19:25 23 Framatome was our reactor designer; they were viewed as our experts related to the principal issues involved, these cracks, 24 11:19:33 25 these growth rates, these critical sizes, so we had them on the 11:19:38

call. And then I remember Mr. Allen Hiser as being the expert
 of the NRC was on the call, and some of the other NRC people
 were on it.

So that call we wanted to find out a couple things. 11:19:52 4 I believe they wanted to know what the -- I believe they 11:19:57 5 understood our previous inspections to not have been 11:20:03 6 comprehensive in that the 2000 outage did not inspect all of the 11:20:08 7 They wanted to know how much did you inspect. 8 penetrations. . 9 That was part of it. We wanted to know, and they wanted to 10 know, what the basis for the more detailed issues were, what are the crack growth rates that you're assuming in contrast to what 11:20:24 11 12 we're assuming. And then there was -- I thought the people who 11:20:29 13 were the experts were speaking the same language, if you will, 14 and understood what we were communicating.

15 So in some ways I felt good, but in other ways I felt rushed because there was certainly a sense of time pressure 16 17 that, in retrospect, I wish I would have contributed to 11:20:56 18 alleviating. But that was certainly part of it, too. There 19 We need this information and when can we visit? And we was: 20 committed in a few weeks to have a meeting and to give 11:21:04 information in advance of that. 21

11:21:08 22 Q. Who brought information about -- you mentioned that the 23 past inspections were something the NRC was asking about. Who 24 brought that information into the call?

25 A. On the call David Geisen was our presenter for that

information to the NRC. Then Allen Hiser was talking as far as
 his understanding from the NRC's side.

11:21:45 3 Q. At the end of that call, was there a commitment made? 11:21:49 4 You said there were documents to be produced to the NRC in a 5 meeting that was planned. What was the commitment that you all 11:21:55 6 had made?

A. We made a commitment to get the detail because the 7 8 bulletin response was viewed as being much too general. We wanted to know -- "we" being the industry -- the NRC wanted to 9 10 know and we wanted to give them more detail related, I believe exclusively, to what they were asking for related to the extent 11 of the previous inspections because there were several that we 12 13 discussed on that phone call. And so we essentially ended the 11:22:20 14 call saying that we were going to get some information to them, 15 and we're going to meet with them, actually sit down and talk with them about it. 16

17 Q. Were they looking for a nozzle-by-nozzle evaluation of 18 the reactor vessel head?

Q. Did you think you would be able to get them that

11:22:3919A. They wanted to know essentially how many nozzles had you11:22:4320looked at, which ones did you look at, and what did you see.

11:22:47

21

22 information?

- 23 A. Yes.
- 24 Q. Why?

25 A. Because I knew that we had the tapes because I knew

Andrew showed me one in 2000. I learned between the 28th and 11:22:55 1 2 the 3rd that we actually had tapes for the preceding outages, videotapes. And I learned that we would be able to put a 3 11:23:04 4 calibrated eyeball with a new perspective because I believe the 11:23:12 5 tapes were not required nor did they really look for this. But 6. we believed we'd be able to take a look and get them that 7 information. That was the idea.

8 How did you get that information without the tapes? Ο. 9 Α. I talked with different people within our group. I 11:23:23 10 talked with Mr. Eschelman, Mr. Geisen, Mr. Lockwood. It was 11 brief, as you might guess, being the boss, between the 28th and 11:23:30 the 3rd. I was able to get their support to explain these 12 13 things to me. 11:23:38

11:24:03 14 Q. So the next milestone date at the end of that October 11:24:07 15 call was October 17. Was there an event between October 3 and 16 October 17?

A. There were visits on the 11th. We met with the NRC's TA, technical aides or assistants. Then we met with some of the staff of the NRC as well.

11:24:23 20 Q. Tell the jury about how that happened. How did those 11:24:26 21 meetings come about?

A. I really don't know how they came about. I know 11:24:33 23 that -- I know what my leadership's intention was; let me put it 24 that way. I know that Guy Campbell, who wanted to communicate 25 to the NRC that he wanted essentially a timeout, there was a

	1	sense communicated to me that we were rushing this thing and
	2	that we believed we had more information, and we didn't want the
	3	NRC to proceed without giving us the opportunity to sit down and
	4	talk. So I don't know who arranged it; certainly someone who
	5	had some sort of pull, I call it. But we found ourselves
11:25:10	6	talking to the technical aides and communicating the beliefs
	7	that we had at the time related to the issue. And the big
11:25:18	8	picture of that meeting was to call a if not a timeout, to
	9	certainly at least give these guys an opportunity to talk.
	10	That was the way that we believed it was.
11:25:28	11	Q. So a meeting with the let me back up.
	12	You're referring to the NRC commissioners'
11:25:35	. 13	technical assistants?
11:25:36	14	A. Yes.
	15	Q. So who are those people?
	16	A. My understanding is that the commissioners are
11:25:41	17	appointed, I guess, by the president. I'm not sure who. But
	18	they're not necessarily the technical people. So they will
11:25:50	19	have adjutants, if you will, to advise them related to the
	20	technical matters because they may have different business
	21	background and things like that. So that was the way I viewed
	22	them, as being adjutants, to use a military term, that would be
	23	advisors as far as what is the issue.
	24	Q. And was a meeting with them unusual?
	25	A. I really don't know. It was certainly unusual to me.

	1	Q. I mean, you said that you thought it took some pull to
11:26:20	2	get a meeting like that. Why did you think that?
	3	A. Well, because I think that they're very senior people.
	4	That was the way I viewed it. We went in a very impressive
	5	room, much like this one. People were sitting up high and we
	6	were presenting information. So the impression made to me was
11:26:36	7	this was quite a meeting.
11:26:40	8	Q. Where did the meeting take place?
11:26:42	9	A. Washington or Rockville, Maryland.
11:26:46	10	Q. But the Washington, D.C. area?
	11	A. Right.
	12	Q. During that trip did you visit with the Congressional
11:26:52	13	delegation?
	14	A. Yes.
	15	Q. What was the purpose of that meeting?
	16	A. That was arranged by our government-type people for
	17	essentially the same basic message, was what I understood. It
	18	was a little less technical in its presentation. It was
11:27:03	19	tailored more to what we perceived as their understandings and
	20	what was the message as well related to the topic.
11:27:12	21	Q. All right. So how did you learn that you were going to
	22	Washington that you were going to Rockville?
11:27:19	23	A. I'm trying to remember. I remember being excited by
11:27:27	24	it. It made quite an impression. How did I learn I was going
	25	to Rockville? I guess Guy Campbell told me. It's just

.

11:27:37 1 speculation. It would make sense to me. But I don't really 2 remember as I sit here today.

	3	Q. I guess all I'm really trying to get into is can you
	4	tell us about the trip? What was the preparation that you made?
11:27:47	5	A. Oh, sure. I mentioned the time pressure and,
	6	unfortunately, the preparation was pretty night-before type
	7	thing. We were in a hotel; we were in an office. We had
	8	someone who was adept at computers to make the presentations.
	9	And we were literally tailoring these presentations for the next
11:28:15	10	day. And so that was what we were doing for the tech aides
	11	because it was quite a preliminary discussion.
11:28:31	12	Q. What sort of media were you using to get your point
11:28 : 35	13	across?
	14	A. There was a PowerPoint that Mr. Gerry Wolf that was
	15	his assignment, was to create the PowerPoint.
11:28:45	16	Q. You say he was to create the PowerPoint. Was he
11:28:48	17	somebody who had the technical knowledge to put into it?
	18	A. He was a capable individual, but he was a generalist as
	19	far as his background. He was a Regulatory Affairs person.
	20	So he understood the issues, but he certainly was not an expert
11:29:01	21	on the topics.
	22	Q. So were there drafts of the PowerPoint? Tell the jury
11:29:06	23	about how the PowerPoint was put together.
11:29:15	24	A. It was pretty much an on-the-spot type thing. We were
	25	in a room, first in an office that FirstEnergy had, then back at

	1	the hotel the night before, and we were putting together the
11:29:26	2	PowerPoint pretty much fluidly. We were creating it, if I
	3	remember, three or at least two PowerPoints the night of the
	4	10th. It was done more by committee than by any sort of
	5	disciplined or structured process, I would say.
11:29:45	6	Q. Let me have you take a look at Government's Exhibit 87.
	7	MR. BALLANTINE: Your Honor, I'm not certain
	8	whether this has been admitted or not.
	9	THE COURT: 87?
11:29:54	10	MR. BALLANTINE: Yes, Your Honor.
11:30:00	11	THE COURT: Yes.
11:30:03	12	BY MR. BALLANTINE:
11:30:03	13	Q. Is that the final product of the preparations you were
	14	talking about?
11:30:07	15	A. Yes, this is the presentation we gave to the tech aides.
11:30:17	16	Q. I'm going to show the first page of that document to the
11:30:20	17	jury do I have that up on the screen now of the
11:30:26	18	PowerPoint?
	19	A. Yes, sir.
11:30:39	20	Q. So were these the main presenters at that meeting?
	21	A. Yes.
	22	Q. Could you tell the jury what the role of each was?
	23	A. Sure. Guy Campbell, as I mentioned earlier, was
	24	primarily sending a message that he wanted the opportunity to
11:30:57	25	discuss further, so he was the executive, I'd say, at this

11:31:02 1 meeting. I was the Director of Technical Services, so I was 11:31:05 2 the chief engineer. Mr. Geisen was the Design Engineering 3 Manager. Mr. Lockwood was the Reg Affairs person, which is 11:31:14 4 interface with the NRC. Then Mr. Fyfitch was certainly our 5 subject matter expert related technically to the topic.

11:31:25 6 Q. I'm going to ask you to turn three pages in to the page
7 that says: Today's Objective.

11:31:31 8 A. Right.

9 Q. Was that the overall objective of that meeting? 11:31:35 10 A. Yes. That's got the 24 months for the reason said 11 before; we thought we wouldn't be able to operate for 24 months 12 at the time.

13 Q. How was it you were going about to persuade them, the 11:31:44 14 technical assistants, that this was an appropriate outcome? 11:31:47 I don't know that we were trying to persuade them on a 15 Α. 11:31:52 technical basis, but we were certainly trying to indicate that 11:31:55 16 we believed there was more information, and we wanted an 17 opportunity to get their subject matter experts with ours. 11:32:02 18 So I don't know if I'd -- I'd say certainly we wanted to tell them 19 20 here's the issue, here's the bulletin response, here's the other information we believe we have that's relevant. We want it to 21 . be heard essentially, and then here's why we think we're okay on 22 23 this circ. crack issue. 11:32:22

11:32:25 24 Q. I'm going to ask you to turn to page 7. There's a 11:32:36 25 heading on the screen, Facts.

1

11:32:38 1 A. Yes.

11:32:42 Q. Who presented this slide?

A. I don't know who presented this particular slide. It was likely either me or Mr. Geisen, but I can't swear I remember a particular slide.

11:32:55 6 Q. During the preparation, where was the information for 7 this slide coming from?

8 A. David gave us the information at the meeting the night 11:33:02 9 before.

10 Q. And what kind of information are we talking about here 11 on this slide?

The kind of information here was back to what I 11:33:07 12 Α. 11:33:11 13 mentioned earlier. We had talked with Allen Hiser and the 11:33:14 14 others on the 3rd. So a week later we were telling the TAs that we've got these tapes from the earlier outages. We had 15 16 looked back at them and believed that if we put together what we 11:33:24 17 saw in 2000 and in 1998, we believed at that time that those two outages together gave us enough assurance that we had a 11:33:35 18 11:33:38 19 reasonable basis.

11:33:40 20 Q. I want to read, just to put us on the same page, the 21 first flag. It says: All CRDM penetrations were verified to 22 be free from popcorn-type boron deposits using video recordings 23 from 11 RFO or 12 RFO.

11:33:59 24 I'd ask you to give us your understanding of what 25 that sentence meant. 1 A. Well, the issue related to this, I'm not sure how much 11:34:10 2 briefing has been done. I guess we're up to speed on what 3 popcorn meant, the jurors?

4 Q. I think that's fair.

11:34:16 5 Α. So the idea was when we had done these earlier 11:34:19 6 inspections -- "we" being the people at Davis-Besse -- they were done with this intention that they were able to take those tapes 7 8 in and put a new set of eyeballs on it, if you will, look for 9 this particular type of popcorn, as they called it, boron. And that between what was seen on those nozzles that could evidence 10 this boron in 2000 and '98, if you put those together, you could 11 have both pieces of the puzzle. You could say now we can start 11:34:45 12 our baseline in '98, which is what was communicated. 13

14 Q. I'd like to come back to that issue of baseline in a 11:34:55 15 moment. But before we do, you were talking about sort of an 16 overlay of the 11th and 12th refueling outage tapes?

17 A. Yes.

Q. Is that reflected in this sentence in some way? A. That's what the boron was meant to convey, because we couldn't see them -- you could not see everything in both. It wouldn't have been logical to even go back to the earlier one, could you have seen it on the last one. So that's why it said this one or that one taken together.

11:35:23 24 Q. Was there a different version of this earlier, an
11:35:26 25 earlier draft?

A. I've seen drafts subsequent to the discovery that had 1 "and" in it. And I -- my memory, I actually recall the 10th in 2 11:35:30 2001 where we talked about that and said the way it was worded 3 and saying it verified from 11 and 12. We didn't want to 4 communicate that because that would probably imply that both of 5 6 them by themselves could stand alone. So we changed the "and" 11:35:51 to the "or," and the "or" then made it a correct statement. 7 Q. And who was feeding this information about these past 8 videos? 9 11:36:05 A. At the 10th, Mr. Geisen was our representative for the 10 people -- the plant in that area of those of us that were there. 11 I said I wanted to come back to the baseline. 11:36:16 12 Ο. Why is

13 it that a baseline was important?

14 Α. This was really the issue, as I understood it, and it 11:36:22 was the one that took up the most of the time in the month of 15 11:36:29 October when we went through all of these discussions. And the 16 issue was mentioned, this time and temperature. In other words, 17 when would this start? So, in other words, when would you first 18 19 have this problem? Then in addition to that, when did you last 20 look that you could say you saw the condition so you know it didn't have it then? Then you'd say, how long does this take to 21 22 get to a size where it would be a real problem? Then you say, how big does a crack get, which was the topic, when that crack 23 is a problem. So with that background, when was the baseline? 24 11:37:07 25 In other words, when did it last have a good sense of assurance,

11:37:15 1 was the starting point.

Q. Did you come to argue this or did Davis-Besse come to 11:37:16 2 present this more formally to the NRC? 11:37:20 3 Yes. We had a meeting on the 24th, which was the 4 Α. 11:37:22 11:37:26 5 conclusion to my commitment on the 3rd on these topics. Q. And I guess I'm asking ultimately, did you present 11:37:30 6 7 something called a Probabilistic Safety Assessment? 8 Absolutely. Α. 9 Is it that sort of a formal presentation of what you Ο. 10 were just describing? 11 No, because the perspective is different. 11:37:42 Α. 12 Okay. Perhaps you could explain the difference. Q. 13 Again, if I may withdraw the question. 14 What I'm asking about is how is this baseline issue 15 related to probabilistic safety analysis? 11:37:56 16 Well, it certainly is a factor in probabilistic safety 11:37:59 Α. 17 analysis. As it is -- we looked at the world in two terms: A 18 deterministic, which is like a structural mechanics type issue; and probabilistic, which is a tool designed by the industry to 19 20 go beyond just what are the requirements, but how can you make 11:38:19 21 sure the plant is safe. So we used both those tools. 22 To answer your question, the starting gun, if you 11:38:25 23 will, related to the analysis on the probabilities and the consequences as tie in with the deterministic, through that 24 25 aspect of it.

.

11:38:38 1 Q. After the meeting -- what was the result of that TA's
11:38:45 2 meeting in Washington?

A. It was kind of: Thank you very much for coming here;
11:38:48
4 we appreciate it. It wasn't a commitment on either end. I
11:38:52
5 think we got a sense that at least the seed was planted that we
6 wanted to be heard on the 24th. So I believe we felt generally
11:39:00
7 good because of that aspect of things.

8 Q. And then did you return to Ohio?

9 A. Yes, sir.

10 Q. What happened after you returned to Ohio?

11 Shortly after we returned, Mr. Geisen came to me and he 11:39:09 Α. 12 was quite sad that he had -- he told me that, in fact, we had to 13 go back earlier, that after he got the details from his staff, 14 the baseline was actually 1996 versus 1998. And I could tell 15 he was quite disappointed because he has a great ownership for 11:39:30 11:39:38 16 this. And that's what he told me on that topic.

11:39:42 17 Q. And what did you do?

We went to talk to Mr. Lockwood, who was our Reg Affairs 18 11:39:44 Α. 19 manager. And we told him that we now know we have to go back 11:39:52 20 to '96. And I told David Lockwood I wanted them to tell me 21 what we should do because he's our conduit with the NRC. And 22 then we gave him some time. Then we came back and saw David 23 again, and he told us that we needed to correct this in a 11:40:04 24 revision or an update, I forget the exact term. Then I called 25 Mr. Campbell to let him know as well that we had to come back.

I guess the -- at that time we felt that we were still within 11:40:16 1 the analysis. Even though we started that starting point 2 earlier, we still felt that we wouldn't hit that critical flaw 3 size. So on the highest level it didn't have an impact as to 11:40:29 4 the conclusion, but it certainly changed the starting point. 5 11:40:35 6 Ο. What was the nature of your concern about upon learning that this information was wrong? 7 Well, the main nature of my concern was to make sure 11:40:42 8 Α. 9 that we communicated what was right and analyzed the impact of 10 that. Was there a particular, I guess, legal term that came to 11:40:54 11 Ο. 12 mind? 13 Α. I asked Mr. Lockwood to make sure that we were 14 materially accurate in our presentation. Q. All right. What was the next event that sticks out in 15 11:41:10 16 your mind with respect to this bulletin response? A. We just left the 11th, so -- well, the 17th we presented 17 the information that corrected this and gave more information in 18 11:41:28 19 preparation for the 24th. 11:41:30 20 Q. And what -- when you say presented more information, 21 what was it that you presented? 22 There was -- it looked like what you gave me before; Α. 23 it's the response. It looked very similar to the response to 11:41:38 24 bulletin --25 Q. Was that Serial Letter 2735? You don't know?

•	

1 A. I don't know the numbers.

11:41:55 2 Q. While we're discussing it, do you remember what -- who
11:42:00 3 was going to be signing this document?

4 A. Yes.

11:42:02 5 Q. Who was that?

8

6 A. Mr. Lonnie Worley was going to sign it because Mr.

11:42:06 7 Campbell was off site. He was his alternate.

Q. Why was that of significance to you?

9 A. Wèll, I counted Lonnie as my friend. And so I knew he 11:42:16 10 didn't have a technical background. So I wanted to make sure 11 that we were right. So certainly important.

- 11:42:26
 Q. And right with regard to this nozzle-by-nozzle analysis?
 A. Well, everything, but certainly including that. There
 was a lot that went out on that, if I remember.
- 11:42:35 15 Q. What did you do -- did you have an interaction with Mr. 16 Geisen with respect to making sure that this document was right?
 - 17 A. Yes.
 - 18 Q. What did you do?

19 Α. Dave and I went over -- they're either photos or 20 computer printouts. I can't remember. They were not the 21 tapes; that was similar to what went out later on later 11:42:52 22 submittal. And I challenged Dave to make sure that we had a good sense that we knew what we were submitting because he had 23 11:43:01 24 done the oversight for Andrew Siemaszko who tabulated the 25 information. So we looked at different photos, and if the

nozzle was obscured, said why is this obscured? Where is the 1 2 flange that leaked to cause this? What does the table show 11:43:23 3 regarding what I'm seeing with my eyes? And I felt very good 4 that Dave had a good handle on what was in the photos. Q. Is Exhibit 105 the document that is going out over Mr. 5 11:43:34 6 Worley's signature? 11:43:42 7 Α. Yes, sir. 8 And that's been previously admitted, so I'm going to Q. 9 bring up this table. 11:43:50 10 Is this the table that we've been talking about? 11:44:21 It is on the monitor there; page 1 of 2 of Attachment 2 of that 11 document? 12 11:44:36 13 Α. Yes, sir. That's right. 2735. 14 You said that you had a set of photographs? 11:44:41 Ο. 11:44:44 15 Α. Right. 16 You were looking at them with Mr. Geisen? Q. 17 Α. Right. 18 And what were you doing with respect to those 0. 19 photographs? 20 A. Yes, I remember. And there was also a map that someone had made that -- a picture was a thousand words to me as well. 11:44:55 21 11:45:01 22 There's all these different terms which had a definition section, evidence, these things, and we had these photos and 11:45:04 23 24 this map. The map showed how we believed at the time that the 11:45:09 25 flanges had leaked and covered the area that included some of 11:45:13

1 these photos. There we are. That's good.

2 So if you look at that, like, number 15, I would find the photo perhaps, I don't remember number 15, and see that 3 11:45:23 it was obscured, and ask David, well, which one is this? 4 Then 5 we would see that 15 had boron around it from this map. You 6 can see that there was this flow of this boron around it. So I 11:45:39 7 would make sure that, in fact, we didn't take credit for that 8 nozzle for that outage. And that was what we looked at. 11:45:42 9 Q. And when you were looking at photos, had you looked at 11:45:51 10 the videotapes? 11 A. I only looked with Andrew back in the 2000 time at the He had to have them made into photos. 11:45:56 12 tapes. 13 Q. What was your understanding of where Mr. Geisen was 11:46:01 14 getting information about these photos? 15 A. Mr. Geisen was -- I remember after the October 3rd 16 talking with Mr. Geisen and Mr. Eschelman and communicating that 17 we need to make sure we have more than one person providing the 11:46:10 18 information. Mr. Geisen informed me at some time, I don't 19 remember when, that he had reviewed the information. He could essentially vouch for this information. So I believed he had 11:46:20 20 21 done the review of Andrew's work. And I know from pulsing him, 22 if you will, that every single thing I asked him, he understood. 23 And so I drew a good sense of confidence related to this, that 24 this was a good job. 25 Q. And to be clear, when you say related to this

.

1 information, the information is the video record of these past
2 inspections?

11:46:46 3 A. Yes.

Was that what he was saying he could vouch for? 4 ο. I don't know that he -- well, certainly it was part of 5 Α. 6 it. I don't remember asking him that type of detail. I've known Dave quite well. I had confidence in him. And I asked 7 11:46:56 him essentially who -- you know, who reviewed this stuff, who 8 9 would say I was in review for Andrew? He said he did it.

10 Q. He said what?

11 A. That he could essentially vouch for it, that he had 12 reviewed it. However, he went and took the tapes and then went 13 from every one of them to every photograph. His exact 14 technique, I didn't inquire.

11:47:22 15 Q. Did you have the sense that he had looked at the
11:47:26 16 videotapes at all?

11:47:27 17 A. Yes, I had the sense he looked at the tapes and the 18 photos, the tabulations, yes.

19 Q. Did he indicate to you that with respect to some of 11:47:35 20 these pictures that you were looking at that there were

21 different angles of particular nozzles?

A. Yes, we were able to look at some of them, and he showed different angles of the photos and showed this trailing of the boron down the two sides that was coming from the right place. So I believe -- and I do -- that he, you know, had looked at

	1	these.
11:48:39	2	MR. BALLANTINE: The Court's indulgence.
11:49:04	3	BY MR. BALLANTINE:
11:49:04	4	Q. I'd like to turn back now to the I think it's the
	5	previous page that we were looking at on the monitor. I direct
	6	your attention to Attachment 2, page 1 of 2.
	7	A. Yes.
11:49:25	8	Q. I'm going to enlarge the top half of it. There's a
11:49:30	9	column that talks about the 1996 inspection.
	10	A. Right.
11:49:33	11	Q. There's a note that says see note 1.0?
	12	A. Right.
	13	Q. I'm going to switch to the next page and bring up that
	14	note.
11:49:56	15	Is that the note that is referred to there on the
11:50:02	16	document?
	17	A. Yes, sir.
	18	Q. And it says in 1996 during 10 RFO the entire RPV head
	19	was inspected. Since the video was void of head orientation
	20	narration, each specific nozzle view could not be correlated?
	21	A. Right.
	22	Q. How did you work through that with Mr. Geisen in
11:50:18	23	preparation for Mr. Worley signing this document?
	24	A. Well, we considered the fact that they had seen
11:50:23	25	everything, and it was clear; we just could not correlate each

individual nozzle was still acceptable, because we believed that 1 they'd seen everything. And the reason that I understood they 2 couldn't was that there were not enough verbal clues as they 3 went back and listened to this tape to say, I'm going in through 4 11:50:39 this mouse hole, or, I forget what the other word for it was, 5 11:50:43 but there was a way to draw a conclusion as to what you saw. 6 But what was communicated was in the entirety we knew that we 7 11:50:50 had looked at everything, and that we just couldn't say which 8 9 one was which.

And what was Mr. Geisen's basis for saying that? 10 Ο. I don't remember that he -- essentially people were 11 Α. 11:51:01 still here, perhaps Mr. Goyal or someone from '96 that was given 12 13 the information. What happened was the different outages, since there was no requirement to do these, people did them 14 differently. And so Andrew had to get the information through 15 11:51:21 reviewing the tapes and talking to people; I don't know who 16 11:51:25 specifically. I think it was Prasoon was there in 1996, but 11:51:28 17 I'm not -- whoever did it went through the process of talking to 11:51:32 18 19 Andrew and, I believe, Dave. I know I talked to Dave about it, 20 and that's how I learned about what this meant.

11:51:47 21 Q. After this went into the NRC, was there a follow-up 22 meeting with the NRC?

A. Yes, we committed to having that meeting on the 3rd.And we had that meeting on the 24th.

11:51:59 25 Q. What was the nature of that meeting?

1 A. Well, that was finally the meeting that the earlier 2 timeout type meetings were setting up for the discussion. So 3 that was the first meeting that I led versus Guy. So I remember that we did a lot of time preparing for the main 11:52:14 4 issues, particularly this crack growth rate, the critical flaw 5 11:52:25 6 size, and it was a very broad meeting. It included a lot more people. 7 11:52:33 Q. I'd like you to look at Government's Exhibit 108. This 8 9 has been previously admitted. And if you page into about the 10 seventh page, do you see a set of slides? 11 Α. Yes, sir. 11:52:52 Are those the slides that were presented at the meeting 11:52:53 12 Q. 13 we're discussing? 14 Α. Yes, sir. 15 Q. And again, you're listed at the top there as an 11:52:59 attendee: Steven Moffitt, Director. Under that is Mr. 11:53:04 16 17 Geisen's name? 18 Α. Yes. 19 What was Mr. Geisen's role at this meeting? Ο. 20 Α. Well, by this time we had evolved into those two 21 perspectives that I mentioned earlier. There was a 11:53:16 22 deterministic way to look at things -- like mechanical 23 engineers -- and there was a probabilistic way. The reason I 24 say that is David represented the former and then Mr. Byrd was 25 by then involved in these meetings on the latter. He was our

probabilistic person. Then certainly the more details of the 1 11:53:31 deterministic were the real subject matter experts, which 11:53:36 2 included the host of people from Framatome, Dr. Peter Scott, 3 Alvin McKim; Stephen Fyfitch was certainly an expert on this. 11:53:47 4 So there was a lot of detail that went into this deterministic 11:53:55 5 discussion. 11:53:58 6

Q. How were these slides prepared?

I don't remember. I believe we had more time for 8 Α. these. It would make sense because we had from the 17th to the . 9 24th. I don't remember. I would hesitate to guess under 11:54:08 10 oath -- Mr. Wolf is there, so it's safe to assume that they were 11:54:21 11 11:54:26 12 similarly channeled through Gerry Wolf, who made these, and I 13 seem to recall us having some discussions with some of these 14 Framatome folks the day or the evening before as well. But I 15 recall we were not as rushed by that time because there was more 16 time to prepare.

11:54:45 17 Q. I'm going to ask you to take a look at -- I think 18 it's -- well, it's page 9 of the presentation.

19 A. Okay.

7

11:54:52 20 Q. This is a similar slide to the one we discussed already.
21 But it has some changes I want to go through with you. But
11:54:59 22 first of all, where did the information for this slide come
11:55:02 23 from?
11:55:05 24 A. I hesitate to say where it came from. It came from

11:55:0524A. I hesitate to say where it came from. It came from11:55:1025David and the staff at Davis-Besse. I don't know that this was

	1	prepared the night before like the others. So it came from the
	2	plant versus Framatome for sure.
11:55:22	3	Q. Is it the deterministic side or the probabilistic?
	4	A. Deterministic. This is the background information.
	5	Q. And who was presenting that part of the who was
	6	making that part of the presentation to NRC, the deterministic
	7	side?
	8	A. Mr. Geisen presented the deterministic side, but so did
	9	the Framatome people.
11:55:42	10	Q. Okay. But I think you just testified, these weren't
11:55:46	11	Framatome facts?
11:55:47	12	A. Right. That's correct. That's correct.
11:55:54	13	Q. The 10th refueling outage has been added to that first
11:55:59	14	sentence; is that correct?
	15	A. Yes.
11:56:01	16	Q. This goes back to the issue of baseline?
	17	A. Exactly.
11:56:05	18	Q. So what does that just to go over it again, what does
	19	that mean?
	20	A. Well, since the issue, in addition to the time and
11:56:15	21	temperature model, is when did you put your eyes on this, or the
	22	visual inspection, then how big a crack could become a problem
	23	when you last put your eyes on it was the starting of. It's
	24	the same description as before, except for by then we had
	25	updated information based on what we learned after the 11th to

the 10th instead of the 11th as the starting point. 1 2 Q. All right. And I want to ask you about this first 11:56:40 bullet here, that a review of visual recordings as well as 11:56:45 3 eyewitness accounts served as the means of the inspection. 4 11:56:50 5 Did you have an understanding at this time of what 11:56:56 6 that meant? 7 I'm trying to remember. The 24th. This would be Α. consistent with what I mentioned earlier on that '96 -- I had to 11:57:00 8 9 find people that were there since we didn't have the orientation. So I believe that that's what was intended to be 10 11:57:08 communicated. 11 11:57:11 12 Well, what was your understanding of how these video Q. 13 records were made? 11:57:18 14 Α. My understanding at the time, I believed it was a 11:57:23 15 boroscope. I've since learned it was more of a rudimentary 16 device with essentially a straight stick with a camera on it. 17 But I remember thinking at the time it was this probe, much like 11:57:30 this, that would go up through the mouse hole then move around, 18 19 not looking at the nozzles necessarily at the interface but more 11:57:39 20 looking overall at the condition. There was no procedure; I 21 know this; that's why there were differences on how people did 22 it. And I know from looking at Andrew's it was like this worm crawling around, which is why we made the photos; you would have 11:57:56 23

11:57:59 24 a way to correlate them.

11:58:02 25 Q. I guess I'm trying to get, what was your understanding

of what it meant to say there were eyewitness accounts? 1 2 A. We had people that were involved in the inspections. People would say: I did this one. That was what I understood, 3 people did it. 4 5 Q. But your understanding was that the inspections were all done with a camera up through the weep holes? 11:58:20 6 A. Yes, sir. That's correct. I believe that was in 7 there just to designate the kind of information, like on that 8 first column of that table. That's why I think we said those 9 words. But I've got to admit, I haven't looked at those words 10 11:58:33 11 in years. 11:58:40 12 Q. All right. Did -- the second. It's not on the screen 13 right now. I'm having a little bit of a problem. 14 What's the second star on that slide read? 11:59:11 I don't have it in front of me. 11:59:14 15 Α. 16 Q. It's Exhibit -- it's in that stack. You're going to 17 have to help me. There's a lot of stars. 11:59:28 18 The second star on page 9 of the presentation. 19 Α. Yes. This is what I mentioned yesterday actually when 20 you asked me it. This is that AVI format. I'm not familiar 11:59:35 21 with that. This talked about the fact that the -- this moving video was made into still shots, if you will, to allow for a 22 11:59:46 23 more comprehensive assessment. 24 Q. And what's your recollection of how that was done? 11:59:53 25 A. I don't remember the gentleman's name, but we had a very-11:59:57

- 12:00:03 1 likable and capable computer fellow over in training. And I 2 heard sometime that he was involved in taking the information 12:00:10 3 and formatting them into AVI, whatever, the pictures, if you 4 will.
- Q. AVI, you believe that to be a digital file of some kind?
 A. I'm certainly not an expert, but I read it to be PDF and
 some of the things I know how to use on my computer. It says
 frame by frame review, so that makes sense.
- 12:00:36 9 Q. So when was that done?

I would have to make an assumption, but it would seem 10 Α. logical that it was done between October 3rd when we committed 11 to providing this, the tabulation, and -- well, I saw some of 12 13 them on the 17th, if my memory is good. So it was in that time 14 frame. But that is an assumption. I don't know why it would have been done earlier, nor could it have probably been done 15 12:01:02 16 later.

12:01:03 17 Q. What was the next -- tell us about how this meeting 18 went, this October 24th?

19 Α. That's a good question. That meeting went way over our 12:01:09 20 heads, to be honest, because -- I don't mean that to sound -- in 21 that meeting there were the Ph.D.s, the people who we hired 12:01:19 22 essentially, and the people who -- the very capable people NRC 12:01:25 had on their staff discussing -- the principal issue was how 23 12:01:29 fast do these things grow and how big can they get? I recall 24 12:01:38 25 most of the discussion centered on the first of those. Crack 12:01:42

12:01:47 1 propagation rate was the term that I remember. And there were 12:01:53 2 very strong feelings on both sides of the discussion.

3 I remember hearing feedback that they thought we were professional and well prepared, so I felt good about that. 12:02:02 4 But I know from discussions afterwards there was more 5 6 information that was being requested in order to continue. So all in all I felt good. We had our meeting at least, and we had 7 8 a chance to bring in the people that understood this very important issue of circ. cracking. So kind of thinking back 12:02:20 9 10 and talking, but that was my take-away from that, the 24th. It 11 was a very big meeting; people from the public there, people on 12 conference calls and things. 12:02:34

13 Q. So then when you all left, what was the next step for 14 Davis-Besse?

I don't remember that we made any specific commitments 12:02:42 15 Α. 16 on the 24th. I know that we got a bunch of requests for 12:02:51 17 additional information about that time frame. And so I viewed 18 that as that there was a very robust information exchange. Ι 19 don't remember the exact sequence after the 24th. There were 20 certainly more meetings culminating in an executive meeting with 21 both parties where the issue of continued operation beyond 22 December 31st was concluded. 12:03:10

12:03:12 23 Q. Did you submit or did Davis-Besse submit additional 12:03:18 24 letters?

25 A. Yes.

Q. I think there's -- Exhibit 113 is up there in front of 1 2 you. 12:03:23 3 Α. Okay. 12:03:25 It's not? It's empty? 12:03:33 4 Q. 12:03:37 5 Α. I don't seem to have it. 12:03:56 6 MR. WISE: We'll stipulate. It's in evidence. 7 THE COURT: He just wanted him to have it in front of him. 8 BY MR. BALLANTINE: 9 12:04:03 Q. I wanted you to take a look at that. So was that a 10 12:04:03 subsequent response? 11 12:04:06 Α. Yes. 12:04:07 12 What's the date of that? 13 Q. 14 Α. October 30. 12:04:09 Q. If you just flip through photographs. You were 15 12:04:12 referring earlier to a set of photographs you were looking at 16 with Mr. Geisen. Are those the photographs? 17 These are very similar. I don't know if they're 18 Α. exactly the same photos, but this is the type of stuff we were 12:04:23 19 looking at on the 17th, and very similar to what I saw Mr. Hiser 12:04:26 20 21 present in Washington as far as the interfaces and things. 22 What was it -- Mr. Hiser was presenting? 12:04:36 Ο. Perhaps that's not relevant. I'm sorry. We had had 12:04:39 23 Α. the opportunity to watch the NRC's own presentation of this 24 12:04:43 25 topic and they used very similar photographs to the ACRS.

Q. You mentioned the ACRS. Did you appear before the 1 12:04:52 2 ACRS? 12:04:57 · A. 3 Yes. Yes. 4 Q. What is the ACRS? 5 Advisory Committee on Reactor Safeguards. Α. What's the function of the ACRS? 6 Q. They are like a very senior level of people who provide 7 Α. an oversight to the NRC. Not like -- this is just my sense of 12:05:10 8 it. Unlike the tech assistants who are advisors, they're viewed . 9 as a more august type of body to look at a lot of technical 10 issues. They had very senior people from the industry on. 11 And what was your purpose of appearing before them? 12:05:30 12 Ο.

A. Well, we were in the same essential mode where we were discussing that we had this information from previous inspections that we believed gave us a safe sense regarding circumferential cracking, and we wanted to present that to them.

12:05:50 17 I don't know.

12:05:53 18 Q. I didn't hear that.

A. I don't know how we got in front of the ACRS, but I knowI certainly was hoisted up as the leader for that discussion.

21 And at that meeting we presented much the same message.

12:06:07 22 Although it was later, so I forget. We may have had the 10th

12:06:12 23 outage starting time.

12:06:14 24 Q. During that meeting did you present to the ACRS
12:06:18 25 Davis-Besse had done a qualified visual inspections?

1 A. Yes, we said we had, we believed we had a qualified 2 visual inspection in '96, that the others had additional 12:06:27 3 information.

4 Q. What, in your mind, did it mean to say you had a 12:06:30 5 qualified visual inspection?

A. There were definitions related to what -- and I forget all the different terms. There were things like effective and other types of inspections. Qualified meant that you had the ability to do an accurate assessment. In other words, it's a good baseline.

12:06:49 11 Q. And how did you know or how did you come to believe that 12 Davis-Besse had done a qualified visual inspection?

12:06:56 13 Α. Well, I had -- I'm trying to remember when that was, but 12:07:01 14 by that time I certainly would have been recording '96 being a 15 good inspection. I remember Mr. Geisen talking to me about that, that we believe '96 is qualified. And the other ones 12:07:09 16 17 certainly we knew we had obscured nozzles, so they were not qualified. 18 12:07:16

19 Q. When was the date of that meeting?

12:07:19 20 A. It escapes me. I don't want to testify... It was 12:07:26 21 after the 24th, I believe. Maybe November, early November.

12:07:29 22 Q. And had you then returned to Washington for that?

A. Yes. Yes.

12:07:34 24 Q. Well, perhaps you don't remember the exact date, but the 25 day before then had you had other meetings with the NRC? 1 A. Yes. The day before we had the meeting, and it was, I 12:07:45 2 think, technically a public meeting. I think -- I don't know 3 if NEI -- It blurs in my mind.

4 There was a meeting. It was a public meeting.
5 The NRC was there. They were discussing the basis related to
12:08:05
6 this 18 versus 24 months. And it was a very professional-type
7 meeting where there were a lot of details. So I was at that
8 meeting representing us at a table and there were others from
12:08:18
9 FirstEnergy there as well.

12:08:20 10 Q. And after that meeting, did anyone from your group go 11 back to the NRC?

12:08:30 12 A. Yes. Mr. Geisen went to the NRC to show them the 13 videotapes themselves.

12:08:36 14 Q. Why was it that Mr. Geisen was taking the videotapes? 15 A. Well, for the entourage that we had, he was the most 12:08:42 16 qualified. We believed he was the right guy.

17 Q. And did you talk to him about what tapes he was going to 18 present?

19 A. No.

20 Q. When he returned from the meeting, what was his -- did 21 you talk to him about the meeting that he had?

A. I don't remember the details, but I remember he was disappointed because he didn't feel that -- I hesitate to put characterization. It wasn't a good feeling insofar as the people felt it was after hours and the quality and the ability 12:09:15 1 to go through things wasn't what they wanted. There were 12:09:19 2 aspects of it that I remember he felt disappointed, and he felt 12:09:23 3 as if he hadn't had a chance to really explain things is the 4 memory I have as I sit here.

12:09:34 5 Q. I want to ask you a few questions now about what
12:09:38 6 happened subsequent to the event at Davis-Besse at the 13th
12:09:46 7 refueling outage.

- 8 A. Sure.
- 12:09:48 9 Q. Were you -- well, did -- were you aware of

12:09:53 10 investigations that were ongoing?

11 A. Yes.

12:09:57 12 Q. Did you have contact with the prosecutors in this case 13 about that?

14 A. Yes.

12:10:00 15 Q. What was that contact?

12:10:01
16 A. Well, I was a target of the investigation, so I
17 certainly had contact from that perspective. I had talked to
12:10:11
18 the Lessons Learned Task Force and lots of investigators and
12:10:15
19 talked with yourself in that role from the prosecutor
12:10:19
20 perspective.

21 Q. What did you understand it meant to be a target of the 12:10:23 22 investigation?

A. Target of investigation meant, like, target of hunting. 12:10:28 24 There was cross-hairs, and I was likely to be indicted or 12:10:31 25 potentially could be indicted on this.

Q. Did you come and meet with the prosecutors after the 1 12:10:33 2 time that you received a letter indicating you were a target? 3 Α. Yes. 12:10:41 MR. WISE: Could we approach briefly? 12:10:42 4 5 (Whereupon the following discussion was had outside 12:12:20 6 the hearing of the jury:) 12:12:20 MR. WISE: I just wanted to find out where we're 7 going with this line of questioning because my worry is that the 8 9 suggestion to the jury is going to be that Mr. Moffitt was a 10 target, came in and talked to the prosecutors, and I quess 11 presumably was then not indicted, suggesting to the jury that 12. the government believed what he had to say. If Mr. Ballantine 13 is looking to pull a sting on an issue of whether he was at one 14 point a target -- I don't anticipate going into that, so I wanted to clarify where we're going with this line of 15 16 questioning. 17 MR. BALLANTINE: We wanted to establish that he's 18 here not -- not as the basis of some sort of exchange with the 19 government, but he's here -- he's obviously under subpoena, but 20 there's no exchange, no deal in exchange for his testimony. 21 THE COURT: I think they have the right to ask him 22 whether there was. (End of side-bar discussion.) 23 BY MR. BALLANTINE: 24 12:12:28 25 0. What were the circumstances that you came and met with 12:12:28

1 the prosecutors in the case?

12:12:34 A. Essentially I wanted a chance to be heard and tell my 12:12:41 perspective on things. And I had that chance. That was the circumstance.

5 Q. Did you meet -- were there conditions with respect to 6 the meeting about how things that you told the prosecutors could 7 be used?

12:12:54 8 A. I think I met at least twice in 2005, if I remember, and 9 there was something called a proffer that was -- I signed, 12:13:02 10 either I or my attorney signed.

11 Q. What was your understanding of what that agreement 12 meant?

12:13:0713A. A proffer meant that what I provided for the prosecutors12:13:1314would not be used against me personally, but leads could be12:13:1815developed, and those could be used against me or others.

12:13:22 16 Q. Leads could be developed and those could be used against 17 you?

18 A. That was my understanding. Although I must admit, I 12:13:28 19 came by that understanding just within the last two days, more 20 than I had back then. I was not really understanding that in 21 that much detail, what the proffer meant, at the time.

> Q. Well, without -- without talking about conversations you may have had with any attorney you had at the time -- were you represented at the time?

25 A. Yes, sir.

12:13:49	1	Q. And subsequent to that meeting, did the government
12:13:57	2	indicate to you that your status had changed?
12:14:01	3	A. Yes. Yes.
	4	Q. What was your status at that point?
	5	A. I was a subject of the investigation instead of a
	6	target. I certainly felt relieved at that point. I remember
	7	that quite clearly.
12:14:11	8	Q. What was your understanding of what it meant to be a
12:14:14	9	"subject"?
	10	A. Subject is I was certainly fair game, if you will,
12:14:19	11	whether developments occurred, but at the time there wasn't a
12:14:23	12	likelihood that I had done wrongdoing and could be prosecuted.
	13	That was my understanding.
	14	Q. As you're here today, is there any agreement between the
	15	United States and you in exchange for your testimony?
	16	A. No, I've just cooperated with the United States since
	17	March of 2002 on this.
12:14:42	18	Q. Similarly, I guess, has the NRC taken action? Has the
	19	NRC taken action against you?
	20	A. Yes, NRC took an action against me in January of 2006.
	21	Q. What was that?
	22	A. It barred me from licensed activities at nuclear
12:14:58	23	facilities.
	.24	Q. Did you contest that?
	25	A. Yes.

And what were the circumstances of that? Ο. 1 12:15:00 Well, the NRC said I deliberately misled them, which was 2 Α. not right. I never misled the NRC. And so I exercised my 3 right to a hearing. Things went on and on for a few months. 12:15:09 4 5 And I was happily afforded something that's called a mediation, 6 an ADR. The result of that was something I could live with. Myself, because I would take my lessons learned from there, 12:15:20 7 because no one wants another Davis-Besse, I would communicate 8 that with future leaders, and in exchange I would get a stepwise . 9 10 opportunity, should one avail itself, to get back into licensed 12:15:32 activities. 11 12:15:36 Did you accept responsibility for --12:15:38 12 Q. 12:15:41 13 Α. I accepted responsibility by virtue of my position, 12:15:44 14 which is like the buck stops here, and the right thing to do, I 15 should. Q. Was there any agreement between the NRC and you or you 12:15:51 16 and the prosecutors in this case with respect to your testimony 17 and the resolution of the NRC action against you? 18 12:15:59 A. No, I didn't have any sense that there was something 12:16:03 19 20 tied to that, that was communicated to me at least. I remember you weren't sure when it happened when I -- when we talked. 21 22 Then the last couple questions I want to ask you: When 12:16:21 Ο. was the last time you saw videos of the 2000 as-found 23 24 inspection? 12:16:30 25 Α. I'm not sure if Andrew showed me the as-found or not. 12:16:34

1 He may well have. Andrew showed me in 2000 a tape, and I 2 remember that. Whether it was as-found, as-left, in-between, I'm not certain. 3 12:16:49 4 Q. Did you look at videos during the meetings you talked 5 about between you and the prosecutors in this case? 6 Α. Yes. Yes. 7 What was your reaction to those videos? Q. Α. I was disappointed. And because of the emotion of being 8 in that type of situation, I was shocked at the distinction 9 between what I saw. But there wasn't -- I don't know that I 10 12:17:08 11 looked at 2000. '96 certainly disappointed me because I looked, 12 like, from these pictures on here and the representations, I 13 understood '96 was a relatively clean head. From what I saw in 12:17:24 14 your offices in Cleveland, the '96 didn't -- wasn't the same as 15 my understanding and belief of what '96 looked like. So I was 16 pretty emotional, I remember, at that time about that. 17 MR. BALLANTINE: The Court's indulgence. 12:17:45 (Discussion had off the record.) 12:17:49 18 19 MR. BALLANTINE: Thank you. I have no further questions for Mr. Moffitt. 20 12:18:00 21 MR. WISE: Judge, I'm happy to start after lunch if 22 the Court wants to take a break. 23 THE COURT: Ladies and gentlemen, rather than break 24 up cross-examination, redirect, we're going to take our 25 afternoon break now. We'll resume at 1:30. Please remember 12:18:12

my previous instructions: Do not read, listen to, or watch 1 anything touching on this case in any way. Do not talk among 12:18:32 2 yourselves about this case or permit anyone to talk to you or 3 you to them. Do not make up your minds on the ultimate issues 4 5 which you will address during deliberations at the end of the 6 case. Enjoy your lunch hour. Take an umbrella. 7 12:18:53 And we'll see you at 1:30. 8 9 (Lunch recess taken.) 12:35:56 10 THE COURT: Mr. Wise. 11 _ _ _ 12 STEVEN MOFFITT, CROSS-EXAMINATION 13 BY MR. WISE: 13:35:39 14 Q. Good afternoon. Mr. Moffitt, it's been suggested that 15 I speak too fast. So if I get speaking too quickly, let me 16 know. 17 Sure. Α. 18 You worked with Dave Geisen for a little over three Q. 13:35:53 19 years? 20 Α. That's correct. 21 0. For two of those years you were his direct supervisor? 13:35:57 22 Α. That's correct. 23 Fair to say you had almost daily interactions with him? Q. That would be fair. 24 Α. 13:36:01 25 Would it also be fair to say he was something of a go-to Q.

1 guy for you? 13:36:05 A. Yes. That's correct. 2 3 Someone that you relied upon? Q. Absolutely. 4 Α. 5 Ο. For a variety of tasks? 13:36:11 6 Α. Yes, sir. Based upon your work with Mr. Geisen, did you have an 7 Q. opinion about his integrity? 13:36:16 8 9 Yes, sir. Α. What was that? 10 Q. 13:36:18 11 I felt he had very high integrity. Α. Did you have an opinion about his honesty? 13:36:21 12 Q. 13 Α. Yes, sir. 14 Q. What is that? 15 I felt he was an honest man. Α. 13:36:27 Q. Let me take you back to the 2000 outage. Do you recall 16 how many modifications were planned for the plant during that 17 13:36:32 18 outage? A. I don't recall the number, but it was significant. In 13:36:36 19 13:36:40 20 other words, it wasn't one or two, I would guess. Just guess it was dozens. 21 22 Q. "Dozens", meaning two dozen, or many more than that? 23 I hesitate to speculate. I know there was a very heavy Α. 24 load on the design organization because I just got involved in 13:36:53 25 it for a number of months before the outage. I remember going

13:36:59	1	over them with Mr. Theo Swim to periodically pulse how we were
13:37:03	2	doing at getting our packages out. Also I remember our
13:37:08	3	sergeant in on the engineering firm supporting that effort as
	4	well. Based on these recollections, I would guess a couple
	5	dozen, three dozen, something like that.
	6	Q. Were the modifications limited to just the reactor
13:37:19	7	vessel head or were they throughout the plant?
	8	A. Throughout the power plant, yes.
13:37:23	9	Q. At the time that the 2000 outage occurred, you said that
	10	you had recently taken a new job?
	11	A. Yes, sir.
13:37:30	12	Q. And that was as the Director of Engineering Services?
	13	A. Yes, sir.
13:37:33	14	Q. Dave Geisen had also recently taken a new job?
	15	A. Yes, I hired Dave into that job from his role as a
13:37:41	16	supervisor in Electrical Systems Engineering to design basis.
13:37:45	17	Q. The job that he had taken over was the Manager of Design
	18	Basis Engineering?
	19	A. Correct.
	20	Q. Is it fair to say as you went into the 2000 outage,
	21	Design Basis had been a source of problems for the plant?
	22	A. That was my opinion, as well as the opinion shared by my
	23	colleagues, which is why there was an opportunity to have a new
13:38:09	24	manager after the previous manager had resigned. And that's
	25	why I brought Dave posted the job. I thought he was far and

1 away the most capable individual for that job.

13:38:20 2 Q. But the problem in general terms that Design Basis had 13:38:25 3 encountered in the previous years was an inability to get 4 modifications planned in a timely fashion and completed in a 5 timely fashion; is that fair?

I would say that that's certainly fair, and I would --6 Α. if I could, I would add in addition I didn't feel that the 7 culture of support from the people in Design Engineering to the 13:38:40 8 actual people who turned the wrenches and worked within the 9 13:38:45 10 operations was where it needed to be, which is why, frankly, I encountered some difficulty with the style of David's 11 13:38:52 predecessor in that role. I know he resigned, and I know Dave 13:38:56 12 13:39:00 13 brought those type of attributes to that job.

14 Q. Would you agree with me when Mr. Geisen assumed his 15 position in early 2002 he had a significant challenge ahead of 16 him?

17 A. He certainly did.

18 Q. During the outage, I believe you said to Mr. Ballantine 13:39:13 19 that you saw the videotape of a precleaning inspection of 12 20 RFO?

A. I saw a videotape that -- why am I forgetting his name?
Q. Andrew Siemaszko?

A. -- Andrew Siemaszko brought. The reason I hesitate is
there were different videotapes made. I've learned that there
was a pre, a post, a perhaps intermediate, so I hesitate to

speculate it was the pre. It still needed to have work done on 1 13:39:39 it, from what I saw. 2 Q. He brought it to you to seek your support in further 3 cleaning of the head? 13:39:46 4 5 A. Yes, sir. 6 Q. When you viewed the videotape, you said you watched it with Mr. Campbell, correct? 7 That's correct. 8 Α. 9 Q. Mr. Geisen was not with you when you watched that videotape? 10 13:39:55 A. Correct. 11 Q. I take it you never spoke with Mr. Geisen about what you 12 13 saw on that videotape during the 2000 outage, correct? 14 A. I do not believe I did. I believe I spoke with the shift engineering managers, although my memory is not perfectly 13:40:05 15 clear. I definitely don't remember speaking to Dave about it. 16 13:40:09 Q. Mr. Siemaszko wanted to use a water technique to clean 17 the head? 18 A. Yes, sir, that's correct. 19 Q. Fair to say that you were impressed by Mr. Siemaszko's 20 21 initiative? 13:40:19 22 A. Yes. I thought he was a fellow trying to do the right 23 thing. 13:40:23 Q. Do you recall that during the 2000 outage Davis-Besse 24 13:40:24 25 had a plant-wide newsletter?

1 A. Yes. 2 Q. Was it called the "Outage Insider"? I believe so. I'm not certain, but I believe that's 3 Α. 4 correct. Q. May I approach? 5 13:40:45 Mr. Moffitt, I'm handing you what's been previously 13:40:51 6 7 marked as Defense Exhibit 5 for identification. Would you take a look at that, please? 8 A. Yes, sir. . 9 10 Q. Do you recognize what that is? 11 Α. I recognize this as the "Outage Insider", Day 29 at the 12 end of April, yes. 13 Q. Does that appear to be a fair and accurate copy of that 14 document? 15 A. Yes, sir. 16 Q. And was the "Outage Insider" a document that the plant 17 produced in its normal course of business? 13:41:15 18 A. Well, during the outages obviously. We also had an online newsletter as well. So we had two different types, one 13:41:18 19 20 for the outage and one for online. 13:41:22 21 MR. WISE: Your Honor, I would move Defense 5 into 13:41:25 22 evidence. 23 THE COURT: Any objection? 13:41:28 24 MR. BALLANTINE: No, Your Honor. 13:41:30 25 THE COURT: It will be admitted.

MR. WISE: Your Honor, if I could publish this to 13:41:39 1 2 the jury through the projector. BY MR. WISE: 3 13:41:45 Mr. Moffitt, I have up on your monitor screen what I've 0. 13:41:53 4 5 just shown to you and what is marked as Defense Exhibit 5. 6 Α. Yes. Will you take a look at that? 13:42:04 7 Ο. 8 Α. Okay. And let me again ask you to turn your attention back to 13:42:06 9 Ο. 10 the time of 12 RFO. Do you recall recommending that Andrew's 11 work on the head be covered by the "Outage Insider"? 12 It wouldn't surprise me that I did that just based on my Α. 13:42:26 13 nature, but I don't have a current recollection of that 13:42:29 14 specifically. 15 Q. Okay. And, if you will, take a look with me at Defense 16 5. Would you agree that that document is the report of Andrew's 13:42:34 17 efforts? 18 Α. Yes. 19 13:42:41 Ο. And this is a document that is distributed throughout 20 the plant? 21 Α. Yes. 13:42:45 22 And it is expected that all managers and supervisors Q. and, in fact, engineers would read this document? 13:42:50 23 24 Α. I don't know that I'd say all because I'm under oath, 13:42:53 25 but it would be expected that it would be widely viewed. 13:42:56 It's

1 like the newspaper for the power plant, and so just as some 2 people read it and some don't... it was widely distributed, 3 though. 4 And if you look with me at the last two paragraphs. Ο. 5 Α. Yes. 13:43:10 6 Q. Would you agree with me that what the "Outage Insider" 7 reported was that Andrew had successfully cleaned the head? 8 Α. Does it start with "Next challenge"? 13:43:18 Yes, sir. 9 Q. Yes, that's what it states. 10 Α. 13:43:34 11 Thank you. Q. 12 MR. WISE: Your Honor, I'm done with this if the 13:43:38 13:43:41 13 Court wants to kill the screen. 13:43:41 14 BY MR. WISE: 15 Now, Mr. Moffitt, you said that you went to Turkey Point 13:43:43 Ο. 16 before the end of the 12th refueling outage, correct? A. Yes, sir, that's correct. 17 So you were not present at the meetings right before the 18 Q. 19 plant came back on-line? 20 Α. That's right. We typically had a restart readiness 21 meeting where we would collectively view the power plant 13:44:02 22 activities. 23 Q. Mr. Ballantine asked you some questions about Mr. 24 Geisen's service on the Steering Committee. 25 Do you remember those questions? 13:44:08

	1	A. Yes, sir.
13:44:10	2	Q. Is it fair to say that the Steering Committee was a
	3	committee that focused on high level issues at many, many power
	4	plants?
13:44:18	5	A. Oh, yes. It was one of those I can't recall if it was
13:44:21	6	NEI or it was the B & W Owners Group, but either one of those
	7	would be accurately described. If it was NEI, it was all
13:44:33	8	reactor power plants. If it was B&W, it was the Babcock &
	9	Wilcox design.
	10	Q. It was not focused solely on nozzle cracking?
13:44:43	11	A. Absolutely not.
	12	Q. Davis-Besse had others who were subject matter experts
	13	on circumferential cracking, correct?
	14	A. Certainly subject matter experts on the metallurgy and
	15	the nozzles. Circumferential cracking was a new issue, as we
	16	viewed it in 2001. So I hesitate to say that in 2000 someone
	17	was an expert on something that was new.
	18	Q. Very fair. I mean to bring you forward now into 2001.
	19	A. Okay.
13:45:14	20	Q. I believe you said to Mr. Ballantine that Mr. Geisen was
	21	not the plant expert on circumferential cracking.
	22	A. Absolutely.
	23	Q. Would you agree that Prasoon Goyal probably was?
	24	A. Absolutely.
	25	Q. Did there come a time that Mr. Campbell needed to be

13:45:28 1 prepared for a meeting with someone about the issue of

13:45:31 2 circumferential cracking?

3 A. I remember that time.

4 Q. Did you set a meeting for Mr. Campbell with Mr. Goyal?

5 A. Yes, with them to communicate directly so that Guy would 6 be prepared. I forget the exact meeting, but he was going to a 13:45:43 7 meeting and wanted to get more information.

8 Q. The presentations that you described Mr. Geisen

9 giving -- I believe you described two -- is it fair to say those 13:45:52 10 were high level discussions?

11 A. Yes, they were with executives from the regulator, both 12 of those meetings, executive meetings.

13:46:01
Q. One was with Commissioner Merrifield; is that correct?
A. Yes, sir.

13:46:05
15 Q. If you know, is Commissioner Merrifield an engineer?
13:46:10
16 A. I certainly don't know. He was certainly a very

13:46:14 17 intelligent person.

13:46:16 18 Q. The bulletin that we've been discussing this morning 13:46:20 19 came out in August of 2001, correct?

20 A. Yes, sir.

Q. And you said on direct that you were at that point 13:46:26 22 involved in an INPO review?

A. That's correct. Actually, not a review. I was
13:46:32
involved with INPO and the actual -- it was called a mentor. I
was a mentor at INPO at the D.C. Cook plant in southern

	1	Michigan.
13:46:41	2	Q. Also preparing for an upcoming visit?
	3	A. That was looming in September.
	4	Q. Was that a significant event for the plant?
	5	A. It was a very significant event.
	6	Q. This was a session where you were being basically
	7	reviewed by a peer review organization, correct?
	8	A. Very large peer review. We would periodically have such
13:47:02	9	things, but this was the one every two years we would go to
	10	other people's plants and they would come to us and would have
	11	maybe 15 or 20, even, people, and that was what was coming up in
	12	September of 2001.
13:47:16	13	Q. I take it that that upcoming visit occupied a great
13:47:22	14	majority of your time during August and even throughout
	15	September, correct?
	16	A. Absolutely.
	17	Q. And Mr. Geisen was involved with assisting you in
	18	preparing those efforts?
	19	A. As plant management in general was very much gearing up
	20	for that. And in addition to myself, there was a gentleman
	21	named Mr. Glenn McIntyre, who was also a focal point in
13:47:42	22	preparation for the INPO evaluation.
	23	Q. Is it fair to say that the initial bulletin response at
	24	least, 2731, was not high on your radar screen during August and

September? 25 13:47:53

1 That would be a fair assessment. Α. 2 Ο. Or on Mr. Geisen's radar screen during August and 3 September? 4 That would be my assumption. Α. You viewed your role as a director as making sure that 5 Q. 6 the support that was needed by Regulatory Affairs was marshaled 7 by the organization in a timely manner; is that fair? 8 That's fair. It sounds like my words, too, "marshal". Α. 9 They are your words. 13:48:17 0. Then it's more than fair. That's perfect. 10 Α. 11 You were not involved in the construction of various Ο. 12 drafts of 2731? 13 That's correct; I was not. Α. 14 Q. Or in conversations about the drafts? 15 Α. That's correct. Well, I was involved in conversations 16 about the response, but not in the wordsmithing of the drafts 17 would be accurate. 13:48:36 And as far as you know, Mr. Geisen was not involved in 18 Ο. 19 the wordsmithing of the drafts either? 20 Α. That's correct, too. I have no knowledge of him being 13:48:46 21 micromanager or doing that type of activity. 22 Q. And is it fair to say that you would not expect one of 23 your managers to be micromanaging the wording of the drafts of a 24 response?

25 A. Not only would it be fair to say that, but we tried to

inculcate a culture where the management would not be so 1 13:49:01 preoccupied with details that they would miss the big picture. 2 13:49:05 We showed movies of airplane crashes and other things where that 3 13:49:09 preoccupation led to a loss of a big picture. So our training 4 13:49:17 5 reinforced that behavior, so that if everyone was looking at a 6 switch, and no one sees the oncoming plane, there's an event. So that was the way we wanted people to behave. 13:49:25 7 Q. You said that Mr. Geisen signed the greensheet for you 8 13:49:28 on 2731? . 9 13:49:31 Yes, he did. 10 Α. 13:49:32 If you had signed the greensheet, your review, I take 11 Q. 12 it, would have been to make sure that the people with relevant 13 knowledge to the questions that were being answered had had 13:49:40 14 input into the response? 15 That would be one aspect. I would also make sure in Α. 16 general that the appropriate range of issues as, I understood 17 them, were addressed. But that would be the principal one. 13:49:55 And I take it that your expectation for Mr. Geisen 18 0. 13:49:58 signing in your stead would be the same? 19 20 That's correct. Α. 21 Ο. And, in fact, in his role as a Design Engineering 22 Manager it would also be the same? 23 Absolutely. Α. You mentioned bringing in Mr. Gibbs to assist Mr. 24 Q. 13:50:10 25 McLaughlin?

1 A. Yes.

. .

2 Q. And it was obvious, I think, you have a very high regard 3 for Mr. Gibbs?

A. Yes, I do. Mr. Gibbs is a very good guy.

5 Q. He is one whose opinion, I take it, you trusted?

6 A. Yes.

7 Q. And you have valued?

13:50:27 8 A. Very much.

9 Q. Do you recall ever hearing from Mr. Gibbs that there 13:50:31 10 were problems with the accuracy of 2731?

13:50:35 11 A. Absolutely not.

12 Q. Had Mr. Gibbs sounded that alarm to you, I take it you 13 would remember it?

13:50:40 14 A. Yes, that would be a significant thing to say.

15 Q. And would have acted on it?

16 A. Yes.

13:50:46 17 Q. Let me turn your attention to September 28, which I

18 believe is the date that you learned of the call from Dr. Sharon

13:50:55 19 to Mr. Saunders.

20 A. Yes.

Q. You said that you were wrapping up the INPO exit interviews at that point?

A. Yes, it was the exit team interview with a bunch ofpeople at one time.

13:51:07 25 Q. And Mr. Geisen was in that meeting as well?

1 A. Yes, he was.

Q. He had been involved in the events after the preceding3 month involving INPO?

13:51:17 4 A. Right.

5 Q. I assume you had not spoken with Mr. Geisen at that 6 point about the first bulletin response?

That's correct. We were precluded from doing our normal 7 Α. jobs at that time, so for me to have done that would have 13:51:28 8 9 violated the framework of what the INPO post peer was to do. 10 But certainly Mr. Geisen had not come to you with any 13:51:36 0. concerns about the accuracy or any of the statements made in 11 13:51:39 12 2731? 13:51:44

13 A. That's correct. He did not.

13:51:4614Q.You said that you had a conversation with Mr. Campbell13:51:5015after he pulled you aside to ask you to get more involved?

16 A. Yes. Well, that was the same conversation. We were 17 outside the security building, and that's where on September 28 13:52:01 18 he indicated that.

19 Q. And you described to Mr. Ballantine covering topics such 13:52:07 20 as the availability of fuel and the cost of an early shutdown, 21 things like that?

13:52:12 22 A. Those certainly became factors, but my recollection with
13:52:15 23 Guy's discussion was more along the line of his personal
13:52:18 24 expectation of me now to shift gears and to become more

25 personally involved in the technical issues. I don't know that

	1	Guy and I discussed that level because we're standing out in
	2	front of the security building. But the expectation was more
	3	along the lines that I was to get involved in this as a topic.
13:52:38	4	Q. Was there ever a time that you were involved in a
13:52:42	5	conversation with Mr. Geisen where you suggested to him that he
	6	needed to make sure that the plant stayed open because of the
	7	cost or the availability of fuel or anything like that?
	8	A. No.
13:52:53	9	Q. Was there ever a time that you suggested to Mr. Geisen
	10	that he needed to keep the plant open in order to make sure that
	11	you all stayed on schedule?
	12	A. No.
13:53:02	13	Q. Did you ever know Mr. Geisen in your dealings with him
13:53:06	14	to be cavalier about issues of safety?
	15	A. No.
13:53:13	16	Q. You talked about a call with the NRC that took place on
	17	October 3.
	18	A. Yes.
	19	Q. I take it that between September 28 and October 3rd
	20	there was probably a frenzy of activity?
13:53:25	21	A. That would be a good characterization. I know from my
13:53:29	22	perspective there was.
	23	Q. Do you recall meetings the day before to prepare for the
	24	October 3rd call?
	25	A. I remember a meeting. I believe on reviewing all the

stuff in the last few years there may have been two. But I 1 remember one of them, yes. 2 13:53:40 Q. Do you recall a discussion about what some of the 3 4 language in 2731 meant? I recall that we -- in preparation for the meeting went Α. 13:53:49 5 6 over that very topic, yes. 7 Do you recall that there was a section in 2731 that Ο. talked about how a rereview of videotapes had been done? 13:53:59 8 I don't remember that on October 3rd -- or 1st, as I sit 9 Α. here today. I know that those words were in our presentations. 10 But I don't have a current memory, as I was telling Mr. 11 12 Ballantine before. I can't swear I remember on October 1st or 13 2nd that --14 Q. As you went into the October 3rd phone call, it was your 13:54:18 understanding that any rereview of videotapes that had been done 15 13:54:21 16 had not been done by David Geisen, correct? 13:54:24 17 Α. That's correct. That he was getting information from the sources that 18 Q. 19 you would expect him to go to to get that information, correct? 20 Α. Right. Dave was briefing me at that time going over more the high-level information related to the topic, not 21 13:54:39 22 looking at the details. The inspections that had been done had been done by 23 13:54:46 Ο. Systems Engineering? 24 I believe they were done by people in Systems and what 13:54:53 25 Α.

became Design Engineering, both, if memory serves. I believe 1 2 that the '96 was done by Design. I know 2000 was Systems because I was there. And I'm not sure about '98. 3 When you say the '96 was done by Design, you're 4 Ο. 13:55:11 5 referring to Prasoon Goyal? 6 Α. That's correct. 7 When you're referring to 2000, you're referring to Q. Andrew Siemaszko? 13:55:17 8 9 A. Yes, sir. 10 You're also aware Framatome had been involved in the Ο. 11 actual doing of the inspections? 13:55:23 12 Α. That's correct. 13 Q. And your expectation as you went into October 3rd was 14 Mr. Geisen had accumulated the information that he now possessed 13:55:30 15 about the past inspections from those who had done the 13:55:33 16 inspections; is that fair? 17 Α. Right. Right. Yes. Now, on October 3rd when the call was held with the NRC, 13:55:35 18 Q. 19 Mr. Siemaszko was not present at that time? 20 Α. I believe that's true. I don't remember everybody 13:55:44 21 there, but I don't believe Andrew was there. 22 Q. And your recollection is that Mr. Geisen is the one who 23 spoke to the topic of the past inspections? 24 A. Yes, sir. 25 I take it that had Mr. Siemaszko been there, he might 13:55:55 0.

13:55:59 1 have been the one to have spoken about the inspections he had 2 done?

13:56:02 3 A. Oh, yes. In fact, that's why we brought him personally
13:56:05 4 to Washington later, was to eliminate any interpretation or -13:56:10 5 you know.

13:56:12Q. On direct I think you used the phrase a couple times7 that Mr. Geisen was representing that issue.

13:56:18A. Yes, on our team that was his role for his purview, you9 might say.

10 Q. By that I take it what you mean is that of the folks 13:56:26 11 assembled on the team, he was the one who had the most relevant 12 information?

13:56:30
13 A. Right. He had the staff that worked for him that would
14 be funneling things up through the different areas just as
13:56:37
15 Framatome was doing for their idea.

13:56:39 16 Q. Do you recall what Mr. Geisen said about the past 17 inspections on the October 3rd call?

13:56:47 18 A. I've read a lot of things over the last five years, and 19 I'm trying to honestly say what I recall right now. I recall 13:56:51 20 David talking about the fact that we had these tapes, and they 21 would allow us the opportunity to put a new set of eyes 22 essentially on it. There was a dialogue with Mr. Hiser where I 13:57:04 got the general sense that these are two characters speaking the 23 13:57:09 same language, if you will. They understood the details of the 24 25 topic at hand. To say as I sit here now that I recall, you

13:57:22 1 know, exact words, I don't think would be right. I remember we 2 talked about that we had these past inspections, and I know they 13:57:31 3 were interested in knowing more.

4 The other big piece was your crack growth rates, 5 why do we see things different. Those were probably the big 13:57:38 6 two pieces that I can remember.

Q. Let me be a little more specific. There was a point during the conversation where the topic of the 2000 inspection was addressed, the last inspection?

13:57:48
10 A. We talked about past inspections. I believe we talked
11 about '96, '98 and 2000. But I'm not certain about that. I
13:57:55
12 believe we definitely talked about '98 and 2000.

13 Q. And on 2000, Dave Geisen did not say that the entire 14 head and all of the nozzles had been inspected?

13:58:1115A. Right. Absolutely not. That would have caught my13:58:1516attention because I knew that to be incorrect.

17 Q. And I take it that at no time during this call did Mr. 13:58:20 18 Geisen say to the Davis-Besse team alone, folks, we've got real 13:58:25 19 concerns about these inspection results?

13:58:27 20 A. No, David never said we had real concerns about the 13:58:30 21 inspection results.

13:58:31 22 Q. During that call, Davis-Besse offered to provide at some
23 point the photos and the videotapes of the past inspections?
24 A. Yes, that's correct.

25 Q. And I take it that you also have no recollection of Mr.

	1	Geisen being reluctant to provide those materials?
13:58:48	2	A. That's correct.
13:58:50	3	Q. Do you recall a time at which the Davis-Besse team
13:58:55	4	inquired of the NRC what the NRC's technical basis was for their
	5	belief that Davis-Besse should shut down?
	6	A. Yes. We asked that question on October 3rd. That was
	7	the main question that Guy Campbell had, was what's the basis
	8	for that? Because their basis was only for an 18-month
13:59:15	9	operating cycle, which confounded the people that that know
	10	more detail related to the topic.
	11	Q. And you did not get an answer on that call; is that
	12	fair?
·	13	A. That's correct.
13:59:25	14	Q. Were you told that it was predecisional?
13:59:27	15	A. Yes.
	16	Q. What did you understand that to mean?
	17	A. It's a good question. I believe decisional meant that
	18	there's a potential for an order. And so, you know, we read
13:59:39	19	that to mean that the train was on the tracks, essentially, to
	20	say it the way I understood it, but we also were concerned
	21	because we didn't have access to what was supposed to be this
13:59:52	22	basis that was different than what our reactor designer was
13:59:56	23	telling us. So when it was said it was predecisional, I was
	24	thinking of those two ways about that word.
	25	Q. You described the October 24th meeting as a free

14:00:07 1 exchange of ideas, or something close to that?

A. Yes.

2

3 Q. Is it fair to say the October 3rd phone call was not of 4 that character in your mind?

5 Α. It left a different taste in my mouth, that it was one of a contentious nature. Although, like I said, the people who 14:00:17 6 understood these topics were communicating, and the NRC afforded 14:00:23 7 us an opportunity to give them more information. But I thought 14:00:27 8 that the general -- not ambience, but the way we communicated 9 was not the way I was hoping we'd communicate. 10

14:00:42 11 Q. Okay. You said you committed to give them more

12 information?

13 A. Yes.

14:00:45 14 Q. Including the nozzle-by-nozzle table which was produced 15 later?

16 A. Yes.

14:00:49 17 Q. And including -- I think you already said our commitment 18 to provide the photos and the videotapes?

19 A. That's correct.

20 Q. Now, after the call on the 3rd, tasks were divided among 21 the Davis-Besse team, correct?

22 A. That's correct.

Q. And Mr. Geisen was given essentially two main tasks, one being managing the construction of the nozzle-by-nozzle table and the presentation of past inspection information, correct?

14:01:20	1	A. That chartered both Davids to work out between
	2	themselves. I did not tell David Geisen specifically, David,
14:01:32	3	you are to do that, because there were so many different
	4	engineers involved from both their sections. I just want to be
	5	careful how I respond to that. But he that was something he
	6	was doing, yes.
	7	Q. It did come to your knowledge that that was an issue
	8	that Mr. Geisen
	9	A. Right.
	10	Q did take the lead of managing?
	11	A. Yes, that's correct.
14:01:51	12	Q. He was also task force managing the beginning
14:01:55	13	preparation of this crack growth rate model you talked about?
	14	A. Yes.
	15	Q. I take it the crack growth rate model was a fairly
14:02:03	16	intricate model?
	17	A. That was the majority of the issue.
14:02:06	18	Q. That was my next question.
14:02:08	19	A. Right.
	20	Q. You guessed ahead of me.
	21	A. Sorry.
	22	Q. No, that's fine.
	23	But let me turn you for a second back to the past
	24	inspection information. I take it you understood coming out of
14:02:19	25	the October 3rd call that Mr. Siemaszko was going to be doing

14:02:23 1 the -- for lack of a better word, the ground level work on

14:02:29 2 compiling the nozzle-by-nozzle table?

3 A. Yes, that's correct.

4 Q. And he was assigned that task because he had, in fact, 14:02:34 5 done the last inspection?

6 A. Right.

14:02:367 Q. He had also been sent to Arkansas to watch Arkansas do14:02:428 an inspection, correct?

9 A. I know he went to another plant, but I don't know for 10 sure it was Arkansas. I wouldn't doubt it. It was the same 14:02:49 11 kind of PWR, so that seems correct.

12 Q. In plant lingo is it fair to say Mr. Siemaszko owned the 13 head?

A. Yes. He was the reactor system engineer, and that was
his -- we encouraged ownership of the different components
throughout the plant on our system engineers. Then we had a
discipline perspective on our design engineers. And that was
his system.

14:03:13 19 Q. Now, you had said that during the 2000 outage you had 20 been impressed with Mr. Siemaszko's initiative.

21 A. Yes. That's correct.

22 Q. I take it that when we're talking about October 2001 you 23 still were impressed with his initiative?

14:03:26 24 A. Yes.

25 Q. Had no doubts about his integrity?

No, I had no doubts about his integrity. 1 Α. 2 No doubts about his competence? Ο. No, I had no doubts about his competence. He was hard 3 Α. to understand as he spoke, but he came to me with resolutions of 14:03:35 4 14:03:38 5 topics, so I actually kind of liked the guy as a person. 6 Ο. And when that task was assigned to Mr. Siemaszko, that 7 did not trouble you? 8 Α. No. No. 9 Q. And I take it that your expectation for what was going 10 to happen with the construction of the nozzle-by-nozzle table was that Mr. Siemaszko was going to do the reviews and Mr. 11 14:03:53 Geisen was going to check his work? 12 13 Α. I didn't -- let me answer that in two questions. I 14:03:58 14 expected that Andrew was doing the work. And I recall going to his work station and seeing him busily about his business. 15 14:04:06 I didn't prescribe that, Mr. Geisen -- that, Dave, you are to 16 17 check this work. So I think that's what you were asking me. 18 Q. Yeah. I was. 14:04:21 19 And let's talk about October 11, then we'll get back to the conversations that preceded October 17th. Okay? 20 14:04:28 21 Α. Okay. 22 You described a meeting with the commissioners' Ο. technical assistants? 23 14:04:32 24 A. Yes. 25 You were not entirely clear, I don't think, on whose 14:04:34 Q.

idea it was to meet with the technical assistants. 1 2 A. Well, it was someone higher up than Dave Geisen and me for sure. And I don't -- I interfaced with my manager, which 14:04:45 3 was Guy Campbell. And whose idea it was, it wasn't us, I know 4 5 that. 6 Q. Mr. Geisen was not setting meetings with the tech assistants? 14:05:00 7 Absolutely not. I don't know who he'd call to do that. 8 Α. 9 Q. Or congress? 10 Α. No. MR. WISE: Your Honor, if I could have the Court 14:05:09 11 14:05:11 12 turn the projector back on. 13 BY MR. WISE: 14:05:11 14 Q. I want to show you, Mr. Moffitt, a page from Government's Exhibit 87, which I believe Mr. Ballantine showed 14:05:16 15 16 you on direct. 14:05:20 A. Yes. 17 14:05:21 This was a slide that was presented to the technical 14:05:22 18 Q. 19 assistants during the October 11 meeting, correct? 14:05:28 20 A. Yes, that's correct. Q. Let me ask you this as a preliminary matter. 21 The PowerPoint slides that were used during those presentations, did 22 14:05:35 they capture all of what was presented, or were they intended to 23 14:05:39 be a quide for discussion? 24 25 A. No, these were like an outline in a school paper. This

	1	was what were the topics, then we wanted to have a dialogue
14:05:52	2	about each of those topics.
·	3	Q. And Mr. Ballantine drew your attention to the first
	4	flag, which was the sentence that reads, "All CRDM penetrations
	5	were verified to be free from popcorn-type boron deposits using
14:06:06	6	video recordings from 11 RFO or 12 RFO."
14:06:10	7	A. Right.
	8	Q. And you discussed the editing of this slide; do you
	. 9	remember that?
	10	A. Yes, I do.
	11	Q. What was edited was the last line, the 11 RFO or 12 RFO?
	12	A. That's correct.
	13	Q. The initial slide said 11 and 12 RFO?
14:06:24	14	A. Right. I remember that from the 10th.
	15	Q. The edit to that slide was suggested by Mr. Geisen,
14:06:30	16	correct?
	17	A. I believe that's correct. I'm not absolutely certain,
	18	but that would seem quite logical.
	19	Q. And your understanding was it was based on what he
14:06:38	20	understood the videos to show based upon his communications with
14:06:41	21	Mr. Siemaszko?
	22	A. Absolutely.
14:06:43	23	Q. The initial slide, when it said 11 RFO and 12 RFO,
14:06:48	24	suggested that the 12th RFO video standing alone supported a
	25	statement that the penetrations were verified to be free?

Right. And we knew that wasn't right because I was 1 Α. 2 there. 14:07:00 Q. So in essence the change, the edit that was made, 3 weakened the language of the slide, correct? 14:07:04 4 14:07:10 5 Α. I'm hesitant to say weakened. I think it made it 14:07:14 6 accurate because the way it was worded could lead someone to 14:07:17 7 draw the wrong conclusion that we verified them all and both. 8 Q. It could lead someone to conclude that 12 RFO was better 9 than it actually was? 10 A. Right. Right. MR. WISE: Thank you, Your Honor. 14:07:27 11 BY MR. WISE: 14:07:35 12 14:07:35 13 Q. And just so that we're clear, there was not any sense on 14 your part on October 11th that Mr. Geisen was suggesting this change based on Mr. Geisen's having viewed the videos, correct? 15 14:07:47 16 Α. That's correct. 14:07:50 17 Q. Now, at some point after the meeting on the 11th, you described that Mr. Geisen came to you, and I believe you said 18 that he was upset or disappointed? 19 20 Α. Yes. 21 And what he said to you was that the data for the 0. 22 nozzle-by-nozzle table was either complete or near complete, 23 correct? 24 A. Could you repeat that? You do speak quickly. You gave 14:08:10 25 me a good preview.

14:08:16 1 Q. I'm trying my best.

	2	What Mr. Geisen said to you when he came to you was
14:08:22	3	that the data for the nozzle-by-nozzle table was now complete?
14:08:29	4	A. Data was now complete. I don't remember that that
	5	part of it right after October 11th about that part. It's
14:08:38	6	logical because he came to realize we had to go back to '96,
	7	which would go hand-in-hand with that piece of it.
14:08:45	8	Q. And this is the time frame that Mr. Siemaszko was
	9	preparing the nozzle-by-nozzle table, right?
	10	A. Yes. That's correct.
	11	Q. And do you recall that that table was it was filed
	12	with the NRC as part of Serial Letter 2735?
14:09:00	13	A. Could I see it? I mean, I don't doubt your numbers.
14:09:05	14	Q. You'll have to take me on faith for this one.
14:09:08	15	A. I accept it subject to checking on it.
	16	Q. When Mr. Geisen came to you and said that we had to go
	17	back to 1996
	18	A. Right. Yes. We had to go back to '96.
	19	Q did he at any point say to you, let's not tell
	20	anybody about this?
14:09:26	21	A. No. It was the opposite.
14:09:28	22	Q. What did he say to you?
14:09:30	23	A. Dave was very disappointed because he made a mistake to
	24	me. And I think he valued our relationship, and he felt bad
	25	that he communicated something wrong. Rather than saying, let's

,

14:09:41	1	not tell people, we went to talk to the right people to tell
	2	them right away.
	3	Q. You never got the sense that he was trying to cover up
	4	his mistake?
	5	A. Certainly not.
	6	Q. Or conceal it from either you
14:09:51	7	A. No.
	8	Q or from the NRC?
	9	A. That's why he came to me.
14:09:57	10	Q. The effect of the change was that the analysis now had
	11	to go back to 1996?
	12	A. That's correct.
14:10:07	13	Q. At that time, we're talking around the October 17th
14:10:12	14	time, I'm just trying to get a sense of how Mr. Geisen
14:10:16	15	communicated his mindset. Was there any suggestion that he
14:10:23	16	believed that Mr. Siemaszko had deceived him?
14:10:28	17	A. No.
14:10:29	18	Q. Is it fair to say that Mr. Geisen's sense was that Mr.
14:10:33	19	Siemaszko had done the data review and had come up with a result
	20	that was different from what they had initially expected to
14:10:40	21	find?
	22	A. Yes. That's fair to say that.
	23	Q. And is that what was communicated in 2735 with the
	24	table?
	25	A. Yes. That's why we updated the previous one, to show

1

that we had to go back to '96.

14:10:54 2 Q. Now --

14:10:56 3 A. In fact, I don't know if the previous one talked about
4 that. I'm struggling.

14:11:03 5 Q. Okay.

6 A. The October 17th I think was the first time we got into 14:11:08 7 that level of detail that talked about starting points and that. 8 So --

14:11:12 9 Q. But certainly there had been previous representations, 14:11:15 10 for example, on the phone call --

11 A. Right.

14:11:1712Q. -- on the 3rd that the 2000 inspection was 100 percent14:11:2513except for some number of nozzles on top of the head?14:11:2914A. Are you saying for what was cleaned or what was

15 inspected?

16

Q. What was inspected.

What was inspected, I don't know that we communicated 14:11:34 17 Α. 18 except for a few on the top of the head were inspected in 2000. 14:11:41 19 Because there -- like the map, there was more boron that 14:11:45 20 precluded that inspection. I want to make sure I'm very clear 14:11:50 21 because I think people have confused what was clean versus what 14:11:53 22 was inspected and what was a nozzle and what was a flange. But 23 I think that the -- we were saying that it was cleaned except 24 for what was up at the top, in reviewing things in the last five 25 But I think at that time we weren't saying there were years.

1 only five.

14:12:14	2	Q. Certainly the table at least in 2735 presented a fuller
14:12:18	3	picture of what you knew, believed to be the situation?
	4	A. It literally had a picture, the one that Mr. Ballantine
14:12:24	5	showed that was the circle that showed where the flow came and
	6	what was that was the idea, was the picture.
14:12:31	7	Q. I want to focus you now on your conversations with Mr.
	8	Geisen about his verification of Mr. Siemaszko's work. Do you
	9	remember that testimony?
14:12:41	10	A. Yes.
14:12:42	11	Q. You said that at some point you showed Mr. Geisen still
	12	pictures?
	13	A. Yes.
	14	Q. Those were taken from your understanding was from the
14:12:51	15	videotapes of the inspections?
14:12:53	16	A. That's correct.
	17	Q. I believe you said they were similar to the photographs
14:12:57	18	which were later included with one of the serial letters?
	19	A. That's right.
	20	Q. And when you went to Mr. Geisen, your purpose was to try
	21	to gain a better understanding of how the calls were being made
14:13:10	22	in the document that was going to be filed?
	23	A. Right. I felt that I should make sure that we had done
	24	a good second check of Andrew's work.
	25	Q. Is it fair to say that before that conversation with Mr.

Geisen you had not done a first check of this work? 1 I hadn't, no, that's correct. 2 Α. 14:13:26 Q. And you didn't at that point have an understanding of 14:13:28 3 4 either what Mr. Siemaszko was looking at, right? 14:13:32 5 A. Right -- well, I want to be careful with that question. I'm not sure I understood it. 14:13:40 6 Q. You hadn't sat down and looked at pictures from the 7 video before this? 14:13:44 8 A. That's correct. 14:13:45 9 Q. And you hadn't discussed with Andrew Siemaszko how he 10 was making his calls? 11 14:13:48 12 Α. I did walk over at some time to Andrew's office, I said, 14:13:49 13 where he was working. I'm struggling to make sure I've got the 14:13:53 14 time frame right, Mr. Wise. I'm not sure when you're talking 15 about. 16 Q. I'll try to be more clear. My understanding, correct me if I'm wrong, is we're talking about a conversation you had 14:14:02 17 with Mr. Geisen right before the 2735 document with the table 18 14:14:12 19 was filed. 20 A. Okay. Good. Thanks. 14:14:13 21 Q. That was the document Mr. Worley was going to sign? A. I remember that. I remember where I was and how we 22 . 23 went over things. Q. That's why you wanted to check to make sure Mr. Geisen 24

14:14:23 25 had reviewed Andrew's work?

Right. 1 Α. 2 0. Now, what Mr. Geisen explained to you during that 14:14:25 conversation was the methodology that Andrew Siemaszko was using 3 in constructing a table, right? 14:14:33 4 5 MR. BALLANTINE: Objection, hearsay. 14:14:44 6 MR. WISE: It goes to the basis for his knowledge of what he was testifying about, his conversation with Mr. 14:14:46 7 8 Geisen. . 9 THE COURT: I think it comes under the general 14:14:53 10 global exception. Overruled. BY MR. WISE: 11 14:14:58 Q. Mr. Geisen explained to you what Mr. Siemaszko's 12 14:14:58 methodology had been, right? 14:15:02 13 14:15:06 14 Α. I believe that's correct, because I remember that by 15 that time, since I had still photos, that it had been explained to me, whether it was Dave on October 17 or Dave or someone 16 between the 3rd and the 17th, I can't swear under oath I 17 14:15:18 18 remember, but I certainly remember that when we had our review 14:15:22 together, David Geisen and me, we had other people in Dave 19 14:15:25 Lockwood's office. And I had these pictures, and we had the 20 14:15:30 21 table, and we had the map. And we went over that to see if it 14:15:37 22 just made sense. And he was able to communicate how they came 23 to the conclusions that were represented in the tables. 14:15:42 24 Q. He was discussing things with you like whether there was 25 boron on the uphill or downhill side? 14:15:50

Α. Yes. 14:15:52 1 2 He was discussing things like whether you saw evidence Q. of flange leakage on the upper part of the nozzle? 3 That's correct. 14:15:58 4 Α. 14:15:59 Q. He was discussing things like whether a boron deposit 5 appeared to be like popcorn or appeared to have rolled down the 14:16:03 6 head? 14:16:06 7 8 Α. Right. At no point during this discussion did Mr. Geisen tell 9 Q. 14:16:07 10 you, I, Dave Geisen, have looked at these videotapes, did he? That's correct. 11 Α. 14:16:16 14:16:17 12 Ο. And your understanding was that he was verifying 13 Andrew's work based on his review with Andrew of Andrew's 14:16:27 14 methodology? 15 Yes. That's right. Α. Now, you discussed the October 24th meeting that you 14:16:34 16 Q. described as a more free flow of information? 14:16:39 17 Α. 18 Yes. 14:16:42 19 0. Do you recall a request at that meeting from the NRC 14:16:47 20 saying they really wanted to see the videotapes and the photos? 14:16:52 21 Α. On the 24th? I think we had sent them the photos by 22 the 24th, if memory serves. 23 I think you are right. Q. 24 Α. So I don't think that that would be logical. 25 It would not. Q.

	1	Do you recall a request for the videotapes on that
	2	day?
14:17:07	3	A. I don't remember on that day specifically.
14:17:10	4	Q. But you do remember at some point before the November
14:17:13	5	8th presentation of the videos that the NRC said we would like
	6	to see these videos?
	7	A. Yes. That's correct.
	8	Q. Do you recall at any point when that request was made
	9	Mr. Geisen being resistant at all to showing the videos?
	10	A. No, certainly not.
14:17:28	11	Q. Let's fast forward to November 8th if we could. That
	12	was the day that I believe you described that Mr. Geisen showed
	13	the videos to the NRC in the evening?
14:17:39	14	A. Yes.
	15	Q. Do you recall that the meeting was set up at the last
	16	minute?
14:17:46	17	A. I don't remember how it was set up at the last minute.
	18	I know people stayed after work because I remember meeting a lot
	19	of accounts at that aspect of it. I know we were on quite a
14:18:04	20	whirlwind tour. So I wouldn't doubt that it was set up at the
	21	last minute.
	22	Q. In fact, your team was actually in Washington D.C. and
	23	Rockville for an already-set meeting of the staff?
	24	A. Yes. We were there, if memory serves, for a couple
	25	meetings; one the same night that Mr. Geisen took the videos to

1 the NRC, and the next day I believe we had meetings. That might 2 have been the ACRS that I talked about earlier. I think, if memory serves, that was the next day. So there were several 3 14:18:30 meetings with this presentation between them. 14:18:33 4 5 Q. Do you recall that Mr. Geisen arrived to the Washington 6 D.C. area after the rest of the team? 7 A. I really can't recall that. Q. Okay. Do you recall that he was given the videos by Mr. 14:18:42 8 Lockwood? 9 14:18:47 A. I've read that, but I can't swear under oath I recall 10 11 that happening. I have no reason to doubt it. 14:18:51 12 MR. HIBEY: It's quite logical. 14:18:54 13 BY MR. WISE: 14 Q. Do you have any recollection of Mr. Geisen bringing the 15 videos from Ohio out to Washington? 14:18:59 16 A. No, I wasn't involved in that kind of detail, so I don't have recollection of --17 18 Q. Is it fair to say it was unusual to meet with the NRC 14:19:09 19 after hours? 14:19:12 14:19:13 20 A. Yes. It would be unusual. 14:19:16 21 Q. When Mr. Geisen was told that he was going to be the one 22 to show the videos to the NRC that evening, I take it that he 14:19:19 14:19:23 23 did not resist or refuse? 24 A. No. He was a trooper. That's probably a good 25 characterization of Dave in general.

14:19:32 1 Q. And you said that when he came back from the meeting, he 14:19:35 2 seemed unhappy?

A. He was unhappy with the reception and the general tone4 of the discussion, I remember that.

5 Q. Do you recall him telling you that the NRC staffers that 6 were there were asking him questions that he couldn't answer? 14:19:49 7 A. I don't recall that detail. I recall, as I said, that 8 he was an unhappy camper, you might say, on how things went on 9 the presentation.

14:20:00 10 Q. Let me ask you this: Do you recall that on November 11 14th Andrew Siemaszko was brought to Washington D.C. --

A. Yes. Absolutely.

Q. -- to speak about specifically the inspections?
A. As I said to Mr. Ballantine, that's why we brought him,
was to eliminate any translation or layers of interpretation,
but to rather have the direct person who did this communicate
with the NRC people.

Q. And is it fair to conclude that that was in part because
Mr. Geisen was unable to answer the NRC's questions on the 8th?
A. I think that's quite logical. Although my memory isn't
clear of everything that wound up bringing Andrew to Washington.
14:20:40
But it makes sense, yes.

14:20:42 23 Q. You testified on direct about the ACRS meeting.

A. Yes, sir.

25 Q. And Mr. Ballantine asked you about the use of the term

14:20:50

1 qualified visual inspection?

A. Yes.

2

14:20:533Q.You did not believe that a qualified visual inspection14:20:594was the same thing as a VT2 inspection, did you?

14:21:05 5 Α. I've got to admit even that term escapes me. There's 6 different codes of mechanical engineering standards. I don't know how to answer that question. I believe the codes and 7 14:21:18 standards were different than the terminology employed in the 8 14:21:20 bulletin. And I believe qualified and effective and perhaps 9 14:21:23 other words were used in the bulletin whereas the VT2 I think is 10 part of the mechanical engineering code, and that has different 11 requirements and connotations. I'm not -- I'm an electrical 14:21:39 12 engineer, so I can't profess expertise, but that was my 13 14:21:46 14 understanding of that.

14:21:51 15 Q. Do you remember Mr. Geisen telling you in his view a
14:21:54 16 qualified visual examination was a term that had been discussed
17 with Mr. Hiser on the October 3rd call?

A. I don't remember saying discussed with Mr. Hiser, but I 18 14:22:00 do remember Dave being quite happy and confident that the 19 quality of the '96 -- that it could be characterized as 14:22:08 20 qualified. And I testified earlier that I recall David and 14:22:11 21 Allen, Mr. Hiser, speaking the same language. So that wouldn't 22 surprise me if that was something he said to me. I just can't 23 honestly say I remember. 24 14:22:25

25 Q. And do you recall a discussion about whether qualified

	1	in essence meant that a nozzle's gap would open up and you were
	2	able to view the nozzle to tell whether it was a leaker?
	3	A. I know that now; I don't know that I knew that in 2001.
14:22:50	4	Q. Mr. Moffitt, this question may seem absurd, but let me
	5	ask you: Did you ever instruct Mr. Geisen to lie to the NRC?
	6	A. Absolutely not.
	7	Q. Did you ever instruct him to mislead the NRC?
	8	A. No.
14:23:00	9	Q. Did you ever instruct him to do anything to paint a
	10	better picture than what the NRC might believe to be the case?
	11	A. No.
14:23:10	12	Q. Based on what you know of him, do you think he would
	13	have done it if you would ask?
	14	A. No.
14:23:17	15	Q. You said to Mr. Ballantine that you've now seen the 1996
	16	video.
14:23:21	17	A. That's correct.
14:23:22	18	Q. That was a video that you saw after you learned about
	19	the existence of a cavity in the head?
14:23:27	20	A. Yes.
	21	Q. And you describe it as upsetting?
	22	A. Yes. The first time I believe I saw it was at the Carl
14:23:35	23	Stokes Building in Cleveland when I was talking with Mr.
	24	Ballantine and the other people. I'd certainly read a lot
	25	about the root cause and other things, but that was the first

1 time. And it was upsetting because it was a gut-type thing and 2 emotional to look at it and compare that to what I believed it 3 was like.

Q. Do you recall seeing a 2000 video that Mr. Siemaszko5 brought to you during the outage?

A. During the outage of 2000 Andrew showed me the video during part of the testimony I described in the ops. manager's office.

Q. When you saw that video, that was at the time that youbelieved what you were seeing was flange leakage?

11 A. Absolutely.

12 Q. And flange leakage that you thought was going to be 13 cleaned?

14:24:21
14 A. When Andrew -- when Andrew showed me that, I believed it
15 was flange leakage. And as I testified, I was in support of his
14:24:29
16 efforts to get the barriers to cleaning done.

17 Q. And when you saw that video, I take it, you had a very different reaction than you did when you saw the 1996 video 14:24:35 18 19 after you discovered the existence of the cavity, correct? 14:24:39 And if I could explain why I appreciated it, 14:24:42 20 Α. Yeah. there were two different -- when Andrew and I were looking at it 21 in 2000, it was believed to be part of a housekeeping or a 22 broken component, that flange is leaking. When I looked at it 23 24 then with Mr. Ballantine and others, then I was looking at it 25 from the perspective that this started the clock that we talked

about as a baseline for a different topic, not the corrosion, 1 but when was the last time we saw things good. So the reason I 2 elaborate a bit is there were different reasons why things hit 3 14:25:16 4 you differently on that as a topic. 5 Q. And different facts that you knew about the condition of 6 the head? 7 Α. Right. 14:25:23 I take it you would agree with me that your review of 8 Ο. the '96 videotape was in part a result of knowing what now 9 10 existed? 14:25:32 14:25:33 11 Α. I don't understand the question. I'm sorry. 12 Ο. That's fine. I take it that part of what bothered you 13 about seeing the '96 videotape was now having the benefit of hindsight? 14 15 Α. Yes. 16 And knowing there's a cavity in the head? Q. 17 Α. Absolutely. 14:25:45 MR. WISE: Thank you, Mr. Moffitt. That's all I 14:25:47 18 19 have. 14:25:51 20 MR. CONROY: No questions, Your Honor. 14:25:57 THE COURT: Redirect, Mr. Ballantine. 21 14:25:58 MR. BALLANTINE: Thank you, Your Honor. 22 14:26:00 23 _ _ _ 14:26:02 STEVEN MOFFITT, REDIRECT EXAMINATION 24 14:26:02 25 BY MR. BALLANTINE: 14:26:03

14:26:031Q.Mr. Moffitt, who is responsible for the technical2accuracy of documents that are submitted to the NRC?

A. I think everyone who provides the information and their4 management chain that reviews and approves it.

5 And what do you feel is -- what was your understanding Ο. of what it meant to be responsible for that technical accuracy? 6 My belief is that as a manager, I gain the assurance 14:26:25 7 Α. that the people that are doing the work are qualified and 8 capable. I check things to satisfy myself and make sure that to 14:26:34 9 the best of my ability I'm communicating accurate information as 10 an individual contributor. I believe that I formulate a basis 14:26:43 11 for what I'm communicating. And communicate that more as a 12 13 nugget, then as you go up in the organizations, it's more of a 14 pile of things than nuggets.

> 15 Q. You say you check things to satisfy yourself that 16 they're correct. What do you mean by that?

17 Α. Well, the example we talked about with looking at the photographs, understanding how the conclusions were made, seeing 14:27:05 18 if the ones that were obscured were, in fact, communicated as 19 14:27:09 20 obscured. It's that kind of thing that would make sense in how 14:27:14 you make sure something's right. 21 14:27:18

14:27:20 22 Q. I'd like to talk about that for a moment. Who did you
23 understand the individual contributor to be with respect to the
14:27:28 24 past inspections of Davis-Besse?

14:27:30 25 A. There were different people there at different times

because Andrew was new, like some of us. So I know that he was 1 2 the person that had done the 2000 outage. I either knew or I know now that Mr. Goyal had done or been involved in the '96. 3 I'm not sure who was '98; I believe it was not Andrew because he 14:27:47 4 5 was new. But Andrew had the lead to communicate with all of the 14:27:56 6. individuals and formulate that information. And Andrew was the 7 most single knowledgeable person, which is why we brought him to Washington. 14:28:02 8 9 Q. Did you understand -- you just described three people who did inspections in '96, '98 and 2000? 10 11 Yes, sir. Α. 12 With respect to the bulletin response, what was -- who Ο. was the individual contributor who was addressing the past 13 14:28:24 14 inspections? 15 Α. Andrew Siemaszko. 14:28:26 16 Ο. And how was it that he was going about doing that? 17 Well, I knew Andrew had the tapes, and I had walked by Α. 18 and seen him working on things. And I came to understand that 14:28:33 he was taking the tapes, converting them to a medium that he 19 14:28:38 20 could focus on instead of this moving worm, as I've already 21 14:28:45 described. So I believe Andrew was going with the information 22 from the tapes, putting those into pieces that he could analyze, 23 then tabulating those in these tables. 24 Q. Did you think that that was a job that one person could 14:28:58 25 be -- you could have just one person to rely on?

	1	A. Well, I think that it was something that I could have
14:29:12	2	done because I came up through the ranks as an engineer myself.
14:29:16	3	I think that Andrew had help with the people to help formulate
	4	the media. And when I talked to David and Mr. Eschelman, I
	5	know that they were not reluctant to commit resources which
14:29:29	6	were considerable in their organization to helping them. So
	7	I didn't sense that he was if I'm inferring in your question,
	8	I didn't sense this is too much for this character.
	9	Q. Did you think that it was something that had to be
	10	that should be verified?
14:29:42	11	A. Yes, absolutely, just like calculations.
	12	Q. And did you communicate that to David Geisen and David
14:29:50	13	Eschelman?
	14	A. Yes, sir.
	15	Q. I think you've testified to this, but tell the jury
14:29:54	16	again what that communication was.
	17	A. Well, I'm good with places. I remember outside my
	18	office having both managers, both gentlemen, Dave and Dave, and
	19	communicating that point that this kind of unusual typically
	20	we will design, like, those MOD, modifications, there will be
14:30:14	21	sheets where the individual signs off, then his manager or
14:30:17	22	supervisor signs off. Here this was nothing like this. This
	23	was being done more extemporaneously.
	24	So I talked to them to make sure we had the same

14:30:26 25 mindset: defense in-depth; that we're not relying on any

1 individual, something similar to a calculation, looked at the 2 method, looked at examples, and could vouch.

Q. You used the term defense in-depth. That's, I guess, 3 4 What did you mean by using that term here? an industry term. 14:30:45 5 Α. The industry, as I understand it, was originally based 6 on defense in-depth. If one spare tire was good, two would be better. Then we moved into the more probabilistic word as we 14:30:54 7 14:30:57 8 learned more about the equipment. But defense in-depth would 9 be, to use an example, we have a pump that can safely keep the 10 reactor covered; we won't just have one, we'll have two. 14:31:05 Then 11 the power to supply to that pump, we won't just count on the 12 wires from the transmission, we'll have a standby diesel generator. Everything we'd have two of things. So if 14:31:17 13 14 anything went wrong, no single thing would cause a problem. 15 That's the idea. 14:31:24 16 Q. How is it you're applying that analogy to the situation 17 of reviewing the past inspection? 18 It's quite analogous to the modifications and Α. 19 calculations was that if an individual made a mistake, someone 14:31:32 20 should make sure that there was a -- there was an overlapping or 21 a logical way to gain that assurance so that no single mistake -- obviously barriers failed in this event, and more 14:31:43 22 23 people know more about it than I can, but that was part of it. 24 Q. After you spoke with Mr. Eschelman and Mr. Geisen about 14:31:51

25 this topic, did there come a time when you asked Mr. Geisen, who

1 can vouch for these inspections?

Yes. I don't remember exactly when, but I remember 2 Α. 14:32:04 talking to Dave, and he told me he could vouch for the work. 3 He told you he could vouch for the work? 14:32:09 4 Ο. 5 Α. Yes. And I thought that was good because I have a lot 6 of confidence in Dave. Q. Mr. Wise asked you about the slides and asked you 14:32:23 7 whether they were -- I think you indicated they were a guide to 14:32:27 8 the conversation that took place. 9 An outline, yes. 14:32:32 10 Α. What, if anything, was said about impediments to the 11 Ο. 12 past inspections? 13 Α. Well, that's why we talked about the "or". That's why 14:32:45 14 we had to go back to '98. So I'm sure -- I don't remember 15 exact words people said, but --16 Q. The word "or" was in the slide. I'm asking what else 14:32:57 17 there was in that conversation about impediments to the past 14:33:01 18 inspections. 14:33:06 19 A. I can't testify under oath I remember the exact words, 20 but it is only logical that we talked about why you couldn't see everything in 2000 since we had a slide. But that's 21 14:33:14 speculating, and I won't speculate. 22 14:33:18 O. After the meeting with the technical assistants you 23 14:33:25 24 talked about Mr. Geisen coming to you with an issue about going 25 back to 1996.

1 A. Yes.

-

	2	Q. Did you did anybody at Davis-Besse communicate to the
14:33:37	3	technical assistants that that had been wrong?
14:33:41	4	A. I don't know that. I took it to reg. affairs and was
14:33:45	5	essentially told to make the update. Whether someone called
	6	them or not, I don't know.
14:33:51	7	Q. The update to?
	8	A. Putting in an update on the 17th as we had communicated
	. 9	on the 3rd. So between the time David told me, which is
14:34:01	10	probably the 11th or 12th, within five days we had an update
14:34:05	11	signed and on the docket. But whether, you know I certainly
	12	didn't find the numbers of the technical assistants and call
	13	them.
14:34:16	14	Q. Do you know what part of the NRC that update went to?
14:34:20	15	A. I don't know that it just goes to one or all. I have
	16	no way to know that.
	17	Q. Would the technical assistants in the normal course of
14:34:29	18	things receive Serial Letter 2735?
	19	A. There were a lot of folks on the topic at this time. I
	20	wouldn't speculate whether they were looking into it in that
14:34:37	21	detail or not.
14:34:41	22	Q. On November 14th, Davis-Besse brought Andrew Siemaszko
14:34:47	23	to a meeting with the NRC?
14:34:49	24	A. Yes.
	25	Q. Why was that again?

A. Because we wanted to be able -- as you saw in that one table, there were different words used. No inspection -- I can't even as I sit here just looking at it. And we wanted someone to be able to directly communicate the status of the reactor vessel head to the people who were involved and working with us on resolving the issue.

14:35:10

7

Q. Why Andrew Siemaszko?

8 A. Because Andrew was the person who was the subject matter
9 expert on the review. That was his task.

10 Q. Why didn't you bring Prasoon Goyal to talk about the 14:35:22 11 1996 inspection?

12 Α. I don't think I knew Prasoon's involvement in much 13 detail regarding the previous inspection at that point. I knew 14 he knew about the circ. cracking, but I don't know that he would 15 be the expert. And I don't know that he was involved in the 14:35:35 16 tabulation of these, to what extent. So Andrew seemed like the 17 right guy. He was certainly the person that had the lead. 14:36:00 18 Mr. Wise asked you about the crack growth model --Ο.

14:36:04 19 A. Yes.

20 Q. -- and the work that Mr. Geisen did on that.

14:36:08 21 A. Yes. Yes.

14:36:11 22 Q. We're taking about the crack growth model. What is it 14:36:15 23 that's -- what's the model designed to show?

14:36:1824A.There was a model called the Peter Scott Model, which14:36:2225was the model that was used by reactor designers.Then Mr.

14:36:26	1	Hiser was using some other probabilistic models. But those
	2	were two, the backgrounds. And to answer your question, the
	3	model was used to say: Based on when your starting point was,
14:36:39	4	'96, '98, how big would an initial crack be, how fast would a
	5	crack grow and then, most importantly, how do you make sure you
	6	have an adequate safety factor that that crack would not result
	7	in a loss of coolant accident from the control rod drive
14:36:57	8	mechanism penetration. So that's what the model was.
	9	Q. So the end result, the answer, or the question that's
	10	being asked is: Will this plant be safe to operate until the
	11	next outage?
14:37:13	12	A. That was always how we started the question. Every
	13	meeting was: Is the plant safe?
14:37:18	14	Q. And the factors that go into that are, how big a crack,
14:37:25	15	circumferential crack did the nozzle sustain
14:37:27	16	A. Yes.
	17	Q without separating from the head?
	18	A. That's correct.
14:37:30	19	Q. And the factors that go into that are: How fast will a
	20	crack grow
	21	A. Right.
	22	Q and how long has it had to grow?
	23	A. Yes.
14:37:41	24	Q. So Mr. Geisen is working on, I think you said, the crack
	25	growth rate model?

.

	1	A. He was working on that and other things like that Mr.
14:37:54	2	Ulie asked me about. There was this other Structural
14:37:58	3	Integrity, I believe, is their name; was doing another analysis
	4	comparing with this, looking at the fit, how tightly the CRDM
14:38:09	5	nozzle fit into the head. So there were several things that
	6	were within his responsibility. Those are two.
14:38:15	7	Q. So the crack growth rate model is dependent on the other
	8	thing that I think Mr. Wise asked you about, which is whether he
	9	was working on these past inspections?
14:38:30	10	A. Could you repeat?
14:38:32	11	Q. That wasn't very well worded. I asked that poorly.
	12	Mr. Wise asked you about what it was that Mr.
	13	Geisen was working on at the time?
	14	A. Yes.
	15	Q. He took on the crack growth rate model?
	16	A. Right.
	17	Q. And the other thing was past inspections?
	18	A. Yes. That's correct.
14:38:48	19	Q. And those the past inspections feed the crack growth
	20	rate model?
14:38:55	21	A. Absolutely.
	22	Q. So if you have past inspections that go back before
	23	1996, if you had to go back before 1996 to start the model, does
	24	that have an effect on the outcome?
14:39:06	25	A. It would have to be analyzed with the time and

temperature model I described earlier because it's similar to 1 aging; it could have an effect certainly. And we -- our 2 analysis started in '96. So if we had found, as I wish we 14:39:17 3 would have, that '96 was not a good baseline, then we would have 4 5 certainly had to look at it from those perspectives: Do we have 14:39:27 a '94 baseline, or would the time and temperature model give us 14:39:30 6 the confidence that that starting point would be adequate? 7 So these are two issues that go hand-in-hand, the past 14:39:39 8 Ο. inspections and the crack growth rate model? 9 Certainly, because the past inspections are the starting 10 Α. point of when we would assume a conservatively-sized crack would 11 have been there because we hadn't looked at it before then. 12 13 Ο. And all of these are feeding into -- I'm sorry. 14:39:57 I said before then; I meant since then. 14 Α. So all of this is feeding into the ultimate question of 15 Ο. 14:40:03 whether or not Davis-Besse is going to shut down by the end of 16 14:40:06 17 2001? 14:40:10 I think the ultimate question -- and I don't mean to be 14:40:11 18 Α. 19 argumentative, but it's an important one -- I believe the 14:40:14 20 ultimate question is: Are we safe? And we believed we were. And I tried my best to insulate the people from those others. 21 14:40:20 I failed in that myself because we didn't catch this. But I 22 don't believe that was the ultimate question. I really don't. 23 The 1996 video that you saw at the offices in 24 Q. 14:40:38 25 Cleveland --

Right. 1 Α. 14:40:47 Q. -- do you think that video gives a valid baseline for 2 the model that you were using? 3 A. I was, as I said, shocked by it because I didn't study 4 . 5 how many nozzles could you look at, but we represented that it 6 was essentially clean, and what I saw was not essentially clean. So I would have expected to be able, not that if I could, but if 7 I took each one of those, I would expect to have the same kind 8 9 of assessments of the nozzles that you and Mr. Wise discussed. The 1996 video we're talking about was one of the videos 10 Ο. that Mr. Geisen vouched for? 11 Mr. Geisen vouched for --14:41:22 12 Α. 13 MR. WISE: Objection. 14 THE WITNESS: I'll be careful with that answer. 14:41:26 MR. WISE: Objection, Your Honor. 15 14:41:29 16 THE COURT: Overruled. 14:41:33 Mr. Geisen vouched for the characterization of the '96 17 Α. 14:41:35 inspection. I'm just being careful. I don't say vouched for 14:41:41 18 the videos, which is, I think, what you asked me. 19 20 MR. BALLANTINE: Thank you. I have no further questions. 14:41:49 21 MR. WISE: Nothing. 22 14:41:50 23 THE COURT: Thank you, sir. MR. POOLE: Your Honor, the government's next 24 14:42:22 25 witness will be Mr. Walter Huston.

14:42:54	1	(The witness was sworn by the clerk.)
14:42:57	2	
14:42:57	3	WALTER HUSTON, DIRECT EXAMINATION
14:45:29	4	BY MR. POOLE:
14:45:29	5	Q. Good afternoon, Mr. Huston.
	6	A. Good afternoon.
	7	Q. Did I pronounce your last name right?
	8	A. You did.
	9	Q. Like the city?
	10	A. Without the first "O". It's pronounced the same.
	11	Q. Pronounced like the city Houston.
	12	Mr. Huston, would you state your full name and
	13	spell it for the record?
14:45:43	14	A. Roger William Huston, H-u-s-t-o-n.
14:45:48	15	Q. Mr. Huston, what city do you live in?
	16	A. Live in Alexandria, Virginia.
	17	Q. How are you employed?
	18	A. I'm a consultant.
	19	Q. What kind of consultant?
	20	A. At this point I do regulatory engineering consulting
	21	with the Department of Transportation for pipeline safety.
14:46:07	22	Q. In the course of your career have you done work for
14:46:10	23	FirstEnergy?
	24	A. Yes, I have.
14:46:12	25	Q. And have you done work related to the Davis-Besse

14:46:17 1 Nuclear Power Station?

14:46:17 2 A. Yes, I have.

14:46:21 3 Q. Were you doing work for Davis-Besse in 2001?

14:46:26 4 A. Yes, sir.

14:46:28 5 Q. Related to the bulletin responses?

14:46:31 6 A. Yes.

14:46:3214:46:382 Q. Describe, please, for the jury the nature of the14:46:388 consulting you did related to the bulletin.

9 With respect to my nuclear practice at that time, I was Α. serving as a shared resource in Washington for a number of 14:46:46 10 14:46:51 11 utilities. I attended meetings at the Nuclear Regulatory 12 Commission, I monitored the paperwork that was coming out. Mv 14:46:56 13 job has pretty much been overcome at this point because all that 14:47:02 paperwork is available on the web; at that time it wasn't. 14:47:08 14 My purpose was basically intelligence gathering, letting my clients 14:47:13 15 16 know what was being developed at the NRC, what were current 17 trends, what was likely to affect them in the future. 14:47:20 14:47:26 18 Q. So did that work include attending meetings in 19 Washington and reporting back to Davis-Besse? 14:47:29 20 Α. Yes. That was a major piece of my practice. 14:47:32 21 I'm going to show you now Government's Exhibit 108 14:47:38 Q. 22 previously admitted into evidence and ask if you recognize it. 14:47:42 Yes, sir, I do. 23 Α. 14:48:07 Are those the NRC's minutes and a set of meeting slides? 24 Ο. 14:48:10 25 Yes, it's an NRC meeting summary attached to which are Α.

14:48:24 1 PowerPoint slides used at a meeting.

14:48:27 2 Q. Which meeting was it?

3 A. A meeting between the NRC and FirstEnergy on October 24, 14:48:33 4 2001.

14:48:34 5 Q. All right. Did you attend that meeting?

6 A. I did.

I'm going to hand you now Government's Exhibit 109, 7 14:48:39 Q. which Your Honor has not admitted, and ask you to identify that. 8 14:48:45 Yes. This is pages copied of a bound notebook in which 9 Α. 14:48:57 I took notes from meetings that I attended. It is covered by a 10 list of the meetings in that book that were relevant to the 11 14:49:12 bulletin. I created that list after I was interviewed by the 14:49:19 12 13 NRC Office of Investigations, and they made copies of pages from 14:49:30 14 the book that were relevant to each of these meetings. Ι 15 haven't flipped through here to see whether all of them are 14:49:36 included in this list. I don't believe all of them are, but 16 17 some of them are. 14:49:43

18 Q. Do some of those pages contain your notes of that 14:49:48 19 October 24th meeting? And I'll call your attention to pages 94 20 to 98.

14:50:0321A.Yes, sir, pages 94 to 98 are here, and they do reflect22that October 24th meeting.

14:50:0923Q. As you sit here today, can you recall independently of24the notes the events of that meeting?

25 A. No, sir.

MR. POOLE: Your Honor, we would move for admission 14:50:25 1 of pages 94 through 98 -- I can give you the NRC numbers -- and 2 3 not the remainder of the pages, and we'll ensure that those pages are the ones that are included in the final exhibit. 4 14:50:49 5 MR. WISE: I would object on foundation and on 14:50:54 6 hearsay grounds. 7 MR. POOLE: I didn't understand the last phrase. 14:50:59 8 MR. WISE: I would object on foundation and hearsay grounds. 9 14:51:06 10 MR. POOLE: Your Honor, we offer it as past 14:51:07 11 recollection recorded. This is the October 24th meeting we 14:51:10 12 discussed. 14:51:57 13 (Discussion had off the record). 14:53:31 14 THE COURT: The motion is sustained. 15 Mr. Huston, you may review pages 94 to 98 of those 16 notes to attempt to refresh your recollection and testify then from your recollection if it is refreshed. 17 18 THE WITNESS: Thank you, Your Honor. 14:53:48 19 BY MR. POOLE: 14:54:33 14:54:33 20 Q. Mr. Huston, I think I can help you by telling you the 14:54:37 21 questions I will have are related to the notes on pages 94 and 14:54:41 22 95. 23 Α. Thank you. 14:54:42 24 I have reviewed pages 94 and 95. 14:55:15 25 Q. Let's go back to the meeting slides. I want to ask you 14:55:18

some questions about them. I think you said you recall 1 attending this meeting? 14:55:32 2 Yes. I do recall attending. I do have my own 14:55:34 3 Α. handwriting notes, and my name appears on the NRC's list of 14:55:39 4 5 meeting participants in their memo. 6 MR. POOLE: Your Honor, at this point we'd like to 7 display to the jury a page from the meeting handout, Exhibit 8 108, which is in evidence. 9 THE COURT: Very good. 14:55:55 BY MR. POOLE: 14:56:01 10 11 Q. So is this a list of the FENOC participants and 14:56:01 consultants at the October 24th meeting? 12 14:56:08 14:56:12 13 Α. This is a list that was prepared and included in FENOC 14:56:16 14 slides to describe their attendees. I cannot say with 15 certainty that all of these people were there or that there were 14:56:20 16 not some others there who weren't on this list. 14:56:23 17 Q. Was Mr. Geisen there? 18 Α. Yes. 19 Q. I want to ask you some questions about his role in this 14:56:30 meeting. Can you tell the jury which of the slides among these 14:56:36 20 21 were presented in his portion of the discussion? 14:56:44 14:56:48 22 Α. My notes reflect that. 23 MR. WISE: Objection. 14:56:54 14:57:00 24 BY MR. POOLE: 25 Q. Do you recall? 14:57:00

14:57:01
1 A. Yes, I recall, as my memory has been refreshed by my
14:57:07
2 notes, that Mr. Geisen did present a major portion of these
3 slides.

14:57:13
4 Q. Could you go through the slides. You can do so
14:57:19
5 silently, but just take a look and give us the page numbers, if
14:57:23
6 you would, of the portions that he presented.

14:57:36
A. I cannot say for certain, but I believe that Mr.
8 Geisen's presentation began with Slide 4, and it proceeded
14:57:46
9 through the discussion of the probabilistic risk analysis, which
14:57:53
10 begins on Slide 18, which was presented by Mr. Byrd. So Mr.
14:58:08
11 Geisen presented slides 4, I believe, through 17.

14:58:14
12 Q. Just for clarification, your reference to probabilistic
14:58:19
13 risk analysis, he did not do?

A. He did not present that. It starts at Slide 18 in thispackage.

Q. I'd like to ask you questions about some of these slides 14:58:38 16 and about the discussion. Let's turn to page 6 -- and I'll 14:58:42 17 18 display that for the jury -- a set of bulletins about 19 Davis-Besse's bulletin response. I'll call your attention to 20 the last item on the page. Do you recall a discussion of 14:59:11 21 inspection plans for the 13th refueling outage which was then a 14:59:16 22 future outage?

14:59:17 23 A. I recall the discussion of inspection plans for a future
14:59:22 24 outage. I'm aware that Davis-Besse numbers their refueling
14:59:28 25 outages. I would not independently know then or now whether

the 13th refueling outage was indeed the one that was coming up.
 I presume it was because it's here on the slide.

3 Q. Okay. This bullet item says: Committed to perform a 14:59:42 4 qualified visual inspection of reactor pressure vessel head in 14:59:49 5 13 RFO currently scheduled to begin in March.

Do you recall any discussion, any caveat, if you 7 will, about the inspection at the 13th refueling outage related 8 to boron left on the head in the last preceding outage?

15:00:15 9 A. No, I do not.

15:00:17 10 Q. All right. The page I just showed you is page 6. Is 11 that right?

12 A. That's correct.

13 Q. Are you confident that that was one of the pages 15:00:55 14 presented by Mr. Geisen?

15:00:57 15 A. I'm confident that that was one of the pages that was 15:01:01 16 within that section during Mr. Geisen's presentation. I

17 believe all of those slides were used, but at this point I can't 18 say with certainty that a slide wasn't skipped.

15:01:12
19 Q. Okay. Let's talk about the next slide, which is page 7.
15:01:17
20 A. Yes, sir.

Q. It's headed "Analyses". Davis-Besse's evaluation is
based on our visual inspections performed in 10, 11 and 12 RFO.
The next item says: The inspection results afford us assurance
that all but four nozzle penetrations were inspected in 1996.
All but 19 penetrations were inspected in 1998. And all but 24

1 penetrations were inspected in 2000.

Do you recall Mr. Geisen presenting that 2 15:01:52 information? 3 I recall a discussion of that, yes. 4 Α. Q. And take a minute to refresh your recollection with your 15:02:00 5 6 notes if it helps. Do you recall Mr. Geisen addressing that? A. What I -- yes, what I recalled was that was part of Mr. 15:02:12 7 Geisen's presentation. There were questions asked by the NRC 8 during the course of that presentation to which there were 9 15:02:22 responses from Davis-Besse staff. I cannot say with certainty 10 15:02:26 as a matter of fact; from my notes I believe that those 11 responses came from one of the other people who were in 12 15:02:41 13 attendance rather than from Mr. Geisen. 14 Q. Okay. Let's turn to Slide 9. 15 A. Yes, sir. 15:02:54 Q. Display it to the jury. All CRDM penetrations were 16 15:02:57 verified to be free from popcorn-type boron deposits --17 THE COURT: Slow down, please. 15:03:09 18 19 BY MR. POOLE: 15:03:09 Q. -- deposits using video recordings from 10 RFO, 11 RFO 20 15:03:11 21 or 12 RFO. A review of visual recordings as well as eyewitness accounts served as the means for this inspection. 22 15:03:21 23 Was this statement within the portion presented by 24 Mr. Geisen?

25 A. Yes, sir.

15:03:32 1 Q. Was there further discussion during this presentation 15:03:43 2 regarding review of the videotapes?

A. Yes, sir.

3

Can you tell the jury what that discussion was? 15:03:48 4 Q. Α. The NRC was very interested in understanding whether the 15:03:53 5 videotapes had been reviewed, whether the quality of the 15:03:58 6 videotapes was good enough to have observed the kind of boron 7 deposits that they were interested in, and the NRC was --8 15:04:07 . 9 indicated that they had been promised a copy of the videotapes 10 that had not yet been received, and they expressed some degree 15:04:17 of -- how should I express it? They were not very happy having 15:04:21 11 12 not received that information.

15:04:3313MR. POOLE: Thank you. That's all the questions15:04:3514we have.

15:04:38 15 MR. WISE: Nothing, Your Honor.

15:04:40 16 MR. CONROY: Nothing, Your Honor.

17THE COURT: Thank you, sir, you may step down.15:04:5218MR. POOLE: Your Honor, the next witness will be15:04:5419lengthy. This would be a good time for a break.

20 THE COURT: Ladies and gentlemen, we'll take our 21 mid-afternoon break now for roughly 15 minutes. Please 22 remember my previous instructions not to discuss this case among 15:05:05 23 yourselves, nor with anyone else, nor permit anyone to discuss 24 it with you. Do not make up your minds on the ultimate issues 25 which will be yours to decide at the end of the case.

	1	Enjoy your break.
15:24:29	2	(Recess taken.)
	3	THE COURT: Please call your next witness.
15:24:34	4	MR. BALLANTINE: Your Honor, the United States
15:24:35	5	would call Dale Wuokko.
15:24:42	6	(The witness was sworn by the clerk.)
15:24:54	7	
15:24:54	8	DALE WUOKKO, DIRECT EXAMINATION
	9	BY MR. BALLANTINE:
	10	Q. Good afternoon, Mr. Wuokko.
	11	A. Good afternoon.
	12	Q. That microphone is directional, so if you can point it
15:25:04	13	toward your
15:25:05	14	A. Better?
15:25:08	15	Q. Mr. Wuokko, could you state your full name and, in
	16	particular, spell your last name for the court reporter?
	17	A. My name is Dale Wuokko, spelled W-u-o-k-k-o.
15:25:20	18	Q. Mr. Wuokko, where do you work?
	19	A. I work at Davis-Besse.
15:25:23	20	Q. How long have you worked at Davis-Besse?
15:25:25	21	A. Since October, 1984.
15:25:28	22	Q. What's your background in the nuclear industry?
	.23	A. I've been a Supervisor of Licensing, and Supervisor of
	24	Compliance.
15:25:39	25	Q. Prior to working at Davis-Besse, what did you do?

	1	A. I worked for seven years at Consumers Power in Michigan
	2	in the Safety and Licensing Department as a licensing engineer.
	3	Q. What's your educational background?
	4	A. I have a bachelor of science in civil engineering.
15:25:58	5	Q. What's the nature of the work that you do at
	6	Davis-Besse?
	7	A. Today?
15:26:02	8	Q. Yes, for starters.
15:26:04	9	A. I'm the compliance supervisor. And I supervise a staff
	10	that coordinates interactions with NRC inspectors both to
	11	on-site inspectors and also visiting inspectors.
	12	Q. And it's your job under the umbrella, I guess, of
	13	Regulatory Affairs?
	14	A. This is under actually Regulatory Compliance now.
	15	Q. In the 2000, 2001 time frame, what were you doing?
	16	A. I was a Supervisor of Licensing.
15:26:36	17	Q. At that point was the umbrella called Regulatory
	18	Affairs?
	19	A. That's correct.
	20	Q. As a Supervisor of Licensing, who would you interact
15:26:46	21	with outside of Davis-Besse?
	22	A. My primary contact in the NRC was the NRR, Office of
	23	Nuclear Reactor Regulation, a project manager outside the
	24	Washington D.C. area. I contacted him by phone.
	25	Q. And just so the jury has an idea, how is that broken up?

You were communicating through NRR. Are there other folks at 1 the plant communicating with a regional office? 2 15:27:11 That's correct. At that time there was a compliance Α. 3 15:27:13 supervisor; interacted with the regional office; and I, as a 15:27:17 4 15:27:25 5 licensing supervisor, interacted with the headquarters office. 15:27:29 6 Q. What's the name of the compliance supervisor? At that time was Dale Miller. 7 Α. So you were both named -- your both names were Dale; is 8 Ο. that right? 9 15:27:37 That's correct. 10 Α. Did that ever cause any confusion? 11 Ο. A few times, yes. 15:27:40 12 Α. Mr. Wuokko, when was it that you first came to the 15:27:47 13 Q. 15:27:52 14 understanding there was a renewed interest in the entry about 15 control rod drive mechanism cracking? 15:27:56 16 In April of 2001 we were preparing for an NRC Α. commissioner visit. And as part of that, one of our 15:28:05 17 Washington-based consultants, Roger Huston, identified the issue 15:28:09 18 of control rod drive mechanism cracking as a hot issue in the 19 NRC and that the commissioner may be asking questions about 15:28:21 20 21 that. 22 Q. What was the response at Davis-Besse to that piece of 23 information? The group putting together slides prepared some backup 24 Α. 15:28:27 25 slides in case there were some questions asked by the 15:28:33

15:28:36 1 commissioner.

Q. And who was it? Was there someone who was being 2 prepared to present to the commissioner? Was there a person at 15:28:40 3 Davis-Besse who was going to be doing the presentation? 4 5 Α. Dave Geisen was going to do that portion of the 6 presentation if needed. Q. And was it needed, do you know? 7 A. I can't recall with certainty. 8 After that, what was the next event with respect to Q. 15:28:55 9 nozzle cracking which you recall? 10 15:29:00 In about the June 2001 time frame the vice-president, 15:29:02 11 Α. Guy Campbell, had returned from an industry meeting, and he 12 15:29:06 13 identified that the discussion had included the possibility of 15:29:11 14 the NRC issuing a bulletin to the industry. Q. And what did you do within licensing with respect to 15 15:29:19 16 that information? A. Well, Guy Campbell mentioned -- brought that up to Dave 17 15:29:24 Lockwood, who was the manager of Regulatory Affairs at that 15:29:30 18 time. Dave related to me that I should be aware of that and 19 20 also be looking for a date that the bulletin would get issued. 21 O. So what did you do? What was your next interaction 22 with anybody about the bulletin? A. I contacted the project manager at that time and 23 informed him that I would like to be informed as soon as 24 15:29:54 25 possible if he had a date that he knew that the bulletin would

1 be issued by.

And you're saying the project manager at --2 Ο. This is the project manager at the office of NRR, which Α. 15:30:05 3 is the NRC. 4 15:30:13 5 Q. When did you become aware that the bulletin had been 6 issued? 15:30:17 I believe it was on -- it would have been August 6th, I Α. 15:30:18 7 believe, 6th or 7th. 7th probably. 8 15:30:26 . Q. And what did you do when you learned that? 9 15:30:29 10 A. One of my staff members was initially assigned to coordinate putting together the response and working with the 15:30:35 11 other groups on-site. So I made sure that he was aware of it. 15:30:39 12 13 And Frank Kennedy was that individual. And he put together a 15:30:43 14 kick-off meeting to start the response to the bulletin. 15:30:48 Q. Did the response to the bulletin stay within your 15 15:30:54 16 organization? . 15:30:58 A. Only until about August 9th. 17 15:30:59 Why was it that it was transferred out of your 15:31:03 18 Q. 15:31:07 19 organization? 20 Α. At that time Frank also had responsibility for major 21 industry evaluation, and he relayed to me he would have little 22 time to work on the bulletin. In addition, I was tasked with Senator Voinovich's visit. I had the responsibility to prepare 23 for that visit. And I was also going to be out of the area for 24 25 seven days the month of August.

1 Q. So what action was taken?

.

	2	A. So I met with Dale Miller and Dave Lockwood, Dave
15:31:41	3	Lockwood being the manager, and expressed that I had concerns on
	4	being able to support the bulletin and being able to respond in
	5	a 30-day time frame and asked for some help on it.
	6	Q. Did you get help?
۲	7	A. Yes. It was transferred, the responsibility for the
15:31:58	8	response to the bulletin, from my group to Dale Miller and with
	9	Rod Cook as the lead.
15:32:05	10	Q. Who was Rod Cook in the organization?
15:32:08	11	A. Rod Cook was a consultant that was hired in to assist
15:32:13	12	the compliance group.
15:32:18	13	Q. What was it that you understood Rod Cook was going to be
15:32:23	14	doing? What does it mean to be the person that was managing the
15:32:27	15	response to this bulletin?
	16	A. Rod would interact with the technical department, obtain
	17	the information from those departments, and put it into a letter
15:32:38	18	to be ultimately submitted to the NRC. That would also include
15:32:43	19	review and approval of that memo internal at Davis-Besse.
	20	Q. Had he done this kind of work before?
	21	A. Yes.
	22	Q. Did the work involve resolving conflicts?
	23	A. Yes.
15:32:52	24	Q. What is somebody doing his job expected to do if there's
15:32:58	25	a conflict or comment?

If the comment is provided and it's not going to be 1 Α. incorporated into the letter, you're expected to get back with 2 that originator of that comment and tell him why it's not being 3 15:33:11 4 incorporated. Q. Did Mr. Miller ask you to retain some, I guess, not --15:33:13 5 either responsibility or action with respect to this bulletin 15:33:19 6 response? 7

8 A. Yes, he did. After our meeting with the manager he 9 approached me and asked me if I would look at the bulletin since 10 he had never supervised a bulletin response before, if I would 11 look at it for format to make sure it met the expected NRC 15:33:37 12 standards.

15:33:3813Q.And did you review an earlier draft of the bulletin?14A.Yes, I did.

15:33:45 15 Q. At this point I want to back up for a moment and ask you 16 a couple questions about your memory of that, of looking at --17 of doing that review of the draft of the bulletin. Do you 18 recall that there was an investigation of issues surrounding the 19 bulletin responses in -- after 2002?

15:34:17 20 A. Yes. You mean the NRC investigation?

21 Q. And an investigation ultimately from folks from the 15:34:25 22 prosecutor's office.

23 A. Yes, sir.

15:34:30 24 Q. Did you -- and that was your first interaction with the 15:34:34 25 prosecutor's office with respect to that investigation?

1 I received a letter identifying me as a target. Α. What was your understanding of what that meant? 2 Ο. MR. WISE: Could we approach? 3 15:34:43 (Whereupon the following discussion was had at the 15:38:01 4 5 bench outside the hearing of the jury:) 6 MR. WISE: I wanted to give the Court and the government notice of our view on this. We are in the same place 7 8 with Mr. Wuokko as we were with the last witness who was asked about his target status. We do not intend to go into this at 9 10 I think it's improper for the government to be eliciting all. 11 that they spoke with folks, evaluated their status, and 12 designated that they are not non-targets, non-subjects, et 13 cetera, Your Honor. And if this is allowed in, I just want the 14 Court to know we are going to be renewing the issue on the fact 15 that Mr. Geisen and Cook were offered DPAs and turned them down because if the government is putting in front of the jury 16 17 prosecutorial discretion decisions, even under the quise of pulling a sting on an area we said we're not going to cross on, 18 19 I think that becomes relevant. So I wanted to put everyone on 20 notice. 21 THE COURT: We're on notice. Let me respond this

22 way: In the several hundred criminal trials of which fully 50 23 percent of them have cooperating witnesses who have been offered 24 either deferred or immunity or a reduced sentence, the 25 prosecution always, I underscore the word "always", brings it 1 out so as not to give the defense the opportunity to appear to 2 elicit it on cross-examination as a surprise.

MR. WISE: But that's not what you have here. This is not a situation where Mr. Wuokko has been offered a defendant PA or a plea. All he's being asked to testify to and all the last witness is asked to testify to is at some point you were told you were a subject. Now you're not a subject or target. That's not a plea offer or resolution of the case. That's just the status in the prosecutor's mind.

10 THE COURT: And they're moving on, I presume. 11 MR. BALLANTINE: Yes, Your Honor. I mean, I need 12 to get through that he was a target, ask him if there was a 13 deal.

14 THE COURT: He's going to say no. Then he's 15 That's it. Which was the same with the last one. moving on. 16 MR. WISE: I agree. I didn't want there to be a 17 suggestion when we raise this, the issue as to these gentlemen's 18 DPAs, that they're somehow sandbagged. Because we're not 19 intending to cross on this issue or suggest they are at all 20 biased by their status by how the prosecutor is evaluating them. 21 (End of side-bar discussion.)

15:38:05 22 BY MR. BALLANTINE:

15:38:05 23 Q. Mr. Wuokko, you were explaining what you understood
15:38:08 24 "target" to mean, the status you were told. Explain what you
15:38:12 25 understood the status of "target" to mean.

A. I understood target to mean I could potentially be
 charged with a crime.

15:38:19 3 Q. Did you meet with prosecutors?

4 A. Yes, I did.

15:38:24 5 Q. At that time did you recall having completed or done
15:38:31 6 Serial Letter 2731?

15:38:38 7 A. No, I did not.

15:38:40
Q. How did you -- let me ask you this: Was there any
15:38:45
bargain between the United States and yourself with respect to
your testimony today and your status?

15:38:51 11 A. No.

15:38:57 12 Q. Mr. Wuokko, how is it that you became aware that you've 13 done or remember that you've done Serial Letter 2731?

A. I did have some vague recollection back in the initial proffer with the government; however, in 2006, in the summer of 2006 during -- when others were making some office moves, they discovered several boxes that contained copy or the original correspondence with my handwritten comments on it on the first

15:39:36 19 letter.

20 Q. I'm going to ask you to take a look at Government's 15:39:39 21 Exhibit 42. I believe that's in the folder up there. Is that 15:39:54 22 the document that you're discussing?

15:39:56 23 A. Yes.

15:39:57 24 Q. And can you give the jury a little more detail about how 25 that document was found?

A. My secretary was ordered to reduce unnecessary clutter 1 15:40:04 around the offices. She was going to each staff member's 2 office. And one of the staff members had several boxes; one of 3 15:40:19 them had Rod Cook's name on it. And she asked me what should 15:40:23 4 5 be done with those. And I told her, without looking at what was 6 in the box, to take those and put those into a secure office that had been set aside previously for -- with the legal staff. 7 This was a locked area. 8 9 Q. Had there been a request earlier from the NRC and from the Department of Justice for documents related to the Serial 10 11 Letter responses? 12 A. Yes. 13 Q. And is that why you did that? Is that why you had it 14 put in a locked room? 15 Well, I was aware that there had been a subpoena earlier Α. 16 on that information. So having Rod's name on the box, I 17 thought best to have the lawyers look through it before anything was done. 18 15:41:07 19 Q. And then how did you come to learn that this document, 20 Exhibit No. 42, had been among those found? A. I had left the plant for about a week's vacation. 21 And 22 when I came back, I was informed by FirstEnergy's legal counsel 23 that they had found these documents. 24 Q. So as you look at Government's Exhibit 42, could you 15:41:26 25 identify what it is that Government's Exhibit 42 is?

15:41:35	1	A. This is an e-mail of a draft of Serial Letter 2731.
15:41:43	2	Q. Is there any handwriting on it?
	3	A. Yes.
	4	Q. Whose handwriting is on it?
	5	A. It is my handwriting.
15:41:54	6	Q. If you could, tell the Court what the context is of that
15:41:57	7	handwriting.
	8	A. These are my comments as of my initial review of the
	9	draft Serial Letter. These are my comments that I read and
	10	provided back to Rod Cook.
15:42:08	11	MR. BALLANTINE: I'd like to move to have
15:42:10	12	Government's Exhibit 42 admitted into evidence.
15:42:16	13	MR. CONROY: No objection.
15:42:17	14	MR. WISE: No objection.
	15	THE COURT: It will be admitted, may be displayed
15:42:22	16	to the jury.
	17	BY MR. BALLANTINE:
	18	Q. Would you have a look at the screen in front of you?
	19	Is that a copy of the document you have in front of
	20	you, Government's Exhibit 42?
	21	A. Yes, sir.
15:42:35	22	Q. Tell the jury about the process you went through to
15:42:38	23	review this with Mr. Cook.
15:42:40	24	A. Okay. What I typically did with questions from the NRC,
15:42:48	25	whether it was a request for additional information dealing with

- 15:42:52 1 another topic or such, was to first of all read through the 2 questions that the NRC had provided and make sure what was 3 actually written in this letter corresponded word-by-word, that 4 they were consistent.
- 15:43:07 5 Q. How was it that you were being -- just give the jury a
 15:43:11 6 sense of where you were doing the review, what it was that you
 7 were about, how is it that you got the review to do, how is it
 8 that you then got it to Mr. Cook.
- 9 Okay. I did this review in response to what Dale Α. Miller had asked me to do, to look at it for the format to make 10 15:43:24 sure it met what the NRC's expectations were. 11 So I had asked Rod to e-mail me this. And this was actually the week I was 15:43:36 12 13 out of the office on vacation. Rod did e-mail it to me. And 14 the Tuesday I came back -- I downloaded this at home and then 15 reviewed it that evening because I knew the next three days I'd be preparing for Senator Voinovich's visit to the plant. 16 All right. Now, if you could give a -- you were about 15:44:02 17 Ο. to go into an explanation how it is you do these kind of reviews 18 for documents that are going to be submitted to the NRC. 19 20 Α. One of the first things to do is look at the questions 21 that the NRC has asked to make sure those are captured correctly 22 in the letter. Typically the format is the question is first 23 stated, then the company's response is stated underneath to each 15:44:26
- 15:44:29 24 question. So it's a question, response, question, response.
 15:44:34 25 Q. At this point I'd like you to direct your attention to

attachment 1 of the exhibit, or document, and page 2 of 4. 1 15:44:37 Α. Okay. 2 15:44:47 Is there a paragraph at the top of that that has some 15:44:49 3 Q. highlighting on it? 4 5 Α. Yes. Q. I have a color copy of the exhibit here. You have the 15:44:57 6 original, I take it, in front of you? 15:45:01 7 8 A. Yes, I do. Q. I'm going to do it in black and white. So looking at . 9 15:45:37 that page -- I'm putting it up. Here we go. 10 MR. BALLANTINE: Sorry, Your Honor, this sort of 15:46:16 11 washed out on the computer. I'm having trouble getting the 12 15:46:22 13 DOAR to work. 14 All is well. 15:46:35 BY MR. BALLANTINE: 15:46:35 15 Q. So taking a look at that paragraph, please tell the 16 jurors about the edit to the heading, first of all, and how it 17 is that you go about -- how you end up making these changes or 18 15:46:49 19 making these comments. Okay. The first is just, in bulletin request item 1D, 20 Α. 21 is simply putting it into the standard format response. That 15:46:56 22 was completing what I told Dale Miller I had agreed to and that 15:47:01 I would do. 23 24 Then you said you went through, check and see if the Q. questions that the NRC asked for had been answered? 25 15:47:10

- 15:47:14
 A. That is correct. What I did, I read through this.
 And typically when I review these, I have a highlighter in my
 hand, and I go through, and I'll highlight the points I feel are
 important to look for in the response itself.
- 15:47:26 5 Q. So had you -- when you first read this, were you
 15:47:30 6 highlighting it at the time or did you read through it first
 15:47:33 7 then come back to this part?
- 15:47:358 A. Typically I read it and highlight it as I read through9 it.
- 15:47:39 10 Q. And in this case you've indicated with a note in the
 15:47:44 11 upper right that -- what does that note say in the upper right?
 12 A. That note states that these are not answerable.

13 Q. And what is it that's not answered?

A. Well, besides the highlighting here I had also
underlined the -- put squiggles to highlight these. And I was
pointing out that these items here, for example, type, scope,
qualification, requirements, and acceptance criteria, did not
appear to be answered in the response below.

15:48:15 19 Q. Did you get into some more detail about that as you got 20 into the response?

A. Right. This response, "These are not answered below,"
was something that I wrote after reading the response itself.
I went back and added that as a note. But these notes
underneath, I was again looking for these -- what I had
highlighted to see if I could find it in what the company's

1 response was to those. And so these notes that are, if you 2 will, in circles and balloons are my additional comments. 15:48:50 3 Q. All right. So the first one I want to draw your 4 attention to on the screen here is this one here. I circled it 5 in purple on the screen.

15:49:036What was the purpose of your making this note to7the draft?

A. Well, if you go back to the very first paragraph on that 8 page, and it points to qualifications, that first line again in 9 15:49:12 parentheses: Type, scope, and qualification requirements and 15:49:22 10 11 abstinence criteria. So I was trying to address -- point out at that point that if we had information, using an inspector 12 13 that was qualified to use one of these visual techniques, either 14 one or two or three, which is a detailed look, that that should 15 be added here. 15:49:43

15:49:45 16 Q. If that had not been done, would you expect the response 17 to indicate that there was not a qualification requirement for 15:49:54 18 the person who did the inspection?

15:49:5619A. The response would have been better had it said that15:49:5920there were no qualified techniques used.

21 Q. And does that also apply to the second part of that 22 first bubble we're taking about, the acceptance criteria issue? 15:50:11 23 A. Yes.

15:50:1824Q. Now, I'd like you to look at the balloon on the lower25right-hand part of the document.Do you see that on the

15:50:25 1 monitor?

2

A. Yes.

15:50:27 3 Q. Could you read that comment to the jury? I'm not sure 15:50:30 4 it's easy to read.

15:50:31 5 A. That comment states: What does -- this is in quotes -15:50:35 6 positive evidence mean? Better to explain, or NRC will question
15:50:39 7 too.

15:50:40 8 Q. Could you explain what you meant when you put that down
9 there?

10 A. Well, I didn't really understand when I read this that 11 -- and it stated positive evidence existed. I didn't think 15:50:51 12 that that was clear to -- that that would likely be clear to the 15:50:55 13 NRC when reviewing this letter. So I was advocating that 14 positive evidence should be explained or a better description 15 applied.

Q. There's a balloon on the left-hand margin that reads: 15:51:05 16 17 Was head viewed after cleaning to verify cleaning? Then another remark: Acceptance criteria. What topic was that related to? 18 15:51:14 That dealt with, in my mind was the acceptance criteria 15:51:19 19 Α. 20 from -- again, from the NRC's question that we looked at 21 earlier. I thought the NRC would be looking for a statement if 22 the head had indeed been viewed after the cleaning was done to 23 verify it was clean and that it had met some established 24 acceptance criteria for cleanliness; that is, removal of the 25 boron.

15:51:52	1	Q. Now looking at the bottom, you have circled the second
	2	to last sentence on that page. There was a sentence that said
	3	a majority of nozzles were inspected. You circled the word
	4	"majority" and wrote a comment to that. What was that comment
	5	and why were you concerned with the wordage there?
	6	A. The comment states: What's a majority? Better to be
15:52:13	7	specific than vague. NRC request is for this.
15:52:17	8	The NRC was interested in knowing if all of the
	9	nozzles in an area of the head had been inspected. By using
15:52:25	10	the word majority was, in my opinion, pretty vague and not
15:52:29	11	specific. It could mean 51 percent; it could mean 99 percent.
	12	Q. Did you address any of these comments with Mr. Cook?
	13	A. I provided the original back to Rod.
	14	Q. Did you talk to him about this specific issue of what
	15	majority meant?
	16	A. Yes, I did ask him what majority did mean.
	17	Q. What did he tell you?
	18	A. He told me that he had talked to Andrew Siemaszko and
15:52:54	19	that the well, actually what I asked him was why was not
	20	why weren't all the nozzles inspected. And Rod said he had
	21	talked to Andrew Siemaszko and Andrew said that he had scrubbed
	22	the head as best as he could; that there was some boron tightly
15:53:11	23	adhering to the reactor vessel head itself that they could not
15:53:15	24	remove. And so, therefore, they couldn't inspect all of the
	25	nozzles. So that's why the words majority were being used.

15:53:24 1 Q. So approximately when did you have that conversation
2 with Mr. Cook?
3 A. When I provided these comments back to Rod.

15:53:32 4 Q. Did you talk about anything else in this bulletin or was 5 that --

6 A. No, other than saying here's the comments that I had 15:53:40 7 from my weekend to review.

8 Q. If you turn to the next page, page 3 of 4, there's a 15:53:49 9 balloon there. What was the purpose of that balloon? 15:54:03 10 A. This one was the last statement in that paragraph that 15:54:08 11 reads: Subsequent video inspection of the clean RPV head and 12 nozzle was performed for future use.

Again, I was questioning was a qualified inspector 14 used for that video inspection? Was there a procedure that had 15 been followed? What was the acceptance criteria to say that 15:54:26 16 the head was clean or not?

CR stands for Condition Report. That is -- which 15:54:28 17 18 was a problem report. If you identify any problems; for example, if the head hadn't been cleaned, or if they had run 19 20 into some problems, I would have expected them to write a 21 problem report. So that question, once you write the problem 22 report, an evaluation would be done, then there would be a root 23 cause, and that's what this means here, root cause, where it explains what the cause of that condition was. 24 15:54:52

15:54:56 25 So in conclusion: As written, the response doesn't

 \sim

address the specifics asked by the request. That was my 1 2 opinion. These things you expected Mr. Cook to get back to you 15:55:07 3 · Q. 4 about? 5 A. I expected that Rod would appropriately address these 6 comments. 15:55:14 Q. Well, what happened next? Did you review another 7 15:55:16 draft? 8 15:55:19 9 A. Yes, I did. Q. What were the circumstances of your reviewing the second 15:55:21 10 11 draft or another draft? 15:55:24 12 You can go ahead and take a look at Government's Exhibit 50 if you want. 15:55:32 13 A. This was a draft that was e-mailed to me on Friday, 15:55:41 14 August 24, 2001. In that I referenced that I previously looked 15 15:55:46 16 at a second -- another draft. In between what we just looked at and what we're now looking at there was another draft that 15:55:59 17 was provided to me, but I only partially looked at that draft, 15:56:02 18 19 and I didn't finish that. When I was e-mailed this in Exhibit 50, I then looked at Exhibit 50. 20 15:56:10 Q. Were you just getting e-mails from Mr. Cook, or how was 21 15:56:22 it that you received this draft? 22 Yes. This was provided by e-mail. 23 Α. 15:56:27 Q. And were you just getting all the drafts or did he ask 24 15:56:29 25 you specifically to look this one over?

A. I was only getting some of the drafts. 1 Q. Again, does this -- the copy you have up there, does it 2 15:56:40 have your handwritten comments on it? 3 4 A. Yes, sir. MR. BALLANTINE: Your Honor, I move to admit 15:56:47 5 Government's Exhibit 50, publish it to the jury. 6 7 MR. CONROY: No objection, Your Honor. THE COURT: It will be admitted without objection. 15:56:53 8 . 9 MR. BALLANTINE: Your Honor, I think the jurors' 15:57:02 10 monitors may be turned off. 11 THE COURT: One moment. I can only do one thing 15:57:06 12 at a time. These things weigh 200 pounds. BY MR. BALLANTINE: 15:57:18 13 15:57:18 14 Ο. I'd like to start with this cover page. So it appears 15 that you printed out this e-mail from Mr. Cook? Yes, I did, at work. 16 Α. 17 What were the circumstances where you did the -- the Q. circumstances in which you did this review? 18 15:57:30 19 A. Well, again, on the 22nd, 23rd, and 24th of August we were preparing for Senator Voinovich's visit, which was going to 15:57:38 20 21 be on Monday, the 27th. So I took this home because that was 15:57:49 22 the only time I was going to have any time to review it. 23 Q. So you reviewed it over the weekend? 24 That's correct. Α. 25 Q. Why don't we get to that now. How did you deliver your 15:57:56

15:58:01 1 comments to Mr. Cook?

A. I dropped them off with him on Monday morning prior to
3 Senator Voinovich's visit.

4 Q. Having looked at this cover sheet, there's some -- are 5 there some general comments on the cover sheet?

15:58:146A. They're overall comments, yes. I'd call them summary15:58:217comments.

8 Q. Summary comments. What were the summary comments that 9 you made to Mr. Cook?

10 They were addressed to Rod. It states: See comments on Α. Why is the 90 percent being deleted? To me, this 11 letter. 15:58:35 12 letter is not complete and accurate as required by 50.9 without 13 it. We also need to make it clear the top of the dome was not 14 inspected due to boron deposits during 13 RFO. Has the persons making this comment/change been advised of the 50.9 15 16 requirements? And I signed it and dated it. Then I also added three important areas of comments 17 15:58:55 18 herein: The above regarding completeness; Number 2, 15:59:03 19 preservation of current licensing bases; and 3, resolution of

15:59:08 20 boric acid crystal deposits found and if the source cannot be 21 found by VT2.

15:59:17 22 Q. So, first of all, I'd like to ask you about -- I get 15:59:22 23 we'll get to the 90 percent issue later in the document. But 15:59:27 24 did this relate at all to your earlier questions about the 15:59:30 25 majority of the nozzles being inspected?

A. Yes. The original exhibit we had looked at here 1 contained "majority". And I had questions on that. The next 2 15:59:39 copy I received, which we don't have here, I believe, had 90 15:59:45 3 percent in it. This copy itself had deleted and -- as 4 5 referenced in this note from Rod, had deleted the reference to 15:59:59 6 90 percent of the nozzles being inspected in its entirety. And so what was your concern about that being taken out? 16:00:02 7 Q. I did not believe it presented a complete and accurate 8 Α. picture to the NRC of the head condition. 9 16:00:09 Q. And while we're on this page, the three important areas 10 16:00:17 of comments herein which you referred to at the bottom, the one 11 was the one I quess we were just talking about with respect to 16:00:24 12 16:00:29 13 90 percent; is that right? 16:00:31 14 Α. I'm sorry? 15 Q. Well, the body says: Three important areas of comments herein. You read them to the jury. Can you explain to them 16 what those three things mean? 17 A. Yes, the first one concerned my question on 18 completeness. The second concerned preservation of current 19 licensing basis, that --16:00:48 20 21 Ο. What does that mean? 16:00:50 22 Well, when the plant was issued an operating license, Α. there were certain requirements that were the rules in effect at 23 24 that time that the plant had to meet. As time evolved, the 25 rules changed, but the plant did not have to meet later evolving 16:01:05

rules. So that was called the bases for the reason the license 16:01:09 1 was issued. And so it was important to make sure you stayed 2 3 within current licensing or -- well, the current licensing bases 4 at that time. 16:01:25 5 Ο. And the third issue? 6 Α. The third one concerned a flow diagram that was added; I had questions on that. 16:01:34 7 I want to touch on one more thing on this page. Here 16:01:38 8 Ο. if you look on the monitor I'll circle you indicate a refueling 16:01:44 9 10 outage. 11 A. Yes, sir. It says 13 refueling outage; is that correct? 16:01:49 12 Ο. 13 Α. No. It was an error on my part. I should have put 12 16:01:59 14 RFO. 15 Q. But you were talking about the most recent refueling 16:02:02 16 outage? 17 That is correct. Α. Mr. Wuokko, if you would now look at Attachment 1. 18 Ιt 16:02:13 Ο. says page 2 of 19. I want to go back to the same question, 16:02:20 19 16:02:25 20 same area of the bulletin response that we were talking about 16:02:29 21 with your previous letter. When you're looking at the question 22 again, this is the paragraph under NRC bulletin request item 1D, that's quoting the NRC's request; is it not? 23 16:02:54 24 That is correct. Α. 25 And you've highlighted a section of that request. 16:02:57 Q. I'11

go ahead and read it. Include a description of any limitations 1 2 (insulation or other impediments to accessibility of the bare metal of the RPV head for visual examinations). At what point 3 in your review of this version of the document did you highlight 4 5 that sentence? Α. Well, I read through the statement itself, and I believe 16:03:21 6 I highlighted that as I was reading through it the first time. 16:03:26 7 But I added the note not at that time; I came back later and 16:03:30 8 added that note. 9 10 The note you're referring to is in the right-hand Ο. margin? 11 16:03:39 12 Α. Yes. 13 Q. What does that note say? 14 Α. Note: NRC is requiring licensees to inform them of any 16:03:41 impediments. 16:03:48 15 Why did you go back and make that note? 16 Q. When I went to the next page, I noticed that there was 16:03:51 17 Α. 18 no longer any discussion of a majority or 90 percent of nozzles being inspected. So I was aware from my previous conversations 19 16:04:04 20 with Rod that not all of the head had been inspected. So I 21 added a comment there and, to make sure Rod understood or saw 22 where that was coming from, I added this note back on page 2 of 23 19. 16:04:20 Q. At this point I want to ask you about a smaller edit 24 16:04:23 25 further down the page under the section that reads: April 1998

16:04:36 1 inspection results.

16:04:38 2 A. Yes.

16:04:39 3 Q. Did you add the term "crystal deposits" between the word
4 "acid" and the word "scattered" in the first sentence of that
5 response?

16:04:50 6 A. Yes.

And you explain why in that bubble around it? 16:04:51 7 Q. Well, when I read through this, it states there was an 16:04:56 8 Α. 9 uneven layer of boric acid scattered over the head. And that 10 would imply it was in a liquid state. And as far as I knew, it was only within a crystal, a solid state. So I recommended 11 12 that those words be added, crystal deposits.

- 16:05:49 13 Q. Can you turn to the next page, page 3 of 19. There's a 14 block that you've highlighted in yellow on the right-hand 15 margin. And that's where I'd like to direct your attention 16 next.
- 16:06:10 17 Is this the area that we're talking about with
 18 respect to the percentage of the head that had been inspected?
 19 A. Correct.

16:06:16 20 Q. So what have you done here?

21 A. I recommended -- I suggested wording that should be 16:06:21 22 inserted into the letter as stated there.

16:06:28 23 Q. Would you go ahead and read the note to the jury?
16:06:31 24 A. Approximately 90 percent of the nozzles were inspected.
25 Boric acid crystal deposits at the dome center of the RPV head

16:06:46 1 prevented inspection of the remaining ten percent area.

16:06:50 2 Q. It appears you drew another bubble underneath there with
3 an arrow pointing to that recommended language. Why did you
4 draw that bubble in that area?

A. As I stated earlier, I did not think that the -- to my
knowledge all the information was being provided to the NRC
regarding the top of the head. So I put a note to make this
stand out, that it was important to add this, and also added a
reference, see NRC request on prior page, which is the note on
16:07:21 10 page 2 of 19.

16:07:23 11 Q. You mentioned it's based on your knowledge. Let's talk 12 about that for a moment. What was the basis for your knowledge 13 of the condition of the head of the reactor?

14 A. The discussion I referred to earlier with Rod.

15 Q. Had you done any work with the head of the reactor in 16 the past?

16:07:41 17 A. None.

Looking over in the left-hand margin, you have a bubble 16:07:48 18 Q. 19 with an arrow pointing to it. It seems to be talking about the 20 sentence subsequent: Video inspections of the clean RPV head 16:08:01 21 and nozzles was performed for future reference. You made some 22 edits to that sentence, and you have a bubble with an arrow 16:08:09 23 going over to it. What is the purpose of that comment? First 24 of all, what was that comment? What was its purpose? 25 Α. When I read through this sentence which stated

subsequent video inspection of the cleaned RPV head and nozzles 1 was performed for future reference, it implied to me that the 2 16:08:21 entire head had been cleaned and videoed. But I knew that 3 16:08:32 4 based on my prior conversations that that was not an accurate 16:08:36 depiction. So I added some edits to that to make it what I 5 6 felt to be more accurate, and also put the note in, again, the statement is only true where the boron deposits were removed, to 16:08:49 7 indicate why I was making edits to that sentence. 8 Then finally on this page you have a note directed . 9 16:09:01 Ο. 10 towards the paragraph that reads: Subsequent review of 1998 and 16:09:07

16:09:16 12 Can you explain to the jury why you made that 16:09:19 13 comment?

That's here on the monitor.

2000 inspection videotape results.

11

14 This was the first time that I had seen a paragraph Α. 15 added to that that discussed what the inspection videotape 16:09:23 16 results were. So I read through that paragraph. And the 16:09:29 17 concluding sentence, I questioned if that was an accurate and 16:09:33 complete description of what was on the tapes. 16:09:38 18 Not that I had 19 seen the tapes or such, but it was a concluding statement. So 20 I was challenging Rod to make sure that that was complete and 21 accurate.

16:09:53 22 Q. The term "complete and accurate;" is that a term of art?
16:09:57 23 A. That's tied back to 10 CFR 50.9 requirements, all
24 information needs to be complete and accurate to the NRC.
25 Q. So it's a regulatory requirement?

1 A. Yes, sir.

Q. Was that something that folks within Regulatory Affairswere familiar with?

4 A. Yes.

Q. All right. Tell the jury about -- I think you've 16:10:19 5 16:10:24 6 already told the jury about how you delivered this edit to Mr. What happened during the rest of that day? 7 Cook. Okay. I dropped these off with Rod when I first came to Α. 16:10:30 8 work on Monday, August 28. And I told him I had comments 9 16:10:36 provided here, and three of them -- three areas highlighted that 10 16:10:41 he needed to look at. Then I went out to coordinate Senator 11 Voinovich's visit because he was coming to the plant that day, 12 16:10:49 was going to take a plant tour, meet with various people, and 13 14 also hold a press conference at the end of the day. 16:10:56 15 Did you meet with Mr. Cook again? Ο.

16:11:02 16 A. At the end of the day around 5:00 Rod Cook came into my 16:11:08 17 office, this was after I just returned to my office, and asked 18 me if I had reviewed the draft that he had left in my in-basket.

19 Q. What was he referring to?

20 A. He had provided another draft of the Serial Letter to 21 me, hard copy.

22 Q. What did you tell him?

A. I told him that I had been busy all day; I hadn't had a chance to look at it, and the next day I wouldn't have a chance either because I was in training all day. So I also indicated

	1	that I wouldn't have time. He didn't need me to review it
	2	because I wasn't the supervisor for this, so he did not need my
	3	review and approval of it.
	4	Q. What happened next?
16:11:44	5	A. He asked if I would at least look at it for typos
	6	because I was good at catching typos.
	7	Q. Did you agree to do that?
	8	A. I agreed and said I would take it to training with me
16:11:58	9	tomorrow and look at it on breaks.
	10	Q. Would you tell the jury about the way the training
	11	happens at a nuclear power plant?
	12	A. Well, the training is regimented. At that time it
	13	started at 7:00. It was a full day; there was a schedule. It
	14	started promptly at 7:00, couldn't be late. You took typically
16:12:19	15	.ten-minute breaks every hour. You were expected to be back
16:12:25	16	immediately following that break. If you weren't, you were
16:12:28	17	basically written up for not being back in the classroom when
	18	expected. In addition, your attention was to be focused on the
16:12:37	19	training; you were not to be doing other work on the side.
	20	Q. So it wasn't study hall; you couldn't be there doing
16:12:44	21	other work while the training session
16:12:46	22	A. It was not study hall.
16:12:48	23	Q. Did you review that draft for typos?
	24	A. Yes, I reviewed it on my first break.
16:12:54	25	Q. And then what did you do?

A. I scanned through it and I went and used the company phone and called Rod and told him I had reviewed it and I didn't catch any typos.

16:13:08 4 Q. And what did you do with the copy that you had, the copy 5 of the draft that you had?

6 A. I was done with the copy. I hadn't marked up on it. 7 I hadn't marked it up at all. Again, this was a ten-minute 16:13:21 8 look, scanning through these, seeing if any typos had jumped out 9 at me. They hadn't, so I just threw that copy away.

16:13:30 10 Q. What's your understanding of what a greensheet review
16:13:34 11 involves within -- with the documents going to the NRC?

The greensheet is referenced in a procedure, a plant 12 Α. procedure that discusses how the review is to be conducted. 13 16:13:51 14 There's also instructions on the back of the greensheet that 15 talks about how the review is to be conducted. And basically you're looking at the letter to review it and identify to the 16:13:59 16 best of your knowledge if there's any errors on it, is it 17 complete, is it providing the necessary information to the NRC. 16:14:08 18 Did you come to learn that there was a signature block 19 16:14:13 Ο. for you on the greensheet for Serial Letter 2731? 20

16:14:22 21 A. I didn't realize that there was a signature block for me
22 until 2002, preparing for my first interview with the NRC Office
16:14:34 23 of Investigation.

16:14:3524MR. BALLANTINE: And this is Government's Exhibit16:14:372559, Your Honor. I'd like to display a page of it to the jury.

16:14:42 1

16:14:56 2 BY MR. BALLANTINE:

- 16:14:56 3 Q. I'm going to zoom in on a portion of the document. Do 4 you see that portion on the screen?
- 16:15:05 5 A. Yes, I do.
- 16:15:11 6 Q. I'm going to highlight this block. So does that
 7 indicate your name?
- 16:15:18 8 A. Yes.
- 16:15:19 9 Q. And where the signature or the initials would go, what 10 is indicated there?
 - 11 A. It states, per telecon., 8-28-01.
 - 12 Q. Was that the date of the telephone conversation you had 13 with Mr. Cook?
 - 14 A. Yes.
- 16:15:34 15 Q. And did you -- did he ask you if he could sign your name 16 or indicate that you had approved the document?
 - 17 A. No.
- 16:15:46 18 Q. If he had asked you if he could, what would you have 16:15:51 19 told him?
- A. Well, as I told him the night before, I didn't have the
 time to review, do a complete review of that document, so that I
 would have needed additional time to go through the entire
 document to review it before I had signed off.
 Q. Do you know when this document left Davis-Besse?
- 16:16:09 25 A. This was submitted to the NRC -- Serial 2731 was

16:16:16 1 submitted to the NRC on September 4th.

10110110	_	
	2	Q. Was there time for you to do a greensheet review between
	3	the 28th of August and the date that it left the plant?
16:16:29	4	A. Probably. This was never provided back to me after
	5	that date of August 27th or 28th.
16:16:39	6	Q. Did anybody indicate to you that it was going out with
	7	this notation on the greensheet?
	8	A. No.
16:16:47	9	Q. What was your next what was the next event that
	10	sticks out in your mind with respect to nozzle cracking at
16:16:55	11	Davis-Besse?
	12	A. Next month, September, around the 29th, 28th of
	13	September Bob Saunders, who was the Chief Nuclear Officer and
16:17:04	14	president of the company, received a phone call from the NRC
16:17:07	15	stating that that response was unacceptable to the NRC.
16:17:15	16	Q. And what happened after the the power station got
	17	that notice from the NRC?
16:17:22	18	A. Well, Mr. Saunders informed Guy Campbell at the plant
	19	and eventually was filtered down to my manager and Dale Miller,
	20	and it also that's where I learned of it, I believe, from
	21	Dale Miller. And then there were some following that there
16:17:43	22	were phone calls set up with the NRC to discuss the particular
16:17:46	23	concerns that the NRC had.
	24	Q. What was your job as a supervisor of licensing with
	25	respect to meetings with the NRR?

 \cdot :

A. Well, with NRR I was a point of contact with the project 1 2 Every nuclear power plant has a project manager manager. specifically assigned out at headquarters to work with that 3 And their job is to coordinate submittals that we 4 plant. 5 provide to the NRC for their review and approval; and likewise, 6 should the NRC have questions back to us, they would typically 7 inform me of those questions or tell me if a letter was being sent, or if the NRC wanted me, they could contact me. 8 This is 9 to prevent just -- this is to make it more effective rather than 1.0 calling anybody at the plant to set up the meeting. So I serve 11 as a point of contact for the project manager.

12 Q. Were you the point of contact with respect to these 13 meetings about bulletin responses?

A. The initial phone call I was the contact, but as the meetings later on, more of that was directed to Dave Lockwood, the manager of Regulatory Affairs.

16:18:5917Q. The jury has heard some testimony about a telephone call18on October 3rd.Were you involved in that telephone call?

19 A. I was initially in that conference room.

20 Q. And what happened in the course of that phone call that 21 took you out of there?

A. Two additional -- well, the phone call was set up on a speaker phone, which it's called a bridge line, and there's -calls were made into that, and it could only accommodate so many outside callers. And evidently what happened was all the lines

were taken up, and nobody else could dial in. And there were 1 2 two -- there was a company attorney and a governmental affairs individual that also wanted to listen in on the phone call, so I 3 4 was asked to go and get an additional speaker phone that they 5 could call in on on that phone; we could turn on that speaker 16:19:49 phone so they could listen to the other speaker phone. 6 So I left the room to try to find a second speaker phone. 7 8 So were you in attendance for most of the meeting? Q. The majority of the meeting I was out of the room. 16:19:58 . 9 Α. Mr. Wuokko, I'd like you to have a look at what's been 16:20:07 10 Ο. marked as Government's Exhibit 159. 16:20:11 11 16:20:19 12 Are you able to identify that document? 13 Α. Yes. 16:20:21 What is it? 16:20:22 14 Ο. This was a -- if you will, a news bulletin that was 16:20:23 15 Α. issued by the plant communications staff on important issues. 16:20:28 16 17 Q. And what's the date of this news bulletin? This is October 3rd, 2001. 18 Α. Q. Did you have a habit of keeping these bulletins as they 16:20:36 19 20 came out? 21 Α. Typically, no. 22 Well, did you keep some of them? Ο. 23 This one I did keep. 16:20:46 Α. 24 Why was that? 16:20:48 Q. 25 Α. Because this was a --

16:20:56	1	Q. Could you repeat that answer?
	2	A. This was becoming an important issue, receiving a lot of
16:21:03	. 3	NRC attention, and so I put it into one of my files I was
	4	keeping on these issues.
16:21:11	5	MR. BALLANTINE: Your Honor, the government would
	6	move to admit Government's Exhibit 159.
16:21:18	7	THE COURT: Any objections?
16:21:20	8	MR. CONROY: No, Your Honor.
16:21:22	9	MR. HIBEY: No, Your Honor.
	10	THE COURT: It will be admitted.
16:21:25	11	BY MR. BALLANTINE:
16:21:25	12	Q. After the October 3rd phone call, what work did you do
	13	on bulletin responses for Davis-Besse?
16:21:31	14	A. I was provided copies of those and I reviewed them.
	15	Q. And what was what kind of review did you do?
	16	A. Again, for looking at the format and looking at general
	17	acceptability.
16:21:46	18	Q. What was your understanding of the how the technical
	19	issues you had raised with Mr. Cook had been resolved?
16:21:53	20	A. I had assumed they were resolved appropriately,
16:21:58	21	correctly.
	22	Q. If you hadn't resolved them, would you have expected him
	23	to bring the comments back to you?
	24	A. If I was wrong in a comment I had made, I would have
16:22:07	25	expected Rod to come back and tell me I was wrong on this and

1 this is why it doesn't go into the document. 16:22:10 2 MR. BALLANTINE: Your Honor, the government has no 16:22:15 3 more questions for Mr. Wuokko. THE COURT: Cross-examination? 16:22:18 4 16:22:21 5 MR. WISE: Nothing from us, Your Honor. 16:22:26 6 _ _ _ DALE WUOKKO, CROSS-EXAMINATION 16:22:26 7 BY MR. CONROY: 8 16:23:45 Q. Mr. Wuokko, good afternoon. John Conroy on behalf of 9 16:23:45 10 Rod Cook. 16:23:51 Let me start by asking you if you are familiar with 16:24:06 11 12 a procedure written at Davis-Besse that controls NRC 13 communications responses? 16:24:26 14 A. Yes, I am. 16:24:28 Q. And you would be familiar with that in part in your role 15 16 as a supervisor in Regulatory Affairs; is that correct? 17 A. That's correct. 16:24:39 18 Q. I want to show you what is marked as Defendant's Exhibit 16:24:47 19 6 for identification. I have a copy here that I can use to put 20 up on your screen. 21 MR. CONROY: It is not in evidence yet, Your Honor, but I would like to refer the witness to it. 22 16:25:02 23 MR. BALLANTINE: Is there a spare copy I could look 16:25:10 at, Your Honor, and follow along? 24 25 MR. CONROY: This may be a better way. 16:25:17

16:25:41 1 BY MR. CONROY:

16:25:41 2 Q. Do you recognize that document, sir, as being the
16:25:45 3 Davis-Besse NRC communications procedure? Take your time.
16:25:52 4 A. Yes, it is.

16:25:54 5 Q. I would ask you if you would to have reference to
6 Section 6.2 of that procedure?

16:26:03 7 A. 6.2. Okay.

16:26:14 8 Q. And at 6.2.1, if I put this on the machine --

16:26:239MR. CONROY: The jury's not going to see it?16:26:2810THE COURT: That's correct.

16:26:54 11 BY MR. CONROY:

16:26:54 12 Q. 6.2.1, Mr. Wuokko.

13 A. Yes, sir.

14 Says, if I'm reading this correctly: The lead Ο. department responsible for preparation of docketed 15 16 correspondence shall prepare the draft correspondence containing 16:27:07 the required information, and a commitment list (attachment 3), 17 verify the completeness and accuracy of the information, and 16:27:20 18 following the lead department director's concurrence, provide 19 16:27:27 20 this draft to Regulatory Affairs. This correspondence should 16:27:32 21 normally be provided to Regulatory Affairs a minimum of ten 16:27:37 22 working days prior to its required submittal to the NRC. 16:27:42 Is that a correct reading of 6.2.1? 23

A. Yes, sir.

25 Q. That is as you understood it; is that correct?

	1	A. Yes, sir.
	2	Q. With regard to 6.2.2, this document says: Regulatory
16:28:02	3	Affairs shall review the draft correspondence for format,
16:28:07	4	content, completeness, clarity, and general acceptability, and
	5	prepare a proposed submittal to the NRC; is that correct?
16:28:17	6	A. That's correct.
	7	Q. And that is the procedure, as you understood it, that
	8	was in effect in 2001?
	9	A. Yes.
16:28:24	10	Q. And with regard to the lead department as mentioned in
	11	6.2.1 with regard to the bulletin response
16:28:39	12	A. Yes.
	13	Q did you understand that that department was
16:28:42	14	Engineering?
	15	A. That is correct.
16:28:44	16	Q. And so that it would be engineering's responsibility to
16:28:48	17	provide the information for this letter to Regulatory Affairs,
16:28:54	18	Regulatory Affairs would put it in proper form, then forward it
16:28:58	19	for ultimate signature and forwarding to the NRC?
16:29:02	20	A. That's correct.
16:29:04	21	Q. It was not Rod Cook's job to verify the accuracy of
16:29:11	22	technical information in the bulletin responses, was it?
16:29:16	23	A. The procedure requires that the lead department, in this
	24	case Engineering, would have provided complete and accurate
16:29:25	25	information.

,

All right. Thank you. Now, you, during the 16:29:27 1 Q. preparation of the bulletin responses, were busy elsewhere? 16:29:32 2 3 Α. Correct. As was your supervising engineer, Mr. Kennedy ? 4 Q. 16:29:51 5 Α. Correct. 16:29:52 6 Q. So you enlisted Mr. Cook to come in and deal with getting this response out; is that correct? 16:29:55 7 8 Α. No. 9 0. Who did? 10 That was discussed at a meeting with Dave Lockwood, the Α. manager; and Dale Miller, the compliance supervisor. And Dave 11 Lockwood made that decision that Mr. Miller and Mr. Cook would 12 16:30:08 13 have the lead. 14 And which you thoroughly concurred? Ο. 15 I concurred with that decision. 16:30:17 Α. When the first bulletin response was being drafted, 16:30:26 16 Q. 2731, this is the first bulletin response you were provided the 16:30:30 17 drafts on which you made your comments? 18 16:30:35 That's correct. 16:30:38 19 Α. And you did not anticipate Mr. Cook getting back to you 16:30:39 20 Ο. 21 as to each and every comment verbally; is that correct? 22 Α. Correct. You expected him to give you a new draft to review 23 16:30:47 Q. 24 incorporating not just your comments, but the comments of other 16:30:52 25 people who were making input into the document itself; is that

- 16:31:01 1 right?
- 16:31:01 2 A. Correct.
- 16:31:04 3 Q. And when that process had been completed, you were sent
 4 a final draft; is that right?
- 16:31:13
 A. The process would have had me look at a final draft. I
 6 don't believe I ever was provided a final draft.
- 16:31:19
 7 Q. And it is your position that you never approved anyone
 16:31:26
 8 putting your initials on your line on the greensheet for 2731;
 - 9 is that right?
 - 10 A. Correct.
 - 11 Q. But you did sign 2735?
- 16:31:38 12 A. Correct.
 - 13 Q. And 41?
 - 14 A. Correct.
- 16:31:40 15 Q. 44?
 - 16 A. I believe so.
 - 17 Q. And 45?
 - 18 A. Yes.

16:31:4519Q. And you did give testimony under oath, did you not, to20the Office of Inspections of the U.S. Nuclear Regulatory

- 16:31:56 21 Commission in 2002; is that correct?
 - 22 A. Yes.
- 23 Q. Do you recall that testimony, Mr. Wuokko?

16:32:03 24 A. Not all of it.

16:32:04 25 MR. CONROY: I don't have multiple copies of it

with me, so I'm going to have to put this on the machine and go 1 2 through it with him, Your Honor. THE COURT: Has this been utilized? 3 16:32:18 MR. CONROY: It has not. It would need to be 16:32:22 4 marked as Defense -- let me just get it marked. 5 BY MR. CONROY: 16:33:04 6 All right, sir. The date of this testimony was October 16:33:04 7 Ο. 10th, 2002. And I want to ask you if you recall being asked 8 16:33:16 these questions and giving these answers. Okay. Have you got . 9 it there on your screen? 10 MR. BALLANTINE: Your Honor, he hasn't -- he needs 16:33:34 11 12 to be asked a question if Mr. Conroy intends to impeach him with 13 this document. 14 MR. CONROY: I believe I've asked him the question. 16:33:45 What was the question? 15 MR. BALLANTINE: 16:33:47 16 MR. CONROY: The question was: Did you agree to 17 let your signature be put -- your initials be put on the 18 greensheet for 2731? 19 THE COURT: And he responded no. 16:33:58 20 MR. CONROY: He responded no. 16:34:05 21 BY MR. CONROY: 16:34:13 22 Q. Now, do you recall that Agent Ulie questioned you on the 23 10th of October, 2002? 16:34:18 24 Α. Yes. And he asked you whether or not you would confirm -- and 25 16:34:23 Ο.

I'm now reading from page 68: Do you have that at the top, page 1 2 68? 16:34:36 Yes, 68. 3 Α. 16:34:40 Special Agent Ulie: Would you just confirm that these 4 Q. 16:34:45 16:34:51 5 are the greensheets? If you would confirm that you did sign 16:34:55 6 off on serial numbers 2731, 2735, 2741, and 2744? 7 And your attorney, or an attorney who was there 16:35:07 8 whose name was Mr. Gutierrez? 16:35:11 . 9 Correct. Α. 16:35:16 Q. -- said: What was the first one? 10 11 And Mr. Ulie replied: 2731. 12 And you said: Well, actually, on Serial 2731 it's 16:35:27 13 indicated per telephone. I didn't actually sign off on that. 14 Was that your testimony? 15 Α. Correct. Q. Then Special Agent Ulie asks you: Do you recall reading 16:35:36 16 17 that over? 18 Is that right? 16:35:42 19 Α. Correct. And you said: I do recall reading -- yes, I do recall 16:35:47 20 ο. 21 reading this serial? 16:35:53 22 A. Correct. 23 Q. Special Agent Ulie said: Okay. 16:35:54 24 You said: At least in the draft form. 25 And he said: Uh-huh.

And you said: On 2735 I did sign off on the 1 2 greensheet. On 2741 I did sign off on the greensheet. And on 16:36:05 2744, I did sign off on the greensheet. 16:36:10 3 Special Agent Ulie: Okay. Did you see any of the 16:36:14 4 photos that were going to be included in these submittals prior 5 to their submission? 6 7 And the answer was -- Mr. Gutterez said before you 16:36:27 ask that, Joe, I think it's important for the record. 8 9 Agent Ulie: All right. 16:36:35 10 Mr. Gutterez: Could you explain to Mr. Ulie what 11 you think your signature represents as Supervisor of Licensing 12 on these concurrences --16:36:44 13 16:36:46 MR. BALLANTINE: I'm not sure there's impeachment 14 going on here. 16:36:50 15 MR. CONROY: Otherwise I'm going to be taking it 16 out of context, Your Honor. It goes on a while. 17 THE COURT: I understand that. But didn't he 16:36:55 18 indicate already that he signed off on the other ones except for 19 31? 16:37:06 BY MR. CONROY: 20 16:37:06 16:37:09 21 Q. Mr. Wuokko, -- this is Mr. Wuokko: Well, actually, on 22 this 2731, the first response to the NRC, because my role had 16:37:20 23 changed, I was reviewing -- doing a sanity check, if you will, 24 to make sure there were no glaring errors in the letter going 25 off to the NRC, to the responses -- to be responsive to what the

1 NRC was asking for.

On this one they were all prepared by Rod Cook, so 2 16:37:33 Dale Miller's role as the supervisor would have been to review 3 4 Rod's work, really, at that point. Again, my role interfaced with the NRR. I thought 5 16:37:43 6 it was important to know what the letters stated, also going to the NRC, again, should they call me, so I'd have some 7 information of what the letters contained as far as information 8 9 provided to them. MR. BALLANTINE: Your Honor --16:38:00 10 THE COURT: I think enough is enough. 11 MR. CONROY: All right. Then I will move on to 16:38:03 12 16:38:06 page 71, if you will, sir -- I apologize. I'm going to have to 13 14 wait a second. I'm missing a page. I'm going to have to come 15 back to this. 16 (Discussion had off the record.) 16:39:13 17 MR. CONROY: I apologize. 16:39:35 THE COURT: Mr. Conroy, you cannot read those 16:39:36 18 19 unless you ask him a question. If he does not answer in 16:39:41 accordance with prior statements, you can use them for 20 16:39:44 impeachment purposes. 21 16:39:47 BY MR. CONROY: 22 16:39:50 23 Q. Did you read 2731, sir? 24 THE COURT: We already went there. 16:39:53 25 BY MR. CONROY:

And did you agree to let it be signed? 1 Q. Α. I read some drafts of 2731, but I did not agree to use 2 16:39:59 my signature for approval. 3 I'm referring now to page 70 at the bottom and page 71 Ο. 4 of your testimony to the OI in October of 2002. And now we are 5 16:40:14 referring to 2731. 6 16:40:20 When I read that letter -- last line -- I did not 7 16:40:25 identify anything that was incomplete or inaccurate in that 16:40:28 8 letter or I wouldn't have signed it. 9 Is that your testimony then, sir? 10 16:40:34 A. It was at that time, yes. 11 MR. BALLANTINE: I'm sorry, how do we know that's 12 16:40:46 the letter he's referring to? 13 MR. CONROY: Your Honor, I was prepared to read the 14 16:40:53 whole thing. I'll put it all in. 15 16:40:55 THE COURT: Why don't you show him where it asks --16 16:40:57 right above where you were reading. 16:41:00 17 (Discussion had off the record.) 16:41:32 18 MR. BALLANTINE: Your Honor, I'm not sure how much 19 16:42:17 further we're going with this. 20 21 MR. CONROY: That's as far as we're going with 16:42:23 22 this, Your Honor. BY MR. CONROY: 23 16:42:36 Q. Now, Mr. Wuokko, you have known Rod Cook for many years; 24 is that correct? 25 16:42:45

16:42:45 1 A. Since 1985, yes.

Q. And you've worked with him for many years?

3 A. Correct.

16:42:52 4 Q. You've always known him to be a reliable, trustworthy
16:42:57 5 engineer; isn't that right?

16:42:59 6 A. Yes.

2

16:43:017Q. And that was one of the reasons why you were prepared to16:43:068let him work on this -- you concurred in his working on the

16:43:10 9 bulletin response; is that right?

16:43:12 10 A. Yes.

16:43:14 11 Q. And were you personally familiar with issues of

16:43:33 12 circumferential cracking in 2001?

16:43:38
13 A. Just to the extent of reading what was in the bulletin.
16:43:42
14 Q. Do you know that Mr. Cook had any more background in it
15 than you?

16:43:46 16 A. No, I don't.

Q. And when he was given the job of assembling the first 17 16:43:56 18 bulletin response, you expected him to perform his duties essentially without direct supervision; did you not? 19 16:44:09 20 Α. It had been transferred to Dale Miller as his 16:44:13 21 supervisor. I expected Dale Miller would be supervising him. 22 So if Dale Miller's testimony were that he was expecting 16:44:21 Ο. you to be supervising Mr. Cook, then somebody is wrong about who 23 was supervising; isn't that right? 24 25 That's right. Α.

Q. And your review, I thought that you said that you agreed 1 16:44:41 to review the drafts of 2731 for format; is that what you've 2 16:44:51 testified? 3 4 A. Correct. Q. But your comments on 2741 -- 2731, excuse me, are more 5 6 than format; are they not? Α. That's right. It wasn't correct just to let those 16:45:13 7 things slide by. 16:45:16 8 Q. So you did a full review? 9 16:45:19 Of the draft that I had in front of me. 10 Α. Well, you did two. I mean, there's at least two drafts 11 Ο. 12 here? 13 Α. Right. 16:45:26 14 You indicated there was a third that you saw? Q. I reviewed that portion of that between the first and 15 Α. 16:45:29 the third. 16 Q. So you would have expected, having done that much 17 review, that your name would appear on the greensheet as a 16:45:36 18 reviewer; would you not? 19 20 A. No, because Dale Miller was Rod's supervisor. 16:45:42 21 But you knew it was there? Ο. I didn't know my name was on the greensheet. 22 Α. 16:45:49 Let us go over a bit some of your comments. If Mr. 23 Q. 16:46:24 Cook found some of your comments or suggestions in these drafts 24 16:46:42 25 to be inappropriate, you would not have expected him to include 16:46:49

16:46:53 1 them, would you?

16:46:54 2 A. That's correct.

Q. And if he had found them to be inappropriate, you would
4 not expect him to have said, and these remarks are

- 16:47:08 5 inappropriate, and put some reference to them in there; he would
 6 just leave them out?
- 16:47:27
 A. Typically the individual resolving the comment would get
 8 back to the originator of those comments to discuss why they
 9 weren't included.
- 10 Q. But he did, didn't he, by sending you back other drafts?
 16:47:46 11 A. Typically it's done face to face.

16:47:49 12 Q. But you were in training, and Mr. Cook was on a

13 deadline, and he was getting comments from all over the place,

16:47:55 14 wasn't he?

15 A. That's true, I believe.

16:48:02 16 Q. So under the circumstances, you really wouldn't -- you

16:48:07 17 wouldn't have required him to get back to you personally on each

16:48:10 18 of your comments, would you?

16:48:12 19 A. Under those circumstances, that's correct.

16:48:18 20 MR. POOLE: I didn't hear that answer.

16:48:21 21 A. I said, under those circumstances, that's correct as 22 stated.

16:48:26 23 BY MR. CONROY:

16:48:26 24 Q. Do you know whether Mr. Cook dealt with your comments,
25 your first set of comments from Government's Exhibit -- I'm not

	1	sure what exhibit number it is.
16:48:50	2	MR. BALLANTINE: 42.
16:48:51	3	BY MR. CONROY:
16:48:51	4	Q. Is 42 the e-mail of 8-20, with 8-21-01?
16:49:00	5	A. Yes.
	6	Q. That's right?
	7	A. 8-20 does have my handwritten comments on it.
	8	Q. That is Exhibit Number what?
	9	A. Exhibit 42.
16:49:09	10	Q. All right, sir. I'd like to put that up. We have a
	11	copy that seems to print better than the actual numbered exhibit
	12	we've got. So I'm going to put this up representing that it's
16:49:39	13	the same as your Exhibit Number 42.
	14	A. Okay.
16:49:50	15	Q. All right. So now I want to if I raise this higher,
16:49:59	16	Your Honor, somehow can I
16:50:02	17	THE COURT: No.
16:50:08	18	MR. CONROY: I'm trying to get the whole page in.
16:50:13	19	THE COURT: We'll get an expert involved.
16:50:25	20	MR. CONROY: This is fine for the purpose.
16:50:31	21	BY MR. CONROY:
	22	Q. Your first set of comments on 2731 that you gave to Mr.
	23	Cook with a date of 8-21 were on the entire document; isn't that
	24	correct? They were not limited to just Section 1D?
	25	A. That's correct. I went through the entire document.

	1	Q. And what I would like to do is just show the jury what
	2	those comments entailed by just going through the pages one by
	3	one. There's no comment required.
16:51:04	4	A. When I said entire document, the entire document that
	5	was provided, which was not the final document.
	6	Q. Right. This is just your comments on what was provided
	7	to you here; is that right?
16:51:18	8	A. That's correct.
16:51:19	9	Q. All right. These are the pages (document shown). Were
	10	you following along with me as I turned those over?
16:52:32	11	A. Yes.
	12	Q. That was your first set of comments on the first draft
	13	that you got? That was your set of comments on the first draft
	14	that you got?
	15	A. That is my recollection.
	16	Q. And that encompassed not just Section 1D, but this
16:52:48	17	entire document?
	18	A. Correct.
16:52:54	19	Q. And Section 1D, as you were reporting on it and this
16:52:59	20	is on page 2 of 4 in this draft at the top begins the
16:53:23	21	comments on Section 1D. Is that right?
	22	A. Correct.
16:53:29	23	Q. Section 1D did not have any particularly greater
16:53:34	24	significance than other sections in the document, did it?
16:53:39	25	A. As far as my review, no.

Q. And as you understood the bulletin, all of these 1 16:53:46 paragraphs that had to be answered had to be answered correctly, 16:53:52 2 accurately, completely, and all of that had to be handled by Mr. 16:53:58 3 Cook; isn't that right? 4 5 Α. Correct. 16:54:04 6 In terms of getting the information together? Q. That is correct. 7 Α. Now, I want to direct your attention, if I might, to 16:54:18 8 Q. page 1 of 4. 9 10 Are you with me there? 16:54:50 11 THE COURT: Same exhibit, sir? 12 MR. CONROY: Same exhibit, page 1 of 4. 16:54:52 13 Α. Okay. 16:54:55 14 BY MR. CONROY: Q. Now, your comments on this page have no bearing on past 15 16 inspections at all, do they? 17 Α. I'm sorry. I don't understand the question. 16:55:06 16:55:09 18 Q. The questions are not about past inspections here. 19 They are about other matters entirely? 16:55:12 Α. 20 That appears to be true on this page. 16:55:27 And then we move on to Section 1D. Now, with regard to 21 Ο. 16:55:31 the bubble at the top of page 2 of 4 on the right, that says 22 16:55:41 23 these are not answered below. 24 Did you come to find out that ultimately they were 16:55:59 25 answered to your satisfaction? 16:56:03

Α. No. 1 You mean you did not review what you got back? Ο. 2 16:56:07 You said ultimately. What ultimately went to the NRC, Α. 16:56:13 3 I never reviewed. 4 16:56:19 5 Q. Did you review interim drafts? 16:56:23 6 THE COURT: No, you can't see anything, right? It has not been moved nor admitted. 7 MR. BALLANTINE: Your Honor, I believe I moved both 16:56:35 8 of these documents. This is Government's Exhibit 42. 9 10 THE COURT: That's why I asked the question. My 16:56:41 apology to you, sir. 11 16:56:44 12 MR. CONROY: Your Honor, should we stop? 16:56:46 13 getting to 5:00. I'll go on. 16:56:53 14 THE COURT: How much longer do you have? 15 MR. CONROY: I'm going to be a while. 16:56:56 16:57:00 16 THE COURT: Is that a promise? 17 MR. CONROY: It's a promise. 16:57:02 18 THE COURT: Mr. Ballantine? 16:57:06 16:57:16 19 (Discussion had off the record.) 16:58:00 20 THE COURT: Let me explain. If there is a 21 possibility or a probability that we can finish a witness who is 16:58:04 22 from out of town, we, as I told you at the beginning, will 23 attempt to do so. So let's see how we cruise through this next series of questions. 24

It's

I'm sorry. I was looking at Exhibit 41 rather 25 16:58:27

than 42. That's my error. I apologize. 1 BY MR. CONROY: 2 16:58:37 Q. Again, what I'm asking you to do is follow along with me 3 16:58:38 4 with your copy that's in evidence. Mine appears to be 5 readable; not very, but it's better. 16:59:12 6 Now, what I was asking you about was the comment at 7 the top right that says these are not answered below. 16:59:15 Did 8 there come a point when you saw in any draft that those were 9 answered? 10 I couldn't say for sure. Α. 16:59:34 11 Looking at paragraph 3 after the words, "which Ο. 16:59:39 12 provides," and it asks: Was this inspection completed using a 13 qualified inspector VT2 or VT3? If yes, add, was a procedure 17:00:05 14 used, and the acceptance criteria. 17:00:07 15 Do you see that bubble? 16 Α. Yes. 17 Was any draft prepared and sent to you that answered 0. 18 that question? 19 I don't recall seeing a draft that included this Α. 17:00:21 20 information. 21 Q. With regard to the first paragraph indented which talks 17:00:30 22 about 1998 inspection reports performed during 11 RFO and has a 23 bubble on the left that says: Was head viewed after cleaning to 24 verify cleaning acceptance criteria? Did you get a draft at any 17:00:43 point that answered that question for you? 17:00:48 25

I received no draft that addressed these questions .1 Α. 17:00:50 2 specifically. 3 Q. Did you get a draft in the last paragraph on page 2 of 17:00:58 4, bottom right, where it asks: What's a majority? Better to 17:01:04 4 be specific than vague. NRC request is for this. 5 6 Did you ever get any answer to that question? Α. I received no draft that I read that answered that 17:01:18 7 17:01:22 8 question. 9 You received no draft that you read that answered that? Ο. That's correct. 10 Α. Did you know that a debate was taking place between 11 Ο. 12 Engineering and Mr. Cook with regard to what percentage of the 13 head could be viewed? 17:01:34 14 Α. No, I did not. 15 Did you understand that as -- when you wrote this Ο. 16 question, did you understand that what you were referring to was the as-left condition of the head after 12 RFO? 17 18 Α. State that again, please. 17:01:51 Were you -- when you said, "What's a majority," were you 19 Ο. 20 talking about the as-found or the as-left condition of the head? 17:01:58 The as-found. 17:02:02 21 Α. 22 0. The as-found condition? 23 Α. Yes. 24 Therefore, if the debate that was going on in -- not 17:02:05 Q. 25 debate, but the discussion that was going on between Mr. Cook 17:02:20

and Engineering, if there was one, that is talking about what is 1 17:02:24 a majority, 90 percent, 95 percent, if that discussion was 2 taking place, it was your understanding that was about the 3 as-found condition? 4 5 Α. I wasn't aware that there was any ongoing discussion whatsoever. 17:02:39 6 7 But your question was as to the as-found condition? Q. That's what I believe my question dealt with, yes. 8 Α. So that the sentence that talks about the RPV head was . 9 Ο. 17:02:46 cleaned with demineralized water, and that's the last sentence 10 17:02:50 on that page, and then it says, "To the greatest possible extent 11 17:03:08 12 while maintaining the principles of as-low-as-reasonablyachievable regarding the dose and method," would reply to the 13 14 as-left condition; is that correct? 15 Α. Correct. At the risk of not recalling where I was at, we're going 16 Q. 17:05:20 17 to move on. 17:05:24 18 Oh, I was asking you about as-found and as-left, 19 and you clarified that, so we're moving on from there. 17:05:27 20 With regard to the e-mail that you sent to Mr. Cook 17:06:03 21 on the 24th of August, and on which you have comments dated the 17:06:08 22 25th of August, '01, and that exhibit number is --17:06:15 MR. BALLANTINE: 50. 23 17:06:21 BY MR. CONROY: 24 17:06:23 25 Q. -- 50. Do you have that one, sir? 17:06:23

1 A. Yes, sir. O. Let me just show you. Now, this also was commentary on 2 17:06:27 the entire bulletin; is that correct? 3 That is correct. 17:06:38 4 Α. 5 Ο. Let me just review with you what your comments extended 6 to this time. So again, your comments covered the entire bulletin 17:08:10 7 8 response, all paragraphs? 9 Yes, sir. Α. And these were provided to Mr. Cook on the 25th, 10 17:08:23 Ο. response was to go out on the 4th of September; is that correct? 11 12 Α. No. 13 Ο. They were not provided to him on the 25th? 14 Α. No. When were they provided to him? 15 Q. 17:08:36 16 Α. The morning of the 27th. 17 On the 27th of August. So he had to incorporate these Q. and any others that he had by -- in time to turn them around and 18 17:08:50 19 have them approved for transmittal on the 4th of September; is 20 that correct? 21 That's correct. But actually the target at that time, Α. 22 I believe, was still to get it out by the end of August 30th. There was a time crunch? 23 Q. 24 Α. There was a deadline, yes. 17:09:05 25 And your comments were designed to help him ensure that 0. 17:09:08

17:09:16 1 the response was complete and accurate?

17:09:21 2 A. Yes.

Q. You were trying to be complete and accurate?
A. When I reviewed, if I spotted anything that I had a
question on, I capitalized it to make sure that the company's -to ensure to the best of my knowledge that it was going to be
looked at to make sure it was corrected.

8 Q. And you expected Mr. Cook to be doing the same thing? 17:09:42 9 A. Yes.

10 Q. And you had every expectation that he would be doing the 11 same thing?

12 A. Yes.

13 Q. And in doing that, you expected him to be relying on 14 information provided by Engineering?

15 A. That is correct.

17:09:55 16 Q. And that specifically applied to Section 1D?

17 A. Yes, sir.

17:10:07 18 Q. Now, you had three -- on the cover e-mail you had three 19 areas that you wanted Mr. Cook to be attentive to. One was the 20 above re: completeness. And that is where you mention Section

17:10:32 21 50.9?

17:10:33 22 A. Correct.

17:10:34 23 Q. Was it your understanding that people in the plant did 24 not understand the requirement to be complete and accurate in 17:10:41 25 responses given to the NRC?

- A. I would expect everyone at the plant, although they may
 not be able to reference 50.9, would expect all information to
 be complete and accurate to the NRC.
 - 4 Q. It was common knowledge?
 - 5 A. I believe so.

17:10:58 Q. So to the extent that you were asking Mr. Cook to check 6 with people to understand if they knew their obligations to be 7 8 complete and accurate, that was somewhat gratuitous, was it not? When I read this, the impression I had was that somebody 9 Α. 17:11:19 10 had talked to Rod about not including that. And I wanted to 17:11:26 11 make sure that Rod had some support, if necessary, to respond to 12 that to say we need to be complete and accurate.

Q. So if Mr. Cook did not understand the requirements of 14 50.9, he could tell somebody that there was such a section?

15 A. Certainly.

16 Q. But you knew he knew what it was?

A. Well, again, I was -- I was flagging this to Rod to remind whoever it was, if somebody indeed was saying you don't need to include this information, that yes, we did -- that yes, it did need to be included.

Q. And if a legitimate discussion was taking place as to what percentage of the head could be seen as found at 12 RFO, you were unaware of it?

A. I was unaware of any discussion like that.
17:12:26
Q. Now, your Concern Number 2 at the bottom of this e-mail

1 has to do with the preservation of current licensing basis? 2 A. Correct. 3 That has nothing whatsoever to do with past inspections, Q. does it? 4 17:12:41 5 A. That's correct. 6 Q. And Number 3, resolution of boric acid crystal deposits found, and if the source cannot be found by VT2. What are you 7 talking about there? 8 9 In the submittal, this is Attachment 1, page 17 of 19, Α. 17:12:59 the diagram that's shown there. 10 17:13:04 Q. And that is this document on its side? 11 17:13:10 12 A. That's correct. 13 Q. And I don't know what to do about that. 14 Α. I don't either. 15 Q. In any event, that is the portion that you're referring 17:13:25 16 to? Yes. 17 Α. 17:13:29 18 Again, not related to Section 1D? Q. 19 (Discussion had off the record.) 17:13:50 20 MR. CONROY: Gee whiz. I got it. 17:13:52 BY MR. CONROY: 17:14:08 21 17:14:08 22 Q. This relates to future inspections, doesn't it? 23 A. Yes, sir. 17:14:11 Not past? 24 Q. That's correct. It does not relate to 1D. 25 Α.

17:14:30 1 Q. And again, when we get to page 2 of 19, and in the 17:14:43 2 right-hand margin your note: NRC is requiring licensees to 3 inform them of any impediments.

17:14:52 4 A. Yes.

17:14:54 5 Q. Did you get a draft that explained to you that that had 6 been dealt with?

17:15:03 7 A. I'm sorry, what was the question?

8 Q. Did you get an answer to the note that you put in the 9 right margin with regard to any impediments being dealt with? 17:15:14 10 A. Now, this dealt with the approximately 90 percent. I 17:15:19 11 did not get a verbal response to that.

17:15:24 12 Q. And you don't know whether or not you got a draft that 13 dealt with it?

17:15:2914A. The only drafts that came out, I don't know if they17:15:3315dealt with it or not because after the 27th and my review of the

16 draft for typos, I did not review any other additional drafts.

17 Q. But this comment, on the 27th, or the one that you

18 dropped off to him on the 27th --

19 A. Correct.

17:15:51 20 Q. -- and the next page, 3 of 19, in which on the middle on 21 the right you were talking about approximately 90 percent of the 17:16:03 22 nozzles were inspected, that's your writing?

A. Correct.

Q. That, again, refers back to this as-found situation that you were referring to in your first set of comments? 1 A. Correct.

17:16:192Q. And you were aware of no internal discussions that were17:16:223going on about what percentage was actually involved?

A A. That is correct.

- 17:16:28 5 Q. And likewise when you add at the bottom below that, 6 "important to add, see NRC request on prior page," it's all got 7 to do with the 90 percent?
 - 8 A. That's correct.
- 17:17:04 9 Q. Now, when you got --
- 17:17:08 10 A. I'm sorry.
- 17:17:10 11 Q. -- a draft, you were in a position to make any comments 12 that you wanted on it, were you not?
 - 13 A. As long as time permitted.
- Q. And it was not uncommon at Davis-Besse for someone to provide the initials on a greensheet of people who were not available at the time? Is that right?
- 17:17:36 17 A. I wouldn't say that was the common practice.
 - 18 Q. So that if there had been testimony that it was, that
 - 19 would be in error?
- A. I don't know what their testimony is. All I can say is what I'm familiar with. It's not encouraged to have someone else's initial for -- rather than the actual person.
- 23 Q. But given circumstances necessitating it, it could be 17:18:03 24 done?
- 17:18:03 25 A. It could be done.

MR. CONROY: The Court's indulgence for a moment, 1 17:18:11 2 Your Honor. 3 THE COURT: All right. MR. CONROY: You're right, Your Honor. Nothing 17:18:46 4 5 further. 17:18:54 6 THE COURT: Redirect? 7 MR. BALLANTINE: Thank you, Your Honor. 17:18:56 _ _ _ 17:18:58 8 DALE WUOKKO, REDIRECT EXAMINATION 17:18:58 . 9 BY MR. BALLANTINE: 17:18:59 10 Q. Could I have Defendant's Exhibit 16 or whatever that 17:18:59 11 12 testimony was? 13 THE COURT: That was used but not admitted. 17:19:10 17:19:22 14 MR. BALLANTINE: Right. 17:19:22 15 BY MR. BALLANTINE: 17:19:36 16 Q. I've been mispronouncing your name all day. Could you 17:19:36 17 17:19:41 18 pronounce it for me? A. It's Wuokko, W-o. 17:19:42 19 20 Q. Mr. Wuokko, could you take a look at what's been marked 17:19:47 21 for identification I think as Defendant's Exhibit 6 up there. 22 Do you still have that up there? 23 THE COURT: 6 or 16? 24 MR. BALLANTINE: I'm talking about 6 at this point, 25 Your Honor.

1 A. Yes, I do.

2 BY MR. BALLANTINE:

3 Q. If you could, look at page 9. Is that the NRC 17:20:08 4 communication procedure?

5 A. Correct.

17:20:12 6 Q. You were asked about this earlier by Mr. Conroy; is that 7 right?

8 A. Yes.

17:20:16 9 Q. And 6.2.2, that indicates that Regulatory Affairs is to 10 review the draft correspondence for format, content,

17:20:29 11 completeness, clarity, and general acceptability?

12 A. Correct.

17:20:32 13 Q. Were your comments addressing content and completeness?
17:20:42 14 A. My comments were addressing the format, and they were
15 questioning the completeness.

17:20:53 16 Q. After you questioned the completeness -- I'd like you to 17 look at the next page, page 10, 6.2.6.

Does that say Regulatory Affairs and lead 17:21:01 18 department shall resolve any comments received under the 19 20 proposed submittal? Disagreements which cannot be resolved 21 shall be elevated to the next level of management for resolution. If this resolution results in significant changes 22 to the proposed submittal, Regulatory Affairs shall reroute 23 proposed submittal repeating steps 6.2.4 through 6.2.6. 24 17:21:21 25 Did I read that accurately? 17:21:27

- 1
- A. That's correct.

17:21:292Q. Based on that part of the procedure, would you have17:21:323expected Mr. Cook to come back to you to resolve your comments?17:21:424A. It was a procedural requirement that he come back and17:21:495resolve those comments with me.

- 17:22:11 6 Q. Do you have Government's Exhibit 42 in front of you 7 still?
- 17:22:14 8 A. Yes.
- 17:22:15 9 Q. And Mr. Conroy asked you some questions about your 10 review of that document?
- 17:22:19 11 A. Yes.
- 17:22:24 12 Q. Where in that document -- that was the first edit that 13 you looked at. Where in that document were there issues of 17:22:35 14 non-responsiveness to the NRC's questions?
- 17:22:50 15 A. It looked to me in the request item 1D that there was 17:22:57 16 information missing that the NRC was looking for.
- 17:23:02 17 Q. That was the part that we were talking about on your 18 direct examination; is that right?
 - 19 A. That is correct.
- 17:23:08 20 Q. The other edits that you made, were they by and large
- 17:23:15 21 format and typo edits?
- 17:23:18 22 A. Yeah. These were grammatical or format type
- 17:23:26 23 corrections.
 - Q. What were the most important edits to this document that you made or comments?

Well, the most important comments were the ones in 1 Α. Ź reference to the 1 Delta. Q. And with respect to Government's Exhibit 50, do you 17:23:37 3 still have that up in front of you? 4 5 Α. Yes. 17:23:45 6 Q. Government's Exhibit 50, you indicated the three areas that you thought were of particular concern; is that right? 7 A. Yes, sir. 8 9 And one of those was the one we went over, the issue of Ο. completeness and accuracy? 10 17:23:58 11 Α. Yes. 17:24:00 12 Ο. And which part of the bulletin would that respond to or 13 relate to? 17:24:03 Α. That's 1D. 14 17:24:04 Finally, Mr. Wuokko, would you expect a responsible and 15 Q. 17:24:15 trustworthy engineer would get back to you before signing off on 16 17:24:24 a greensheet for you? 17 17:24:27 Yes. But I wouldn't have the person -- it would have 17:24:32 18 Α. 19 to be greatly unusual circumstances to have somebody sign off on 20 the greensheet for me. 21 But if that were to happen, you would expect that Ο. 22 another responsible and trustworthy engineer would have told you 17:24:49 that that was what he was going to do or ask you if he could? 23 24 Α. Yes. Did Mr. Cook ask you if he could sign off on the 17:24:56 25 Ο.

17:24:59	1	greensheet for Serial Letter 2731?	
	2	A. No.	
17:25:02	3	MR. BALLANTINE: No further questions, Your Honor.	
17:25:07	4	MR. CONROY: Can I do it from here?	
17:25:11	5		
17:25:11	6	DALE WUOKKO, RECROSS-EXAMINATION	
	7	BY MR. CONROY:	
	8	Q. Mr. Wuokko, with regard to 6.2.6	
	9	A. Yes.	
	10	Q it says: Regulatory Affairs and the lead department	
17:25:21	11	shall resolve any comments received on the proposed submittal;	
	12	doesn't it?	
17:25:29	13	A. Yes.	
·	14	Q. The lead department was not Regulatory Affairs, was it?	
17:25:34	15	A. That is right.	
	16	Q. And it wasn't you who was in the lead department, was	
	17	it?	
17:25:38	18	A. Correct.	
17:25:39	19	Q. So that if Mr. Cook had pulled together, for example,	
	20	two engineers from the Engineering Department, and resolved the	
	21	issue of 90 percent majority of the nozzles or 95 percent, he	
	22	would be doing exactly what this regulation requires, wouldn't	
	23	he?	
17:26:06	24	MR. BALLANTINE: Your Honor, this question assumes	
	25	facts not in evidence.	

17:26:21 1 A. It states --

	2	THE COURT: Excuse me. It's hypothetical. It's
17:26:27	3	totally hypothetical. There's no information here.
17:26:31	4	MR. CONROY: I can change it.
	5	THE COURT: Please.
17:26:34	6	BY MR. CONROY:
	7	Q. If you knew that Mr. Cook had gotten Mr. Goyal and Mr.
	8	Siemaszko together to determine what portion of the head could
	9	be examined at 12 RFO, whether it was 90 percent or a majority,
17:26:52	10	he would be doing what this regulation requires; would he not?
17:26:55	11	A. What this procedure requires, yes.
17:26:58	12	MR. CONROY: Thank you. Nothing further.
17:27:01	13	THE COURT: Thank you very much. You may step
	14	down.
17:27:13	14 15	down. After the jury leaves there are some exhibits up
17:27:13		
17:27:13 17:27:18	15	After the jury leaves there are some exhibits up
	15 16	After the jury leaves there are some exhibits up there.
17:27:18	15 16 17	After the jury leaves there are some exhibits up there. Ladies and gentlemen, we'll now take a long break,
17:27:18 17:27:25	15 16 17 18	After the jury leaves there are some exhibits up there. Ladies and gentlemen, we'll now take a long break, for 15 hours or so. Please remember as we leave one another,
17:27:18 17:27:25	15 16 17 18 19	After the jury leaves there are some exhibits up there. Ladies and gentlemen, we'll now take a long break, for 15 hours or so. Please remember as we leave one another, and I know it's difficult, but do not read, listen to, or watch
17:27:18 17:27:25	15 16 17 18 19 20	After the jury leaves there are some exhibits up there. Ladies and gentlemen, we'll now take a long break, for 15 hours or so. Please remember as we leave one another, and I know it's difficult, but do not read, listen to, or watch anything touching on this case in any way. Do not talk about
17:27:18 17:27:25 17:27:36	15 16 17 18 19 20 21	After the jury leaves there are some exhibits up there. Ladies and gentlemen, we'll now take a long break, for 15 hours or so. Please remember as we leave one another, and I know it's difficult, but do not read, listen to, or watch anything touching on this case in any way. Do not talk about this case among yourselves or with anyone else, or permit anyone
17:27:18 17:27:25 17:27:36	15 16 17 18 19 20 21 22	After the jury leaves there are some exhibits up there. Ladies and gentlemen, we'll now take a long break, for 15 hours or so. Please remember as we leave one another, and I know it's difficult, but do not read, listen to, or watch anything touching on this case in any way. Do not talk about this case among yourselves or with anyone else, or permit anyone else to discuss it with you. And do not make up your minds on

1	see you 8:30? 8:30.		
2		·	
3			
4	· · · · · · · · · · · · · · · · · · ·		
5	CER	TIFICATE	
6			
7	I certify that the foregoin	ing is a correct transcript	from the
8	record of proceedings in the	above-entitled matter.	
9			
10			
11	Tracy L. Spore, RMR, CRR	Date	
12			
13			
14			
15			
16			
17			
18			
19			
20.			
21			
22			
23			
24			
25			

1	I N D E X	
2	PRASOON GOYAL, CONTINUED DIRECT EXAMINATION	1151
3	BY MR. STICKAN:	
4	PRASOON GOYAL, CROSS-EXAMINATION	1160
5	BY MR. HIBEY:	
6	PRASOON GOYAL, CROSS-EXAMINATION	1164
7	BY MR. CONROY:	
8	PRASOON GOYAL, REDIRECT EXAMINATION	1185
. 9	BY MR. STICKAN:	
10	STEVEN MOFFITT, DIRECT EXAMINATION	1195
11	BY MR. BALLANTINE:	
12	STEVEN MOFFITT, CROSS-EXAMINATION	1265
13	BY MR. WISE:	
14		
15	STEVEN MOFFITT, REDIRECT EXAMINATION	1306
16	BY MR. BALLANTINE:	
17	WALTER HUSTON, DIRECT EXAMINATION	1318
18	BY MR. POOLE:	
19	DALE WUOKKO, DIRECT EXAMINATION	1327
20	BY MR. BALLANTINE:	
21	DALE WUOKKO, CROSS-EXAMINATION	1363
22	BY MR. CONROY:	
23	DALE WUOKKO, REDIRECT EXAMINATION	1389
24	BY MR. BALLANTINE:	

25

-

1	DALE WUOKKO, RECROSS-EXAMINATION
2	BY MR. CONROY:
. 3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	

.

	4070 4450 00 4450 04	0 4400 F 4400 4F	4400 5 4400 0 4400 40
I .	1278 - 1156:20, 1156:24, 1157:5	2 - 1169:5, 1182:15, 1242:11, 1242:11	1189:5, 1189:9, 1189:12,
· · · · ·	12th - 1237:16, 1272:16,	1243:11, 1246:6, 1340:1, 1348:18, 1350:19, 1351:22,	1193:14, 1193:18, 1193:25, 1275:24, 1276:12, 1277:9,
'01 - 1162:13, 1382:22	1291:24, 1312:10	1353:10, 1377:20, 1378:22,	1278:10, 1279:12, 1281:4,
'75 - 1196:15, 1196:16	13 - 1162:10, 1185:1,	1381:3, 1385:25, 1387:1	1281:7, 1336:6, 1336:13,
'81 - 1196:16	1188:22, 1189:3, 1192:14,	2.000 - 1201:14	1338:1, 1357:20, 1358:25,
'83 - 1196:25	1192:15, 1192:18, 1193:18,	20 - 1194:23, 1199:4,	1366:17, 1367:8, 1368:18,
'94 - 1316:6	1324:5, 1348:14, 1350:12	1219:25, 1224:21, 1275:11	1369:6, 1369:11, 1369:12,
'96 - 1155:7, 1165:16,	130 - 1155:18, 1155:20,	200 - 1347:12	1370:22, 1371:23, 1372:2,
1174:12, 1179:12, 1240:20,	1156:9, 1156:10, 1158:17,	2000 - 1154:10, 1154:21,	1372:6, 1374:2, 1374:5,
1247:12, 1251:8, 1257:2,	1158:19, 1158:20, 1159:8	1155:11, 1155:16, 1161:4,	1376:22, 1393:1
1257:14, 1257:16, 1264:11,	1306 - 1396:15	1161:8, 1161:9, 1199:12,	2735 - 1153:8, 1179:2,
1264:13, 1264:14, 1264:15,	1318 - 1396:17	1199:14, 1200:9, 1200:10,	1241:25, 1243:13, 1293:12,
1282:2, 1282:4, 1284:11,	1327 - 1396:19	1201:19, 1202:12, 1209:9,	1294:23, 1296:2, 1297:18,
1293:6, 1293:18, 1295:1,	1363 - 1396:21	1209:16, 1209:19, 1228:7,	1312:18, 1367:11, 1369:6,
1303:20, 1306:9, 1306:13,	1389 - 1396:23	1230:1, 1236:17, 1237:11,	1370:1
1308:3, 1308:10, 1314:4,	13th - 1191:20, 1220:23,	1244:11, 1263:23, 1264:1,	2741 - 1154:15, 1369:6,
1316:3, 1316:4, 1317:17	1259:6, 1323:21, 1324:1,	1264:11, 1266:16, 1267:9,	1370:2, 1374:5
'98 - 1198:8, 1237:11, 1237:13, 1282:3, 1284:11,	1324:7 140 - 1199:5	1267:20, 1269:13, 1269:24, 1273:16, 1282:2, 1282:7,	2744 - 1156:3, 1369:6, 1370:3
1284:12, 1308:4, 1308:10,	140 - 1199.5 1400 - 1149:14	1284:8, 1284:11, 1284:12,	27th - 1347:21, 1359:5,
1311:14, 1314:4	14th - 1302:11, 1312:22	1284:13, 1288:19, 1295:12,	1383:16, 1383:17, 1387:15,
'99 - 1196:25, 1197:10,	15 - 1149:9, 1204:18,	1295:18, 1305:4, 1305:6,	1387:17, 1387:18
1197:13, 1198:7, 1199:11	1205:22, 1206:20, 1206:23,	1305:22, 1308:2, 1308:10,	28 - 1216:9, 1220:13,
	1208:4, 1216:12, 1244:2,	1311:21, 1325:1, 1328:15,	1220:20, 1221:24, 1278:17,
1	1244:3, 1244:5, 1275:11,	1354:11	1279:17, 1280:19, 1355:9
	1326:21, 1394:18	20005 - 1149:15, 1149:22	28th - 1222:7, 1222:14,
1 - 1167:15, 1169:5,	159 - 1361:11, 1362:6	2001 - 1151:13, 1156:4,	1230:1, 1230:11, 1359:3,
1180:9, 1183:25, 1185:2,	16 - 1151:13, 1158:1,	1156:5, 1162:11, 1175:6,	1359:5, 1359:12
1204:18, 1205:18, 1243:11,	1197:1, 1197:4, 1389:11,	1191:7, 1214:17, 1214:24,	29 - 1270:11
1246:6, 1340:1, 1350:18,	1389:23	1214:25, 1217:16, 1218:20,	29th - 1359:12
1378:9, 1378:12, 1386:9,	17 - 1230:15, 1230:16,	1225:21, 1227:8, 1238:3,	2nd - 1281:13
1392:2	1298:16, 1323:11, 1386:9	1273:16, 1273:18, 1274:19,	
1,000 - 1201:15	1716 - 1150:5	1275:12, 1288:22, 1304:3,	3
1.0 - 1246:11	17th - 1241:17, 1249:9,	1316:17, 1319:3, 1320:4,	
10 - 1173:24, 1246:18,	1253:13, 1255:20, 1289:20,	1328:15, 1329:16, 1330:11,	3 - 1164:21, 1164:22,
1324:22, 1325:20, 1354:23,	1294:13, 1295:6, 1298:17,	1346:15, 1361:18, 1365:8,	1164:24, 1165:10, 1165:16,
1390:17	1312:8	1373:12	1169:5, 1230:15, 1280:17,
100 - 1163:13, 1176:5,	18 - 1224:19, 1225:25, 1259:6, 1223:10, 1223:14	2001-01 - 1162:12	1345:8, 1348:19, 1352:13,
1180:1, 1183:21, 1191:18,	1258:6, 1323:10, 1323:14	2002 - 1197:14, 1197:15, 1224:2, 1262:17, 1268:15	1364:17, 1380:11, 1386:6,
1295:12 104 1153:4 1153:5	18-month - 1285:8	1224:2, 1262:17, 1268:15, 1333:10, 1357:22, 1367:21	1387:20
104 - 1153:4, 1153:5, 1153:6, 1153:7	1828 - 1150:3 19 - 1324:25, 1350:19	1333:19, 1357:22, 1367:21, 1368:8, 1368:23, 1372:5	3,000 - 1206:8 30 - 1154:15 - 1156:4
1153:6, 1153:7 105 - 1243:5	19 - 1324:25, 1350:19, 1351:23, 1352:13, 1353:10,	1368:8, 1368:23, 1372:5 20026 - 1149:18	30 - 1154:15, 1156:4, 1156:5, 1215:11, 1255:14
103 - 1243.5 108 - 1248:8, 1319:21,	1386:9, 1387:1, 1387:20	20026 - 1149.16 20036 - 1150:3	30-day - 1332:5
1322:8	1975 - 1196:13	20036 - 1150.3 2005 - 1261:8	30-minute - 1216:12
109 - 1320:7	1984 - 1327:21	2006 - 1262:20, 1336:15,	309 - 1159:18
10th - 1192:20, 1193:4,	1985 - 1373:1	1336:16	30th - 1383:22
1234:4, 1238:2, 1238:10,	1996 - 1155:4, 1156:14,	2007 - 1149:5	31 - 1224:3, 1370:19
1250:13, 1251:1, 1256:22,	1156:18, 1157:6, 1157:18,	202-514-0838 - 1149:15	314 - 1159:21
1291:14, 1368:8, 1368:23	1161:11, 1164:10, 1172:7,	202-514-2956 - 1149:18	31st - 1181:8, 1254:22
11 - 1149:5, 1153:25,	. 1240:14, 1246:9, 1246:18,	202-626-5801 - 1149:23	324 - 1165:22, 1166:6,
1154:1, 1154:3, 1191:7,	1247:17, 1293:17, 1294:11,	202-833-3400 - 1150:4	1167:14
1236:23, 1238:4, 1289:19,	1304:15, 1305:18, 1311:25,	22nd - 1347:19	36 - 1190:11, 1190:17,
1290:19, 1291:6, 1291:11,	1313:11, 1315:23, 1316:24,	23984 - 1149:17	1190:18, 1191:3
1291:13, 1291:23, 1324:22,	1317:10, 1324:24	23rd - 1347:19	3:06-cr-712 - 1149:4
1325:20, 1380:22	1998 - 1236:17, 1240:14, 1324:25, 1351:25, 1354:10	24 - 1225:25, 1235:10, 1225:11, 1258:6, 1220:2	3a - 1165:8, 1165:9, 1165:10, 1165:10
110 - 1199:5 111 - 1153:18 - 1153:20	1324:25, 1351:25, 1354:10, 1380:22	1235:11, 1258:6, 1320:3, 1324:25, 1346:15	1165:10, 1168:18, 1178:11,
111 - 1153:18, 1153:20 113 - 1155:25, 1156:1,	1380:22 1999 - 1197:6, 1199:8,	1324:25, 1346:15 24-month - 1224:18	1185:19, 1186:3 3rd - 1149:14, 1162:13
1255:1	1209:11	24-month - 1224:18 243-3607 - 1150:6	3rd - 1149:14, 1162:13, 1193:3, 1193:9, 1227:7,
1151 - 1396:2	1:30 - 1264:25, 1265:8	243-3607 - 1150.8 24th - 1239:4, 1240:6,	1227:15, 1227:18, 1230:2,
1160 - 1396:4	1.50 - 1204.25, 1205.8 1b - 1186:20	1241:19, 1247:24, 1249:10,	1230:12, 1236:14, 1239:5,
1164 - 1396:6	1c - 1178:11, 1186:13,	1251:7, 1253:18, 1254:10,	1244:15, 1247:23, 1253:11,
1185 - 1396:8	1186:16, 1186:20, 1186:21	1254:16, 1254:19, 1257:21,	1280:19, 1280:24, 1281:9,
1195 - 1396:10	1d - 1177:24, 1178:5,	1285:25, 1299:16, 1299:21,	1281:14, 1282:13, 1282:18,
11th - 1230:17, 1237:16,	1178:6, 1180:4, 1180:13,	1299:22, 1320:19, 1320:22,	1283:17, 1285:6, 1286:3,
1241:17, 1250:25, 1251:1,	1181:14, 1181:15, 1181:17,	1321:11, 1322:12, 1347:19,	1286:20, 1287:25, 1295:12,
1292:14, 1292:17, 1293:5,	1181:18, 1182:9, 1185:12,	1382:21	1298:17, 1303:17, 1312:9,
1312:10	1186:5, 1186:9, 1192:21,	25th - 1382:22, 1383:10,	1360:18, 1361:18, 1362:12
12 - 1154:20, 1175:11,	1192:22, 1340:20, 1350:22,	1383:13	
1205:4, 1205:6, 1206:20,	1376:24, 1377:16, 1377:19,	26 - 1187:7, 1188:3,	4
1206:23, 1206:25, 1236:23,	1377:21, 1377:23, 1378:21,	1190:16	-
1238:4, 1268:19, 1271:10,	1384:16, 1386:18, 1386:25,	27 - 1192:4, 1192:7	4 - 1165:3, 1165:9, 1169:6,
1291:6, 1291:11, 1291:13,	1391:15, 1392:14	2731 - 1162:12, 1162:19,	1208:19, 1208:20, 1323:8,
1291:23, 1292:8, 1324:22,	1e - 1192:22	1163:11, 1163:14, 1163:17,	1323:11, 1340:1, 1345:8,
1325:21, 1350:13, 1381:17,	1st - 1 281:9, 1281:12	1175:5, 1175:18, 1175:21,	1377:20, 1378:9, 1378:12,
1385:22, 1394:9 1265 - 1396:12		1176:8, 1176:12, 1177:15, 1170-2, 1184-25, 1185-13	1378:22, 1381:4
1265 - 1396:12 1275 - 1156:15	2	1179:2, 1184:25, 1185:13, 1188:22, 1188:23, 1189:4,	40 - 1224:21 41 1367:13 1370:25
1213 - 1130.13		1100.22, 1100.23, 1109.4,	41 - 1367:13, 1379:25

	····
419 - 1150:6	•
42 - 1162:7, 1336:21, 1337:20, 1337:24, 1337:25,	9
1338:12, 1338:20, 1376:2,	9 - 1249:18, 1252:18,
1376:4, 1376:9, 1376:13,	1325:14, 1390:3
1379:9, 1380:1, 1391:6 4 3624 - 1150:6	90 - 1175:9, 1175:12, 1176:6, 1176:7, 1176:21,
43024 - 1130.0 44 - 1367:15	1177:1, 1348:11, 1348:23,
445 - 1208:6	1349:3, 1349:6, 1349:13,
45 - 1367:17	1351:18, 1352:24, 1382:2,
4e - 1164:20, 1171:13 4th - 1217:16, 1359:1,	1387:10, 1387:21, 1388:7, 1393:21, 1394:9
1383:11, 1383:19	900 - 1149:21
-	94 - 1320:19, 1320:21,
5	1321:2, 1321:15, 1321:21, 1321:24
5 - 1157:23, 1157:24,	95 - 1175:6, 1176:11,
1169:6, 1185:22, 1191:9,	1176:21, 1321:22, 1321:24,
1191:11, 1270:7, 1270:21,	1382:2, 1393:21
1271:5, 1271:16 50 - 1334:22, 1346:13,	96-551 - 1157:21, 1161:11, 1161:16, 1161:18, 1164:9
1346:20, 1347:6, 1382:23,	97 - 1151:7, 1151:9,
1382:25, 1392:3, 1392:6	1151:12, 1151:13, 1151:21,
50.9 - 1348:12, 1348:15,	1151:22
1354:23, 1384:21, 1385:2, 1385:14	98 - 1320:20, 1320:21, 1321:2, 1321:15
500 - 1226:13	99 - 1344:11
51 - 1344:11	9th - 1331:17
551 - 1157:21	
59 - 1217:12, 1357:25 5:00 - 1355:16, 1379:13	A
	ability - 1257:9, 1258:25,
6	1307:10 able - 1155:4, 1225:21,
6 - 1323:17, 1324:10,	1229:21, 1230:3, 1230:6,
1363:19, 1389:21, 1389:23,	1230:12, 1235:11, 1237:7,
1389:24	1245:22, 1298:22, 1304:2,
6.2 - 1364:6, 1364:7 6.2.1 - 1364:8, 1364:12,	1313:1, 1313:4, 1317:7, 1332:4, 1361:12, 1385:2
1364:23, 1365:11	above-entitled - 1395:8
6.2.2 - 1365:2, 1390:9	abreast - 1213:6, 1216:6
6.2.4 - 1390:24 6.2.6 - 1390:17, 1390:24,	absent - 1218:17 absolutely - 1223:1,
1393:8	1291:17, 1309:11
60 - 1185:14, 1188:1	Absolutely - 1223:9,
600 - 1207:23 640 - 1150:2	1239:8, 1266:4, 1273:11, 1273:22, 1273:24, 1275:16,
655 - 1149:22	1277:23, 1278:11, 1284:15,
68 - 1369:1, 1369:2,	1290:8, 1291:22, 1302:12,
1369:3	1304:6, 1305:11, 1306:17,
6th - 1331:7, 1331:8	1315:21 abstinence - 1342:11
7	absurd - 1304:4
	accept - 1176:14, 1263:12,
7 - 1149:9, 1235:24, 1324:19	1293:15 acceptability - 1362:17,
70 - 1372:4	1365:4, 1390:11
71 - 1371:13, 1372:4	acceptable - 1247:1
782 - 1205:7 7:00 - 1356:13, 1356:14	Acceptance - 1343:18 acceptance - 1180:16,
7th - 1331:8	1185.25, 1341.17, 1342.22,
	1343:19, 1343:24, 1345:15,
8	1380:14, 1380:24
8-20 - 1376:4, 1376:7	accepted - 1263:13 access - 1285:21
8-21 - 1376:23	accessibility - 1180:19,
8-21-01 - 1376:4	1181:1, 1181:22, 1182:6, 1351:2
8-28 - 1176:4 8-28-01 - 1358:11	accident - 1314:7
8-30 - 1163:14, 1176:4	accommodate - 1360:24
8/30 - 1163:16, 1183:17	accordance - 1154:22,
87 - 1234:6, 1234:9, 1290:15	1173:24, 1371:20 accountabilities - 1200:25
88-04 - 1154:23	accounts - 1251:4,
8:30 - 1395:1	1252:1, 1300:19, 1325:22
8:35 - 1151:1 8th 1300:5 1300:11	accumulated - 1282:14
8th - 1300:5, 1300:11, 1302:19	accuracy - 1278:10, 1279:11, 1307:2, 1307:6,
	1364:18, 1365:21, 1392:10
	accurate - 1241:14,

1257:9, 1270:13, 1276:17, 1292:6, 1307:10, 1348:12, 1349:8, 1354:4, 1354:6, 1354:17, 1354:21, 1354:22, 1354:24, 1365:24, 1384:1, 1384:3, 1384:24, 1385:3, 1384:54, 1385:42 1385:8. 1385:12 accurately - 1273:7, 1378:3, 1390:25 achievable - 1382:13 Acid - 1154:21, 1165:4, 1165:13, 1165:22, 1166:1 1167:15, 1172:15, 1173:24, 1174:16, 1174:19 acid - 1154:23, 1155:1, 1155:5, 1155:6, 1158:9, 1167:2, 1168:22, 1168:24, 1172:17, 1173:17, 1174:5, 1202:23, 1203:9, 1207:18, 1207:19, 1207:23, 1348:20, 1352:4, 1352:9, 1352:25, 1386:6 Acrs - 1255:25, 1256:1, 1256:2, 1256:4, 1256:6, 1256:19, 1256:24, 1301:2, 1302:23 acted - 1278:15 Action - 1160:21, 1160:25 action - 1205:13, 1206:5, 1262:18, 1262:19, 1262:20, 1263:18, 1332:1, 1333:6 active - 1157:13, 1157:18, 1158:13 activities - 1198:19. 1200:1, 1200:18, 1219:10, 1262:22, 1263:11, 1272:22 activity - 1276:21, 1280:20 actual - 1216:1, 1268:9, 1274:24, 1282:11, 1376:11, 1388:22 add - 1268:7, 1352:3 1353:8, 1380:13, 1388:5, 1388:6 **added** - 1206:1, 1250:13, 1341:23, 1342:15, 1348:17, 1350:6, 1351:8, 1351:9, 1351:21, 1351:22, 1352:12, 1353:8, 1354:5, 1354:15 addition - 1202:9, 1210:21, 1221:12, 1238:19, 1250:20, 1268:7, 1275:20, 1331:22, 1356:18 additional - 1254:17 1254:23, 1257:2, 1338:25, 1342:2, 1358:22, 1360:22, 1361:4, 1387:16 address - 1175:21 1175:23, 1195:2, 1205:18, 1222:11, 1265:5, 1342:11, 1344:12, 1346:1, 1346:5 addressed - 1188:22 **adoresseu** - 1100.22, 1188:25, 1205:16, 1277:17, 1284:9, 1348:10, 1381:1 addressees - 1185:22 addressing - 1211:6, 1308:13, 1325:6, 1390:13, 1390:14 adds - 1226:16 adept - 1233:8 adequate - 1227:10, 1314:6, 1316:7 adhering - 1344:23 adjutants - 1231:19, 1231:22 admin - 1221:16 administration - 1196:3 admission - 1321:1 admit - 1206:19, 1252:10, 1261:18, 1303:5, 1347:5, 1362:6

admitted - 1151:21 1151:24, 1152:14, 1153:22, 1156:7, 1156:8, 1157:24, 1159:9, 1159:12, 1174:12, 1159:9, 1159:12, 1174:12, 1190:11, 1192:4, 1206:24, 1206:24, 1207:1, 1217:12, 1207:1, 1217:13, 1234:8, 1243:8, 1248:9, 1270:25, 1319:22, 1320:8, 1338:12, 1338:15, 1347:8, 1358:1, 1362:10, 1379:7, 1389:13 admittedly - 1220:17 admonitions - 1194:24 Adr - 1263:6 advance - 1228:21 Adverse - 1160:23 advise - 1231:19 advised - 1348:15 advisors - 1231:23, 1256.9 Advisory - 1256:5 advocating - 1343:13 affairs - 1210:17, 1312:4, 1361:2 Affairs - 1177:12, 1199:23, 1199:24, 1200:5, 1216:17, 1217:8, 1233:19, 1235:3, 1240:18, 1276:6, 1328:13, 1328:18, 1330:18, 1355:2, 1360:16, 1363:16, 1364:20, 1364:21, 1365:3, 1365:17, 1365:18, 1390:9, 1390:18, 1390:23, 1393:10, 1393:14 affect - 1319:17_ affected - 1168:7 afford - 1324:23 afforded - 1263:5, 1286:7 aftermath - 1164:14 afternoon - 1264:25, 1265:14, 1318:5, 1318:6, 1326:21, 1327:10, 1327:11, 1363:9 afterwards - 1163:18, 1170:10, 1177:18, 1254:5 age - 1213:19 **Agent** - 1368:22, 1369:4, 1369:16, 1369:23, 1370:4, 1370:9 aging - 1316:2 ago - 1160:17 agree - 1160:20, 1162:8, 1162:19, 1169:12, 1171:19, 1171:22, 1172:1, 1268:14, 1271:16, 1272:6, 1273:23, 1306:8, 1335:16, 1356:7, 1368:16, 1372:1, 1372:2 agreed - 1163:15, 1173:20, 1174:23, 1340:22, 1356:8, 1374:1 agreement - 1152:2 1152:4, 1152:13, 1153:2, 1163:3, 1173:22, 1174:10, 1191:19, 1261:11, 1262:14, 1263:16 ahead - 1169:24, 1174:8, 1268:15, 1287:20, 1346:12, 1351:1, 1352:23 aides - 1230:18, 1231:6, 1233:10, 1234:15 airplane - 1277:3 al - 1149:7 alarm - 1278:12 Alexandria - 1318:16 Allen - 1228:1, 1229:1, 1236:13, 1303:22 alleviating - 1228:18 allocated - 1214:11 allow - 1252.22, 1283:21 allowed - 1334:13 almost - 1193:5, 1201:20, 265:23

alone - 1238:6, 1284:18, 1291-24 already-set - 1300:23 alternate - 1218:19, 1242:7 alternates - 1218:16 Alvin - 1249:4 ambience - 1286:9 America - 1149:4 amount - 1167:18, 1167:19, 1210:7, 1215:7, 1227:10 amounts - 1202:7 analogous - 1310:18 analogy - 1310:16 Analyses - 1324:21 analysis - 1159:21. 1160:6, 1207:21, 1239:15, 1239:17, 1239:23, 1241:2, 1242:12, 1294:10, 1315:3, 1316:3, 1323:9, 1323:13 analyze - 1308:22 analyzed - 1241:9, 1315:25 Andrew - 1149:20 1151:18, 1191:21, 1202:17, 1202:24, 1203:10, 1204:3, 1202:24, 1203:10, 1204:3, 1230:1, 1242:24, 1244:11, 1245:9, 1247:15, 1247:19, 1263:25, 1264:1, 1268:22, 1268:23, 1272:7, 1282:8, 1282:21, 1289:14, 1297:10, 1298:3, 1299:13, 1302:11, 1302:21, 1305:4 1302:21, 1305:6, 1305:14, 1305:21, 1308:6, 1305:14, 1308:5, 1308:6, 1308:15, 1308:17, 1308:21, 1309:3, 1312:22, 1313:7, 1313:8, 1313:16, 1344:18, 1344:21 Andrew's - 1244:21, 1251:22, 1271:10, 1271:16, 1296:24, 1297:12, 1297:25, 1299:13 angles - 1245:21, 1245:23 angles - 1243.21, 1243.23, 1243.23, 1172:23, 1172:25, 1175:14, 1180:3, 1180:24, 1182:11, 1182:23, 1182:24, 1200:19, 1209:2, 1239:22, 1285:11, 1299:12, 1209:2, 1209:21, 1209:2 1289:13, 1302:6, 1302:19, 1303:7, 1314:2, 1314:9, 1317:14, 1362:1, 1370:7 1371:19, 1375:20, 1381:6, 1387:8 answerable - 1341:12 answered - 1220:10, 1227:5, 1277:13, 1340:25, 1341:13, 1341:18, 1341:21, 1378:2, 1378:23, 1378:25, 1380:7, 1380:9, 1380:17, 1380:25, 1381:7, 1381:9 answers - 1368:9 anticipate - 1260:14, 1366:20 anticipated - 1188:15 anticipating - 1156:9 Anyway - 1220:10 apart - 1226:15 apologize - 1165:9 1371:13, 1371:17, 1380:1 apology - 1379:11 appear - 1154:3, 1162:21, 1162:22, 1256:1, 1270:13, 1335:1, 1341:18, 1374:18 Appearances - 1149:12 appeared - 1299:6 appearing - 1256:12 appended - 1206:25 applied - 1211:25, 343:15, 1384:16

applies - 1212:22 apply - 1219:23, 1342:21 applying - 1310:16 appointed - 1231:17 appreciate - 1240:4 appreciated - 1305:20 approach - 1157:1, 1260:4, 1270:5, 1334:3 approached - 1333:9 appropriate - 1194:22 1217:9, 1235:14, 1277:16 appropriately - 1346:5, 1362:20 Approval - 1153:7 approval - 1332:19. 1356:3, 1360:5, 1372:3 approved - 1358:16, 1367:7, 1383:19 approves - 1307:4 **April** - 1154:9, 1154:20, 1155:11, 1224:2, 1225:6, 1226:1, 1270:12, 1329:16, 1351:25 area - 1166:22, 1166:24, 1167:23, 1168:2, 1168:5, 1168:7, 1170:17, 1171:2, 1197:7, 1202:25, 1203:14 1204:13, 1232:10, 1238:11, 1243:25, 1301:6, 1328:24, 1331:24, 1334:18, 1337:8, 1344:9, 1350:20, 1352:17, 1353:1, 1353:4 areas - 1200:10, 1213:8, 1213:24, 1283:14, 1348:17, 1349:10, 1349:15, 1355:10, 1384:19, 1392:6 argue - 1239:2 argument - 1189:19, 1193:16 argumentative - 1316:19 Arkansas - 1183:25. 1185:2, 1288:7, 1288:10 arranged - 1231:4. 1232:16 arrived - 1301:5 arrow - 1353:3, 1353:19, 1353:22 art - 1354:22 as-found - 1175:10, 1175:13, 1176:17, 1176:23, 1177:1, 1263:23, 1263:25, 1264:2, 1381:20, 1381:21, 1381:22, 1382:4, 1382:7, 1382:18, 1387:24 as-left - 1177:1, 1264:2 1381:17, 1381:20, 1382:14, 1382:18 as-low-as-reasonably -1382:12 ascertain - 1227:12 aside - 1279:15, 1337:7 aspect - 1225:14, 1239:25, 1240:7, 1277:15, 1300:19 aspects - 1225:25, 1259:2 assemble - 1227:12 assembled - 1222:4, 1283:11 assembling - 1373:17 assess - 1181:5 Assessment - 1239:7 assessment - 1252:23, 1257:9, 1276:1 assessments - 1317:9 assigned - 1178:4, 1178:6, 1178:12, 1218:17, 1288:4, 1289:6, 1331:10, 1360:3 assignment - 1188:16. 1233-15 assist - 1221:9, 1277:24,

1332:11

assistants - 1230:18, 1231:13, 1235:14, 1256:9, 1289:23, 1290:1, 1290:7, 1290:19, 1311:23, 1312:3, 1312:12, 1312:17 assisting - 1275:17 associated - 1226:17 Associates - 1159:2 **assume** - 1204:24, 1221:4, 1249:11, 1279:5, 1316:11 assumed - 1268:14, 1362:20 assumes - 1393:24 **assuming** - 1216:2, 1228:11, 1228:12 **assumption** - 1253:10, 1253:14, 1276:4 assumptions - 1216:15 assurance - 1236:18, 1238:25, 1307:7, 1310:21, 1324.23 attach - 1179:19, 1179:24 attached - 1319:25 attachment - 1151:16, 1151:19, 1340:1, 1364:17 Attachment - 1243:11, 1246:6, 1350:18, 1386:9 attempt - 1163:6, 1163:9, 1321:16, 1379:23 attempting - 1203:2 attend - 1320:5 attendance - 1325:13, 1361:8 attended - 1319:11, 1320.10 attendee - 1248:16 attendees - 1322:14 attending - 1319:18, 1322:2, 1322:3 attention - 1153:4 1153:18, 1153:25, 1154:5, 1156:13, 1156:20, 1158:1, 1158:16, 1159:15, 1159:23, 1185:16, 1159:16, 1212:1, 1218:1, 1246:6, 1271:9, 1278:17, 1284:16, 1291:3, 1220:10, 1220:10, 1220:25 1320:19, 1323:19, 1339:25. 1342:4, 1352:15, 1356:18, 1362:3, 1378:8 attentive - 1384:19 attorney - 1261:10, 1261:23, 1361:2, 1369:7 attributes - 1212:13, 1212:18, 1268:13 august - 1256:10 August - 1162:11 1162:12, 1175:5, 1191:7, 1163:3, 1193:9, 1214:19, 1214:25, 1215:14, 1215:15, 1216:9, 1218:20, 1218:21, 1276:2, 1331:7, 1331:17 1276:2, 1331:7, 1331:17, 1331:25, 1346:15, 1347:19, 1355:9, 1359:3, 1359:5 1382:21, 1382:22, 1383:17, 1383:22 authorized - 1218:18 avail - 1263:10 availability - 1225:17, 1279:20, 1280:7 available - 1226:21, 1319:14, 1388:16 Avenue - 1149:14, 1150:5 Avi - 1252:20, 1253:3, 1253.5 aware - 1161:25, 1166:11, 1193:8, 1209:13, 1214:22, 1259:9, 1282:10, 1323:24, 1330:19, 1331:5, 1331:12, 1336:12, 1337:15, 1351:19

B B&w - 1273:8 Babcock - 1273:8 bachelor - 1328:4 background - 1196:11, 1198:1, 1198:10, 1214:1, 1231:21, 1233:19, 1238:24, 1242:10, 1250:4, 1327:22, 1328:3, 1373:14 backgrounds - 1314:2 backup - 1329:24 bad - 1293:24 Ballantine - 1149:16. 1194:12, 1195:5, 1195:7, 1195:12, 1195:5, 1195:7, 1195:12, 1205:3, 1206:19, 1207:3, 1234:7, 1234:10, 1234:12, 1246:2, 1246:3, 1255:9, 1260:12, 1260:17, 1260:24, 1264:17, 1264:19, 1268:18, 1270:24, 1272:23, 1272:20, 1270:14, 1272:23, 1273:20, 1279:19, 1281:12, 1290:15, 1291:3, 1296:4, 1298:5, 1302:14, 1302:25 1298:5, 1302:14, 1302:25, 1304:15, 1304:24, 1305:24, 1306:21, 1306:22, 1306:25, 1317:20, 1327:4, 1327:9, 1335:11, 1335:22, 1338:11, 1338:17, 1340:11, 1340:15, 1347:5, 1347:9, 1347:13, 1357:24, 1358:2, 1362:5, 1362:11, 1368:15, 1370:13, 1371:10, 1372:12, 1372:19, 1376:2, 1379:8, 1379:18, 1376:2, 1379:8, 1379:18, 1382:23, 1389:7, 1389:10 1389:14, 1389:15, 1389:24, 1390:2, 1393:3, 1393:24, 1396:11, 1396:16, 1396:20, 1396:24 balloon - 1342:24, 1343:16, 1345:9 balloons - 1342:2 **bar -** 1219:22, 1260:23, 1335:21 bare - 1180:20, 1181:1, 181:23, 1182:8, 1351:2 bargain - 1336:9 barred - 1262:22 barriers - 1305:16, 310:22 Based - 1176:15, 1266:7, 1267:4, 1304:12, 1314:3, 1391:2 **based** - 1179:16, 1206:12, 1250:25, 1271:12, 1291:19, 1291:20, 1292:15, 1299:13, 1310:5, 1324:22, 1329:18, 1353:11, 1254:4 1353:11, 1354:4 **baseline** - 1237:13, 1237:14, 1238:12, 1238:13, 1238:24, 1239:14, 1240:14, 1250:16, 1257:10, 1306:1, 1316:4, 1316:6, 1317:2 bases - 1348:19, 1350:1, 1350:3 basic - 1232:17 basis - 1227:13, 1228:10, 1235:16, 1236:19, 1247:10, 1258:5, 1260:18, 1267:16, 1285:4, 1285:7, 1285:8, 1285:22, 1298:6, 1307:11, 1349:20, 1353:12, 1386:1 Basis - 1267:18, 1267:21, 1268.2

basket - 1355:18

bear - 1167:6

1382:5, 1388:2

axial - 1211:19

bearing - 1181:9, 1378:15 Beaver - 1197:12, 1198:2 became - 1160:24, 1161:6, 1161:7, 1177:18, 1197:12, 1199:19, 1200:5, 1201:12, 1225:6, 1279:22, 1282:1, 1336:12 become - 1161:3, 1161:9, 1214:21, 1250:22, 1279:24, 1331:5 becomes - 1173:8, 1334:19 becoming - 1362:2 began - 1323:8 begin - 1324:5 beginning - 1189:11, 1215:15, 1287:12, 1379:22 begins - 1323:10, 1377:20 behalf - 1363:9 behave - 1277:7 behavior - 1277:5 belief - 1207:22, 1207:24, 1209:9, 1264:15, 1285:5, 1307:7 beliefs - 1231:6 below - 1341:18, 1341:21, 1378:23, 1380:7, 1388:5 bench - 1187:19, 1187:23, 1187:25, 1192:10, 1192:12, 1334:5 benefit - 1306:13 **besse** - 1154:9, 1158:21, 1161:1, 1161:4, 1173:23, 1177:18, 1195:19, 1195:23, 1197:6, 1197:8, 1197:24, 1198:1, 1198:9, 1198:16, 1199:7, 1199:10, 1200:24, 1201:7, 1202:14, 1206:4, 1208:24, 1211:23, 1211:25, 1216:6, 1217:4, 1219:15, 1220:22, 1220:23, 1221:1, 1222:6, 1225:2, 1237:6, 1239:2, 1249:25, 1254:14, 1254:23, 1256:25, 1257:12, 1259:6, 1263:8, 1269:24, 1273:12, 1284:18, 1284:22, 1285:3, 1285:5, 1286:21, 1307:24, 1312:2, 1312:22, 1316:16, 1318:25, 1312:2, 1319:19, 1323:24, 1325:10, 1327:19, 1327:20, 1327:25, 1328:6, 1328:21, 1329:22, 1330:4, 1332:19, 1358:24, 1359:11, 1362:13, 1363:12, 1364:3, 1388:14 besse's - 1323:19, 1324:21 best - 1171:25, 1219:23, 1226:8, 1293:1, 1307:10, 1316:21, 1337:17, 1344:22, 1357:17, 1384:6 **better** - 1222:10, 1288:1, 1292:8, 1296:21, 1304:10, 1310:7, 1342:19, 1343:14, 1363:25, 1376:11, 1380:5 Better - 1327:14, 1343:6, 1344:6, 1381:4 between - 1166:13 1173:9, 1182:16, 1201:8, 1201:17, 1211:1, 1224:20, 1230:1, 1230:11, 1230:15, 1237:10, 1253:11, 1262:14, 1263:16, 1264:2, 1264:5, 1264:10, 1280:19, 1287:1, 1298:17, 1301:4, 1312:9, 1320:3, 1336:9, 1346:16, 1352:3, 1359:2, 1374:15, 1321:11, 1291:26 1381:11, 1381:25 beyond - 1220:19, 1239:20, 1254:21

biased - 1335:20 big 1199:9, 1199:12, 1216:25, 1219:16, 1219:24, 1220:10, 1224:14, 1231:7, 1238:23, 1250:22, 1253:24, 1254:11, 1277:2, 1277:4, 1284:4, 1284:5, 1314:4, 1314:14 bigger - 1173:7 biggest - 1201:25 bill - 1196:19 bit - 1198:1, 1214:18, 1225:8, 1252:13, 1306:3, 1374:23 black - 1340:9 block - 1218:1, 1218:2, 1218:3, 1218:4, 1218:6, 1218:11, 1352:14, 1357:19, 1357:21, 1358:6 blocks - 1217:25 blurs - 1258:3 Board - 1160:18, 1160:21, 1160.25 board - 1160:25, 1161:6, 1170:5, 1207:10, 1208:21 Bob - 1220:14, 1220:16, 1222:22, 1222:24, 1359:13 body - 1256:10, 1349:15 boiled - 1201:11, 1201:12 boilers - 1201:15 boiling - 1201:6, 1202:2, 1202:4 book - 1320:11, 1320:14 Boric - 1154:21, 1165:4, 1165:13, 1165:22, 1166:1 1167:15, 1168:24, 1172:15, 1173:24, 1174:16, 1174:19, 1352.25 boric - 1154:23, 1155:1, 1155:5, 1155:6, 1167:2, 1168:22, 1172:16, 1173:17, 1174:5, 1202:22, 1202:23, 1203:9, 1207:18, 1207:19, 1207:23, 1348:20, 1352:9, 1386:6 boron - 1155:11, 1157:10. 1158:8, 1167:18, 1167:19, 1167:23, 1171:24, 1172:4, 1202:9, 1202:18, 1203:9, 1205:24, 1208:16, 1236:22, 1237:9, 1237:11, 1237:19, 1244:5, 1244:6, 1245:24, 1291:5, 1295:19, 1298:25, 1299:5, 1324:8, 1325:17, 1326:7, 1343:25, 1344:22, 1348:14, 1354:7 boroscope - 1251:15 boss - 1169:12, 1169:18, 1222:9, 1230:11 bothered - 1306:12 bottom - 1156:16, 1165:7, 1165:16, 1167:17, 1168:18, 1170:13, 1186:15, 1186:19, 1186:20, 1198:21, 1208:5, 1221:20, 1344:1, 1349:11, 1372:4, 1381:4, 1385:25, 1388:5 bound - 1320:9 boundary - 1154:24 Box - 1149:17 box - 1166:2, 1337:6, 1337:16 boxes - 1336:17, 1337:3 break - 1152:11, 1174:6, 1194:23, 1195:3, 1217:7, 1225:8, 1264:22, 1264:23, 1264:25, 1326:19, 1326:21, 1327:1, 1356:16, 1356:24, 1394.17

breaks - 1356:9, 1356:15

Brian - 1220:14 bridge - 1360:23 brief - 1230:11 brief - 1230:11 briefing - 1237:2, 1281:20 Briefly - 1210:8 briefly - 1260:4 bring - 1153:18, 1204:18, 1210:13, 1210:19, 1217:17, 1243:9, 1246:13, 1254:8, 1272:18, 1242:10, 1262:22 1273:18, 1313:10, 1362:23 bringing - 1177:10, 1198:3, 1277:24, 1301:14, 1302:21 brings - 1334:25 broad - 1248:6 broader - 1206:13, 1210:22 broken - 1211:7, 1305:23, 1328:25 broomstick - 1179:24 brought - 1177:2, 1204:23, 1205:21, 1212:1, 1212:5, 1221:9, 1228:22, 1228:24, 1267:25, 1268:13, 1268:23, 1269:3, 1283:3, 1302:11, 1302:14, 1305:5 1308:7, 1312:22, 1330:17 bubble - 1342:22, 1352:7, 1353:2, 1353:4, 1353:18, 1353:22, 1378:22, 1380:15, 1380:23 bubbles - 1202:7 buck - 1263:14 Building - 1304:23 building - 1304:23 building - 1279:17, 1280:2 buildup - 1167:23 bullet - 1251:3, 1324:3 **bulletin** - 1180:10, 1185:19, 1186:3, 1187:15, 1188:9, 1188:12, 1188:14, 1188:19, 1188:23, 1188:25, 1189:6, 1192:24, 1193:3, 1193:8, 1214:19, 1214:21 1214:22, 1214:24, 1214:25, 1215:1, 1215:2, 1215:3, 1215:6, 1215:8, 1215:10 1215:13, 1215:19, 1215:21, 1215:23, 1215:24, 1216:2, 1216:4, 1216:13, 1217:15, 1219:2, 1219:7, 1220:4, 1220:7, 1229:8, 1235:20 1241:16, 1241:24, 1274:18, 1275:23, 1279:6, 1303:9, 1303:10, 1308:12, 1319:5, 1319:8, 1320:12, 1323:19, 1330:14, 1330:20, 1330:22, 1330:25, 1331:5, 1331:14, 1331:15, 1331:22, 1332:4, 1332:8, 1332:15, 1333:6, 1333:9, 1333:10, 1333:13 1333:17, 1333:19, 1340:20, 1345:4, 1350:20, 1350:22, 1360:13, 1361:15, 1361:17, 1362:13, 1365:11, 1365:22, 1366:2, 1366:16, 1366:17, 1372:0: 1372:12, 1372:14 1373:9, 1373:13, 1373:18, 1378:1, 1383:3, 1383:7, 1392:12 Bulletin - 1162:12 bulletins - 1323:18, 361:19 bunch - 1220:7, 1254:16, 1278:23 busily - 1289:15 business - 1196:14, 1197:16, 1210:20, 1210:21, 1231:20, 1270:17, 1289:15 busy - 1355:23, 1366:2 buying - 1226:17 Bwr - 1201:6, 1201:10

1202:6, 1202:7 Byrd - 1248:24, 1323:10 C calculation - 1310:1 calculations - 1159:17, 1309:11, 1310:19 Calculations - 1159:20 calendar - 1216:10 calibrated - 1230:4 callers - 1360:25 camera - 1179:20, 1251:16, 1252:6 Campbell - 1203:13 Campbell - 1203:13, 1220:13, 1220:17, 1222:20, 1223:12, 1223:25, 1226:25, 1227:20, 1230:24, 1232:25, 1234:23, 1240:25, 1242:7, 1269:7, 1273:25, 1274:4, 1279:14, 1285:7, 1290:4, 1330:12, 1330:17, 1359:18 compared 1202:9 camper - 1302:8 cannot - 1169:7, 1183:21, 1191:20, 1322:14, 1323:7, 1325:10, 1348:20, 1371:18, 1386:7, 1390:20 capabilities - 1206:12 capable - 1214:7, 1221:10, 1233:18, 1253:1, 1253:22, 1268:1, 1307:9 capacities - 1196:8 capitalized - 1384:5 caption - 1157:9 capture - 1290:23 captured - 1339:21 car - 1208:25, 1213:16 Carb - 1160:24, 1160:25 carbon - 1154:23, 1191:6 carbon-copied - 1191:6 career - 1318:22 careful - 1287:5, 1297:5, 1317:14, 1317:18 carefully - 1394:25 Carl - 1304:22 carried - 1173:23 case - 1176:29, 1194:24, 1195:3, 1215:16, 1259:12, 1261:1, 1263:17, 1264:5, 1265:2, 1265:3, 1265:6, 1304:10, 1326:22, 1326:25, 1329:25, 1335:8, 1341:10, 1365:24, 1394:20, 1394:21, 1394:24 catch - 1316:22, 1357:3 catching - 1356:6 caught - 1284:15 causes - 1212:11 cavalier - 1280:14 caveat - 1324:6 cavity - 1304:19, 1305:19, 1306:16 Cei- 1196:23 center - 1182:17, 1203:24, 1352.25 centered - 1253:25 Centerior - 1196:23 central - 1203:23, 1207:11 **certain** - 1204:9, 1214:18, 1225:18, 1226:9, 1226:21, 1234:7, 1264:3, 1270:3, 1284:11, 1291:17, 1323:7, 1349:23 **Certainly**- 1195:17, 1202:15, 1211:1, 1214:24, 1220:25, 1224:15, 1226:14, 1227:7, 1273:14, 1294:5, 1296:2, 1316:10, 1385:15 certainly - 1202:10, 211:6, 1212:22, 1214:4

1214:7, 1215:18, 1219:14, 1220:12, 1222:13, 1222:21, 1224:1, 1224:23, 1225:23, 1226:2, 1226:7, 1228:16, 1228:18, 1231:4, 1231:9, 1231:25, 1233:20, 1235:4, 1231:25, 1233:20, 1235:4, 1235:16, 1235:19, 1239:16, 1241:5, 1242:11, 1242:13, 1245:5, 1249:1, 1249:4, 1259:2, 1259: 1253:6, 1254:20, 1256:20 1257:14, 1257:17, 1259:17, 1262:6, 1262:10, 1264:11, 1268:6, 1268:17, 1274:16, 1279:10, 1279:22, 1295:9, 1298:18, 1300:10, 1304:24, 1312:11, 1313:17, 1316:2, 1316:5 certainty - 1322:15, 1324:18, 1325:10, 1330:8 certify - 1395:7 cetera - 1334:13 Cfr - 1354:23 chain - 1198:15, 1307:4 challenge - 1206:13, 1212:3, 1223:22, 1268:15, 1272:8 challenged - 1242:22 challenging - 1188:7, 1354:20 chance - 1254:8, 1259:3, 1261:2, 1261:3, 1355:24 change - 1199:14, 1209:8, 1292:3, 1292:15, 1294:10, 1394:4 changed - 1159:18, 1198:3, 1238:6, 1241:5, 1262:2, 1349:25, 1370:23 changes - 1159:19, 1199:22, 1200:19, 1249:21, 1340:18, 1390:22 changing - 1209:5 channeled - 1249:12 character - 1286:4, 1309:8 characterization - 1190:7, 1258:24, 1280:21, 1301:25, 1317:17 characterized - 1211:16, 1303.20 characters - 1283:23 charge - 1196:2, 1198:24 charged - 1336:2 chartered - 1287:1 cheap - 1226:14 check - 1170.4, 1289:12, 1289:17, 1296:24, 1297:1, 1297:24, 1307:9, 1307:15, 1340:24, 1370:23, 1385:6 checked - 1216:10 checking - 1293:15 Chevalier - 1149:20 Chief- 1359:13 chief - 1197:8, 1220:14, 1235.2 Christmas - 1224:24 Christmastime - 1224:4 circ - 1235:23, 1254:9, 1313:14 circle - 1296:5, 1350:9 circled - 1342:4, 1344:1, 1344:3 circles - 1342:2 circular - 1211:17 Circumferential - 1273:15 circumferential - 1211:17, 1223:14, 1256:16, 1273:13, 1273:21, 1274:2, 1314:15, 1373:12 circumstance - 1261:4 circumstances - 1218:13, 1218:15, 1260:25, 1263:1

1346:10, 1347:17, 1347:18, 1375:16, 1375:19, 1375:21, 1388:23, 1392:19 **city** - 1318:9, 1318:11, 1318:15 civil - 1328:4 clarification - 1323:12 clarified - 1382:19 clarify - 1260:15 clarifying - 1163:15 clarity - 1365:4, 1390:11 classroom - 1356:17 clean - 1179:23, 1191:20, 1202:18, 1203:18, 1264:13, 1269:17, 1295:21, 1317:6, 1343:23, 1345:11, 1345:16, 1353:20 cleaned - 1158:12, 1203:2, 1207:20, 1207:25, 1208:12, 1207:20, 1207:25, 1208:12, 1208:15, 1272:7, 1295:14, 1295:23, 1305:13, 1345:19, 1354:1, 1354:3, 1382:10 cleaning - 1157:13, 1191:23, 1203:2, 1204:8, 1207:19, 1208:17, 1269:4 1305:16, 1343:17, 1343:22, 1380:23, 1380:24 cleanliness - 1343:24 Clear- 1193:10 clear - 1158:13, 1164:13, 1170:12, 1176:7, 1244:25, 1246:25, 1269:16, 1289:25, 1292:13, 1295:20, 1297:16, 1302:21, 1343:12, 1348:13 clearly - 1189:10, 1262:7 clerk - 1195:9, 1318:1, 1327:6 Cleveland - 1196:20 1264:14, 1304:23, 1316:25 clients - 1319:15 clock - 1305:25 close - 1286:1 closed - 1169:6 closer - 1223:4 closing - 1189:19 clues - 1247:3 clutter - 1337:1 code - 1303;11 codes - 1303:6, 1303:7 codings - 1210:23 coefficient - 1202:8 colleagues - 1166:4. 1267:23 collectively - 1272:21 college - 1196:19 color - 1210:23, 1340:6 column - 1246:9, 1252:9 combing - 1176:6, 1183:4 coming - 1176:6, 1188:10, 1188:12, 1188:24, 1193:8, 1202:24, 1203:6, 1218:25, 1220:1, 1236:7, 1240:3, 1245:24, 1275:11, 1287:24, 1311:24, 1319:12, 1324:1, 1351:22, 1355:12 Commenced - 1151:1 comment - 1163:11, 1163:13, 1170:7, 1170:9, 1170:11, 1170:16, 1171:1 1175:18, 1175:22, 1175:23, 1332:25, 1333:1, 1333:3, 1343:3, 1343:5, 1344:4, 1344:6, 1351:21, 1353:23, 1353:24, 1354:13, 1362:24, 1366:21, 1375:7, 1377:3, 1380:6, 1387:17 comment/change -1348:15 commentary - 1383:2 commenting - 1189:5

comments - 1179:1 1179:5, 1336:18, 1338:8, 1338:9, 1340:19, 1342:2, 1344:12, 1345:3, 1345:6, 1346:6, 1347:3, 1348:1, 1348:5, 1348:6, 1348:7, 1348:8, 1348:10, 1348:17, 1349:11, 1349:15, 1355:9, 1362:23, 1366:18, 1366:24, 1374:5, 1374:23, 1374:24, 1375:8, 1375:13, 1375:18, 1375:24, 1375:25, 1376:7, 1376:22, 1377:2, 1377:6, 1377:12, 1377:13, 1377:21, 1378:15, 1382:21, 1383:5, 1383:7, 1383:25, 1387:25, 1388:11, 1390:13, 1390:14, 1390:19, 1391:3, 1391:5, 1391:25, 1392:1, 1393:11 commercial - 1201:2. 1201.4 Commission - 1319:12, 1367:21 commissioned - 1221:4 Commissioner - 1274:13, 1274:15 commissioner - 1329:17, 1329:20, 1330:1, 1330:3 commissioners - 1231:16 commissioners' 1231:12, 1289:22 commit - 1191:18, 1309:5 commitment - 1229:3, 1229:5, 1229:7, 1239:5, 1240:4, 1286:17, 1364:17 commitments - 1254:15 Committed - 1324:3 committed - 1228:20 1247:23, 1253:11, 1286:11 Committee - 1214:3, 1214:8, 1256:5, 1272:24, 1273:2 committee - 1211:2 1214:9, 1214:11, 1234:4, 1273:3 common - 1202:9, 1385:4, 1388:17 communicate - 1227-13 1230:24, 1238:5, 1263:8, 1274:5, 1286:10, 1298:22, 1302:16, 1307:12, 1308:5, 1309:12, 1312:2, 1313:4 communicated - 1169:14, 1213:25, 1224:3, 1227:9, 1231:1, 1237:13, 1241:9, 1247:7, 1251:11, 1263:20, 1286:9, 1293:25, 1294:15, 1294:23, 1295:17, 1307:19, 1312:8 **communicating** -1228:14, 1231:6, 1244:16, 1286:7, 1307:10, 1307:12, 1309:19, 1329:1, 1329:2 communication - 1217:2, 1309:16, 1390:4 communications -1201:21, 1291:20, 1361:16, 1363:13, 1364:3 companies - 1196:22 company - 1197:15, 1197:25, 1357:1, 1359:14, 1361:2 company's - 1339:23, 1341:25, 1384:5 compare - 1305:2 compared - 1201:15. 1212.9 comparing - 1315:4 competence - 1289:2, 1289:3

compiling - 1288:2 complete - 1185:1, 1292:22, 1293:3, 1293:4, 1348:12, 1349:8, 1354:18, 1354:20, 1354:22, 1354:24, 1354:12, 1259:21, 1255:24 1357:18, 1358:21, 1365:24, 1384:1, 1384:3, 1384:24, 1385:3, 1385:8, 1385:12 completed - 1268:4, 1336:5, 1367:3, 1380:12 completely - 1158:12, 1168:24, 1172:3, 1378:3 Completely - 1168:25 completeness - 1180:13, 1348:18, 1349:19, 1364:18, 1365:4, 1384:20, 1390:11, 1390:13, 1390:15, 1390:16, 1392:10 completing - 1340:22 completion - 1208:16 Compliance - 1327:24, 1328.14 compliance - 1170:6. 1219:21, 1328:9, 1329:3, 1329:6, 1332:12, 1366:11 complimentary - 1205:25 comply - 1175:3 component - 1167:3, 1167:19, 1305:23 components - 1154:24, 1288:15 comprehensive - 1228:7, 1252:23 comprised - 1162:1 computer - 1242:20, 1253:1, 1253:7, 1340:12 computers - 1233:8 conceal - 1163:7, 1163:9, 1294:6 Concern - 1385:25 concern - 1184:7 1184:20, 1241:6, 1241:8, 1349:7, 1392:7 concerned - 1169:9, 179:1, 1179:4, 1192:15, 1223:25, 1285:20, 1344:5, 1349:18, 1349:19, 1350:6 concerning - 1220:6 concerns - 1176:25, 1279:11, 1284:19, 1284:20, 1332:3, 1359:23 conclude - 1292:8. 1302:18 concluded - 1254:22 concluding - 1354:17, 1354:19 conclusion - 1169:19, 1239:5, 1241:5, 1247:6, 1292:7, 1345:25 conclusions - 1298:23. 1307:18 concurred - 1366:14, 1366:15, 1373:8 concurrence - 1171:14, 1364:19 concurrences - 1370:12 Condition - 1155:10, 1160:18, 1160:23, 1160:25, 1169:5, 1170:2, 1205:12, 1205:17, 1206:3, 1206:7, 1206:17, 1212:3, 1345:17 condition - 1175:11, 175:13, 1176:17, 1176:23, 1201:24, 1209:5, 1238:20, 1251:20, 1306:5, 1345:24, 1349:9, 1353:13, 1381:17, 1381:20, 1381:22, 1382:4, 1382:7. 1382:14 conditions - 1261:5 conducted - 1154:20,

1154:21, 1357:13, 1357:15 conduit - 1240:21 conference - 1254:12, 1355:14, 1360:19 confidence - 1225:1 1244:23, 1245:7, 1311:6, 1316:7 confident - 1303:19, 1324:13, 1324:15 configuration - 1186:14 confirm - 1368:25, 1369:4, 1369:5 conflict - 1332:25 conflicts - 1332:22 conformance - 1170:21, 1171:6 confounded - 1285:9 confused - 1295:21 confusion - 1329:11 congress - 1214:13, 1290:9 Congressional - 1232:12 connected - 1213:20 connotations - 1303:12 **Conroy** - 1150:2, 1151:23, 1159:11, 1163:25, 1164:1, 1164:4, 1164:5, 1171:9, 1171:10, 1173:3, 1174:8, 1174:9, 1178:24, 1179:3, 1180:7, 1180:8, 1185:4, 1185:11, 1186:8, 1194:5 1194:6, 1306:20, 1326:16, 1338:13, 1347:7, 1362:8, 1363:8, 1363:9, 1363:21, 1363:25, 1364:1, 1364:9 1364:11, 1367:25, 1368:4, 1368:6, 1368:12, 1368:14, 1368:16, 1368:20, 1368:21, 1370:15, 1370:20, 1371:12, 1371:17, 1371:18, 1371:22, 1371:25, 1372:14, 1372:21, 1372:23, 1375:23, 1376:3, 1376:30, 1376:20, 1376:31 1376:18, 1376:20, 1376:21, 1378:12, 1378:14, 1379:12, 1379:15, 1379:17, 1380:2, 1382:24, 1386:20, 1386:21, 1389:1, 1389:4, 1390:6, 1391:9, 1393:4, 1393:7, 1394:4, 1394:6, 1394:12, 1396:7, 1396:22, 1397:2 Conroy's - 1193:20 consequence - 1224:13 consequences - 1239:24 conservative - 1171:14 conservatively - 1316:11 conservatively-sized -1316:11 considerable - 1309:6 considerations - 1226:3 considered - 1246:24 considering - 1213:15 consistent - 1198:6, 1208:21, 1251:8, 1339:4 constitute - 1207:23 constructing - 1298:4 construction - 1276:11, 1286:24, 1289:10 consult - 1166:1 consultant - 1177:18 1318:18, 1318:19, 1332:11 consultants - 1322:12, 1329:18 consulting - 1318:20, 1319:8 Consumers - 1328:1 contact - 1196:12, 1259:12, 1259:15, 1259:17, 1328:22, 1360:1, 1360:8, 1360:11, 1360:12, 1360:14

contacted - 1328.24

1330:23 contain - 1320:18 contained - 1167:6 1168:16, 1336:17, 1349:2, 1371:8 containing - 1364:16 contains - 1164:20 content - 1205:5, 1205:10, 1365:4, 1390:10, 1390:13 contentious - 1286:6 contest - 1262:24 context - 1338:6, 1370:16 contingency - 1188:13, 1226:21 continuation - 1165:10 continue - 1203:13. 1204:16, 1254:6 Continued - 1151:4, 1188:11, 1396:2 continued - 1220:19, 1254:21 continuing - 1182:3 contrast - 1228:11 contribute - 1217:10 contributed - 1212:13, 1212:18, 1228:17 contributor - 1307:11, 1307:23, 1308:13 contributors - 1198:18 **Control** - 1154:22, 1165:4, 1165:13, 1165:22, 1166:1, 1167:15, 1172:16, 1173:25, 1174:16, 1174:20 control - 1155:5, 1179:17, 1197:2, 1201:20, 1202:3, 1202:9, 1205:19, 1206:9, 1210:14, 1211:12, 1211:18, 1314:7, 1329:15, 1329:19 controlled - 1202:6, 1202:7 controls - 1202:10. 1363:12 conversation - 1279:14. 1279:16, 1280:5, 1284:8, 1296:25, 1297:17, 1298:3, 1298:7, 1311:9, 1311:17, 1345:1, 1358:12 conversations - 1261:22, 1276:14, 1276:15, 1289:20, 1296:7, 1351:19, 1354:4 converting - 1308:19 convey - 1237:19 convinced - 1163:18 Cook - 1150:1, 1151:13 1151:17, 1151:18, 1164:5, 1175:16, 1175:25, 1177:2, 1177:14, 1177:17, 1177:23, 1178:2, 1178:7, 1178:14, 1178:19, 1178:20, 1178:22, 1178:19, 1178:20, 1178:22, 1184:21, 1194:11, 1194:12, 1215:17, 1216:20, 1274:25, 1332:9, 1332:10, 1332:11 1332:13, 1334:15, 1338:10, 1338:23, 1339:8, 1344:12, 1345:2, 1346:3, 1346:21, 1347:15, 1348:1, 1348:9, 1355:7, 1355:15, 1355:16, 1358:13, 1362:19, 1363:10, 1366:6, 1366:12, 1366:20, 1371:2, 1372:24, 1373:14, 1373:23, 1374:24, 1375:12, 1375:24, 1376:23, 1378:4, 1381:12, 1381:25, 1382:20, 1383:10, 1384:8, 1384:19, 1385:6, 1385:13, 1391:3, 1392:25, 1393:19, 1394:7 Cook's - 1177:5, 1337:4, 1365:21

coolant - 1314:7

cooperated - 1152:21

1152:24, 1262:16 cooperating - 1153:2, 1334:23 cooperative - 1163:4 coordinate - 1331:11, 1355:11, 1360:4 coordinates - 1328:10 copied - 1188:21, 1188:25, 1191:6, 1320:9 copies - 1320:13, 1362:14, 1367:25 copy - 1154:3, 1156:24 1164:14, 1194:12, 1270:13, 1326:9, 1336:17, 1338:19, 1340:6, 1347:2, 1349:3, 1349:4, 1355:21, 1357:4, 1357:6, 1357:9, 1363:19, 1363:23, 1376:11, 1380:4 corner - 1156:21, 1156:23, 1208:5 corporate - 1211:9 corporations - 1198:20 Correct - 1153:3, 1153:14, 1158:14, 1160:1, 1161:12, 1185:25, 1267:19, 1269:11, 1352:19, 1366:3, 1366:5, 1366:22, 1367:2, 1367:10, 1367:12, 1367:14, 1369:9, 1369:15, 1369:19, 1369:22, 1373:3, 1374:4, 1377:18, 1377:22, 1378:5, 1382:15, 1384:22, 1386:2, 1387:19, 1387:23, 1388:1, 1390:5, 1390:12, 1393:18 correct - 1151:14 1152:17, 1153:2, 1153:10, 1153:13, 1154:13, 1154:16, 1155:17, 1157:7, 1157:24, 1158:6, 1158:23, 1160:3, 1160:9, 1161:1, 1161:4, 1161:19, 1162:6, 1162:16, 1163:10, 1163:21, 1165:5, 1169:19, 1173:5, 1173:14, 1177:3, 1186:3, 1186:6, 1189:16, 1191:7, 1191:14, 1191:24, 1217:15, 1218:10, 1238:7, 1240:23, 1250:12, 1250:14, 1252:7, 1265:20, 1265:22, 1266:2, 1269:7, 1269:8, 1269:13, 1269:19, 1270:4, 1272:16, 1272:17 1273:13, 1274:13, 1274:19, 1274:23, 1275:7, 1275:15, 1276:13, 1276:15, 1276:20, 1277:20, 1279:7, 1279:13, 1281:16, 1281:17, 1281:19, 1282:6, 1282:12, 1284:24, 1285:2. 1285:13. 1286:19. 1286:21, 1286:22, 1286:25, 1287:11, 1288:3, 1288:8, 1288:11, 1288:21, 1290:19, 1290:20, 1291:12, 1291:16, 1291:17, 1292:4, 1292:15, 1292:16, 1292:23, 1293:10, 1294:12, 1296:16, 1297:2, 1297:9, 1297:16, 1298:14, 1299:4, 1299:11, 1300:7 1304:17, 1305:19, 1307:16, 1314:18, 1315:18, 1324:12, 1328:19, 1329:3, 1329:10, 1341:1, 1347:24, 1350:12 1350:17, 1350:24, 1363:16, 1363:17, 1364:10, 1364:23, 1364:25, 1365:5, 1365:6, 1365:15, 1365:20, 1366:7, 1366:19, 1366:21, 1367:21, 1372:25, 1374:7, 1375:2, 1375:19, 1375:21, 1376:24, 1376:25, 1377:8, 1378:7,

1381:10, 1382:14, 1383:3

1383:4, 1383:11, 1383:20, 1383:21, 1384:15, 1386:5, 1386:12, 1386:25, 1388:4, 1388:8, 1391:1, 1391:19, 1395.7 corrected - 1241:18, 1384:7 corrections - 1391:23 corrective - 1205:13, 1206:5 Corrective - 1160:21 **correctly** - 1339:21, 1362:21, 1364:14, 1378:2 correlate - 1246:25. 1251:24 correlated - 1246:20 corresponded - 1339:3 correspondence -1336:18, 1364:16, 1364:20, 1365:3, 1390:10 corroborated - 1179:2 Corrosion - 1154:22. 1165:4, 1165:13, 1165:22, 1166:1, 1167:15, 1172:16, 1173:24, 1174:16, 1174:20 corrosion - 1154:23, 1155:2, 1155:5, 1155:6, 1157:14, 1168:9, 1197:14, 1207:24, 1306:1 **cost** - 1224:23, 1225:8, 1226:10, 1226:11, 1279:20, 1280:7 costly - 1225:14 counsel - 1337:22 count - 1310:11 counted - 1188:22, 1242:9 **couple** - 1161:17, 1213:1, 1216:10, 1218:21, 1228:4, 1263:22, 1267:4, 1283:6, 1300:24, 1333:16 course - 1152:13, **course** - 1152:13, 1171:18, 1270:17, 1312:17, 1318:22, 1325:9, 1360:20 **Court** - 1149:1, 1150:5, 1151:2, 1151:22, 1151:24, 1152:10, 1153:23, 1156:8, 1157:3, 1159:12, 1160:12, 1162:25, 1170:23, 1173:1 1163:25, 1170:23, 1173:1, 1174:6, 1178:25, 1185:6, 1187:20, 1188:1, 1188:3, 1188:17, 1189:2, 1189:13, 1189:15, 1189:21, 1189:24, 1190:8, 1190:16, 1190:18, 1190:20, 1190:24, 1192:13, 1193:6, 1193:17, 1193:19, 1194:2, 1194:4, 1194:14, 1194:21, 1195:5, 1205:2, 1205:11, 1206:23, 1207:7, 1234:9, 1234:11, 1255:7, 1260:21, 1264:22, 1264:23, 1265:10, 1270:23, 1270:25, 1272:13, 1290:11, 1298:9, 1306:21, 1317:16, 1317:23, 1321:14, 1322:9, 1325:18, 1326:17, 1326:20, 1327:3, 1334:6, 1334:14, 1334:21, 1335:10, 1335:14, 1338:6, 1338:15, 1347:8, 1347:11, 1358:1, 1362:7, 1362:10, 1363:4, 1364:10, 1368:3, 1368:19, 1370:17, 1371:11, 1371:18, 1371:24, 1372:16, 1376:17, 1376:19, 1378:11, 1379:6, 1379:10, 1379:14, 1379:16, 1379:18, 1379:20, 1389:3, 1389:6, 1389:13, 1389:23, 1394:2, 1394:5, 1394-13 court - 1195:16, 1327:16 Court's - 1193:12, 1246:2

1264:17, 1389:1 courtroom - 1216:23 cover - 1294:3, 1347:14, 1348:4, 1348:5, 1384:18 covered - 1243:25 1271:11, 1310:10, 1320:10, 1383.7 covering - 1279:19 Cr - 1208:20, 1345:17 Crack - 1253:25 crack - 1224:10, 1228:11, 1235:23, 1238:23, 1248:5, 1250:22, 1284:4, 1287:13, 1287:15, 1313:18, 1313:22, 1314:4, 1314:5, 1314:6, 1314:14, 1314:15, 1314:20, 1314:24, 1315:7, 1315:15, 1315:19, 1316:9, 1316:11 cracking - 1171:18, 1172:7, 1211:12, 1211:17, 1211:19, 1223:14, 1254:9, 1256:16, 1273:10, 1273:13, 1273:15, 1273:21, 1274:2, 1313:14, 1329:15, 1329:19, 1330:10, 1359:10, 1373:12 cracks - 1212:11, 1227:24 crashes - 1277:3 crawler - 1183:25, 1185:2, 1185.3 crawling - 1251:23 Crd- 1208:16 Crdm - 1158:21, 1236:21, 1291:4, 1315:4, 1325:16 Crdms - 1158:10 create - 1233:15, 1233:16 created - 1320:12 creating - 1234:2 credit - 1184:4, 1244:7 crime - 1336:2 criminal - 1152:21, 1334:22 criteria - 1341:17, 1342:11, 1342:22, 1343:18, 1343:19, 1343:24, 1345:15, 1380:14, 1380:24 criteria)and - 1185:25 criteria)that - 1180:16 critical - 1224:10, 1227:25, 1241:3, 1248:5 critically - 1224:25 criticized - 1222:9 Cross - 1160:12, 1160:14, 1164:3, 1265:12, 1363:4, 1363:7, 1396:4, 1396:6, 1396:12, 1396:21 cross - 1187:16, 1198:5, 1206:14, 1259:24, 1264:24, 1334:18, 1335:2, 1335:19 cross-examination -1264:24, 1335:2 Cross-examination 1160:12, 1160:14, 1164:3, 1265:12, 1363:4, 1363:7, 1396:4, 1396:6, 1396:12, 1396:21 cross-hairs - 1259:24 cross-pollination - 1198:5 crossed - 1189:17 Crr - 1150:5, 1395:11 Crs - 1155:16 cruise - 1379:23 crunch - 1383:23 crystal - 1348:20, 1352:3, 1352:11, 1352:12, 1352:25, 1386.6 culminating - 1254:20 culture - 1198:4, 1268:8, 1277:1 cured - 1183:24 current - 1181:5, 1271:13

1281:11, 1319:16, 1348:19, 1349:19, 1350:3, 1386:1 cut - 1183:19, 1191:22, 1206:11 **cycle -** 1199:11, 1209:11, 1224:18, 1225:23, 1285:9 **Cycle -** 1199:25, 1200:5 D **daily** - 1198:19, 1210:10, 1210:21, 1265:23 Dale - 1191:6, 1327:5, Date - 119-16, 1327-3, 1327:8, 1327:17, 1329:7, 1329:8, 1332:2, 1332:8, 1339:9, 1340:22, 1359:19, 1359:21, 1363:7, 1366:11, 1371:2, 1372:0, 1372:21 1371:3, 1373:20, 1373:21, 1373:22, 1374:20, 1389:9, 1393:6, 1396:19, 1396:21, 1396:23, 1397:1 data - 1292:21, 1293:3, 1294:19 Data - 1293:4 date - 1230:14, 1255:13 1257:19, 1257:24, 1278:18, 1330:20, 1330:25, 1358:12, 1359:3, 1359:5, 1361:17, 1368:7, 1376:23 Date - 1395:11 dated - 1151:13, 1165:16, 1348:16, 1382:21 Dave - 1158:20, 1158:21 1161:17, 1161:20, 1162:18, 1200:2, 1200:3, 1200:4, 1208:11, 1212:7, 1214:3, 1216:19, 1216:21, 1222:20, 1242:19, 1242:22, 1243:4, 1245:7, 1247:19, 1265:18, 1267:14, 1267:15, 1267:25, 1268:12, 1269:16, 1281:20, 1284:13, 1289:16, 1290:2, 1293:23, 1298:16, 1298:19, 1293:23, 1298:16, 1298:19, 1299:10, 1301:25, 1303:19, 1309:18, 1311:3, 1311:6, 1330:5, 1330:17, 1330:19, 1332:2, 1360:15, 1366:10, 1366 11 David - 1149:7, 1149:10, 1213:4, 1222:21, 1228:25, 1236:8, 1240:20, 1240:22, 1244:4, 1248:24, 1249:25, 1281:16, 1283:20, 1284:20, 1287:2, 1298:19, 1303:21, 1309:4, 1309:12, 1312:9 David's - 1268:11 Davids - 1287:1 **Davids** - 1207.1 **Davis** - 1154:9, 1158:21, 1161:1, 1161:4, 1173:23, 1177:18, 1195:19, 1195:23, 1107:6, 1107:19, 1195:23, 1197:6, 1197:8, 1197:24, 1198:1, 1198:9, 1198:16, 1199:7, 1199:10, 1200:24, 1201:7, 1202:14, 1206:4, 1208:24, 1211:23, 1211:25, 1216:6, 1217:4, 1219:15, 1220:22, 1220:23, 1221:1, 1222:6, 1225:2, 1237:6, 1239:2, 1249:25, 1254:14 1254:23, 1256:25, 1257:12, 1259:6, 1263:8, 1269:24, 1273:12, 1284:18, 1284:22, 1285:3, 1285:5, 1286:21, 1307:24, 1312:2, 1312:22 1316:16, 1318:25, 1319:3, 1319:19, 1323:19, 1323:24, 1324:21, 1325:10, 1327:19, 1327:20, 1327:25, 1328:6, 1328:21, 1329:22, 1330:4, 1332:19, 1358:24, 1359:11

1362:13, 1363:12, 1364:3, 1388:14 Davis-besse - 1154:9, 1158:21, 1161:1, 1161:4, 1173:23, 1177:18, 1195:19, 1195:23, 1197:6, 1197:8, 1197.24, 1198:1, 1198:9, 1198:16, 1199:7, 1199:10, 1200:24, 1201:7, 1202:14, 1206:4, 1208:24, 1211:23, 1211:25, 1216:6, 1217:4, 1219:15, 1220:22, 1220:23, 1221:1, 1222:6, 1225:2, 1237:6, 1239:2, 1249:25 1254:14, 1254:23, 1256:25, 1257:12, 1259:6, 1263:8, 1269:24, 1273:12, 1284:18, 1284:22, 1285:3, 1285:5, 1286:21, 1307:24, 1312:2, 1312:22, 1316:16, 1318:25, 1319:3, 1319:19, 1323:24 1325:10, 1327:19, 1327:20, 1327:25, 1328:6, 1328:21, 1329:22, 1330:4, 1332:19, 1358:24, 1359:11, 1362:13, 1363:12, 1364:3, 1388:14 Davis-besse's - 1323:19, 1324:21 day-to-day - 1210:5, 1211:6 days - 1160:17, 1161:17, 1215:11, 1261:19, 1312:10 1331:25, 1339:15, 1364:22 Dc - 1149:15, 1149:18 1149:22, 1150:3, 1215:17, 1232:10, 1274:25, 1300:22, 1301:6, 1302:11, 1328:24 deadline - 1375:13, 1383:24 deal - 1197:1, 1219:16, 1224:14, 1260:20, 1335:13, 1366.6 dealing - 1338:25 dealings - 1178:19, 1280:13 deals - 1186:23 dealt - 1207:12, 1209:8, 1343:19, 1375:24, 1382:8, 1387:6, 1387:9, 1387:10, 1387:13, 1387:15 **debate** - 1175:6, 1176:11, 1176:16, 1204:15, 1381:11, 1381:24, 1381:25 debrief - 1222:7 deceive - 1163:6, 1163:9 deceived - 1294:16 December - 1181:8, 1224:3, 1225:5, 1225:20, 1226:1, 1254:22 decide - 1326:25, 1394:23 decided - 1173:16 decision - 1366:12, 1366:15 decisional - 1285:17 decisions - 1334:17 defendant - 1188:7, 335:5 Defendant - 1149:8, 1149:19, 1150:1 Defendant's - 1363:18, 389:11, 1389:21 defendant's - 1188:7 **Defense -** 1270:7, 1270:21, 1271:5, 1271:15, 1368:5 **defense** - 1309:25, 1310:3, 1310:6, 1310:8, 1335:1 deferred - 1152:1 1152:19, 1163:3, 1174:10, 1334:24 definitely - 1269:16,

1284:12 definition - 1243:22 definitions - 1257:6 **degree** - 1196:21, 1207:23, 1326:10 delegation - 1232:13 deleted - 1348:11, 1349:4, 1349.5deliberate - 1163:6, 1195:2 deliberately - 1263:2 deliberation - 1214:13 deliberations - 1265:5 deliver - 1347:25 delivered - 1225:15, 1355:6 Delta - 1392:2 demineralized - 1382:10 demonstrated - 1159:13 Denis - 1150:1 department - 1195:24 1196:5, 1197:4, 1199:25 1332:16, 1364:15, 1364:19, 1365:10, 1365:13, 1365:23, 1390:19, 1393:10, 1393:14, 1393:16 Department - 1149:13, 1149:17, 1196:6, 1318:21, 1328:2, 1337:10, 1393:20 departments - 1196:9, 1332:17 dependent - 1315:7 depiction - 1354:5 deposit - 1299:5 deposits - 1167:18 1208:16, 1236:22, 1291:5, 1325:17, 1325:20, 1326:8, 1348:14, 1348:20, 1352:3, 1352:12, 1352:25, 1354:7, 1386:6 depth - 1309:25, 1310:3, 1310:6, 1310:8 Describe - 1319:7 describe - 1200:11, 1304:21, 1322:14 described - 1203:10, 1203:11, 1203:14, 1206:1, 1212:2, 1222:2, 1226:12, 1273:7, 1274:8, 1274:9, 1279:19, 1285:25, 1289:22, 1292:18, 1299:17, 1300:12, 1305:7, 1308:9, 1308:21, 1316:1 describing - 1200:3 1205:20, 1212:8, 1239:10 description - 1180:14, 1180:18, 1181:21, 1182:6, 1182:20, 1186:14, 1250:24, 1343:14, 1351:1, 1354:18 design - 1170:2, 1181:2, 1181:25, 1182:21, 1182:24, 1186:10, 1186:13, 1186:17, 1186:23, 1201:25, 1220:8, 1266:24, 1267:16, 1273:9, 1288:17, 1309:20 Design - 1161:20, 1161:25, 1199:23, 1200:8, 1218:3, 1235:2, 1267:17, 1267:21, 1268:2, 1268:8, 1277:21, 1282:1, 1282:2, 1282:4 designate - 1252:8 designated - 1334:12 designed - 1239:19, 1313:23, 1383:25 designer - 1201:21, 1227:23, 1285:22 designers - 1313:25 designs - 1201:8 desire - 1225:21 detail - 1197:22, 1204:9.

1210:7, 1217:8, 1226:23, 1229:7, 1229:10, 1245:6, 1249:5, 1261:21, 1285:10, 1295:7, 1301:16, 1302:7, 1312:21, 1313:13, 1336:24, 1341 19 detailed - 1222:12, 1228:10, 1342:14 details - 1223:17, 1240:13, 1249:1, 1258:7, 1258:22, 1277:2, 1281:22, 1283:24 determination - 1158:13 determine - 1166:23, 1168:3, 1394:8 deterministic - 1239:18, 1239:24, 1248:22, 1249:2. 1249:5, 1250:3, 1250:6, 1250:8 Deterministic - 1250:4 detrimental - 1203:20 developed - 1154:22, 1261:15, 1261:16, 1319:16 developments - 1262:11 device - 1251:16 diagram - 1350:6, 1386:10 dial - 1361:1 dialog - 1176:22, 1223:20 dialogue - 1283:22, 1291 1 diesel - 1310:12 difference - 1166:12. 1166:15, 1166:16, 1166:17, 1166:18, 1173:9, 1201:9, 1201:16, 1201:25, 1204:2, 1224:19. 1239:12 differences - 1201:8 1221:22, 1223:16, 1251:21 different - 1196:22, 1196:24, 1200:25, 1202:1, 1202:6, 1208:23, 1209:1, 1210:23, 1210:25, 1217:5, 1219:19, 1224:15, 1230:9, 1231:20, 1237:24, 1239:11, 1242:25, 1243:22, 1245:21, 1245:23, 1247:13, 1257:7, 1268:24, 1270:19, 1283:14, 1284:5, 1285:22, 1286:5, 1287:3, 1288:15, 1294:20, 1303:6, 1303:8, 1303:11, 1305:18, 1305:21, 1306:1, 1306:3, 1306:5, 1307:25, 1313:2 differently - 1247:15, 1306:4 difficult - 1394:19 difficulty - 1268:11 digital - 1253:5 Direct - 1151:4, 1195:11, 1318:3, 1327:8, 1396:2, 1396:10, 1396:17, 1396:19 direct - 1159:15, 1177:22, 1219:6, 1246:5, 1265:21, 1274:21, 1283:6, 1290:16, 1302:16, 1302:23, 1339:25, 1352:15, 1373:19, 1378:8, 1391:18 directed - 1194:10, 1354:9, 1360:15 direction - 1197:18 directional - 1327:12 directly - 1201:12, 1274:5, 1313:4 director - 1195:24, 1196:8, 1196:9, 1197:11, 1197:12, 1199:4, 1199:19, 1200:6, 1210:8, 1214:6, 1221:11, 1223:19, 1276:5 **Director** - 1199:19, 1199:21, 1215:22, 1218:8, 1235:1, 1248:16, 1267:12

director's - 1198:13, 1364:19 Directors - 1191:19 directors - 1198:25 disagreed - 1169:18 Disagreements - 1390:20 disappointed - 1227:1, 1240:15, 1258:23, 1259:2, 1264:8, 1264:11, 1292:19, 1293:23 discipline - 1288:17 disciplined - 1234:5 discovered - 1197:14, 1305:19, 1336:17 discovery - 1238:1 discretion - 1334:17 discuss - 1194:24, 1195:1, 1234:25, 1326:22, 1326:23, 1359:22, 1375:8, 1394:22 discussed - 1179:13, 1191:9, 1203:17, 1223:12, 1224:7, 1229:13, 1249:20, 1280:1, 1291:8, 1297:10, 1299:16, 1303:16, 1303:18, 1317:9, 1321:12, 1354:15, 1366:10 discusses - 1357:13 discussing - 1188:13, 1242:2, 1248:13, 1253:23, 1256:14, 1258:5, 1274:18, 1298:24, 1299:2, 1299:5, 1336:22 discussion - 1175:4 1183:15, 1183:17, 1183:20, 1183:23, 1184:1, 1187:3, 1187:24, 1189:25, 1192:11, 1194:18, 1223:23, 1225:6, 1233:11, 1248:2, 1249:6, 1253:25, 1254:2, 1256:20, 1260:5, 1260:23, 1279:23, 1281:3, 1290:24, 1299:9, 1302:4, 1303:25, 1322:21, 1323:9, 1323:17, 1323:20, 1323:23, 1324:6, 1325:4, 1326:1, 1326:4, 1330:13, 1334:4, 1335:21, 1351:18, 1353:14, 1381:25, 1382:2, 1382:5, 1385:21, 1385:24 Discussion - 1189:22, 1193:2, 1194:3, 1264:18, 1321:13, 1371:16, 1372:18, 1379:19, 1386:19 discussions - 1238:16, 1249:13, 1254:5, 1274:10, 1388:2 Display - 1325:16 display - 1322:7, 1323:18, 1357:25 displayed - 1338:15 disposition - 1169:17. 1207:22 distinction - 1264-9 distributed - 1271:19, 1272:2 distributor - 1210:20 District - 1149:1, 1149:11 divided - 1286:20 Division - 1149:2 Doar - 1340:13 docket - 1312:11 Docket - 1149:4 docketed - 1364:15 document - 1153:12 1153:16, 1163:12, 1164:20, 1164:21, 1166:5, 1172:15, 1177:6, 1178:3, 1178:15, 1187:9, 1187:14, 1188:16, 1189:10, 1191:14, 1204:20, 1204:23, 1205:5, 1205:10, 1215:3, 1217:3, 1217:13,

1220:10, 1234:16, 1242:3, 1242:16, 1243:5, 1243:12, 1246:16, 1246:23, 1270:14, 1270:16, 1271:16, 1271:19, 1271:23, 1296:22, 1297:18, 1297:21, 1336:22, 1336:25, 1337:19, 1338:19, 1340:1, 1342:25, 1348:23, 1351:4, 1358:3, 1358:16, 1358:21, 1358:23, 1358:24, 1361:12, 1363:1, 1364:2, 1365:2, 1366:25, 1368:13, 1376:23, 1376:25, 1377:4, 1377:5, 1377:9, 1377:17, 1377:24 1386:11, 1391:10, 1391:12, 1391:13, 1391:24 documents - 1188:24 1200:21, 1207:4, 1207:8, 1227:18, 1229:4, 1307:2, 1337:10, 1337:23, 1339:19, 1357:11, 1379:9 dome - 1182:17, 1348:13, 1352 25 done - 1164:9, 1165:5, 1165:24, 1173:24, 1174:23, 1174:24, 1182:8, 1183:7, 1185:1, 1208:2, 1209:14, 1221:2, 1234:4, 1237:2, 1237:5, 1237:7, 1242:24, 1244:21, 1252:6, 1252:24, 1253:9, 1253:11, 1253:15, 1256:25, 1257:12, 1262:12, 1269:1, 1272:12, 1279:8, 1281:8, 1281:15, 1281:16, 1281:26, 1281:23, 1281:25, 1282:2, 1282:4, 1282:15, 1283:2, 1288:5, 1294:19, 1296:23, 1297:1, 1304:13, 1305:16, 1308:2, 1308:3, 1309:2, 1309:23, 1318:22, 1318:25, 1332:20, 1336:5, 1336:13, 1337:5, 1337:18, 1342:16, 1343:22, 1345:22, 1352:20, 1353:15, 1357:6, 1374:17, 1375:11, 1388:24, 1388:25 Donnellon - 1169:12. 171:11 Donnellon's - 1170:12 dose - 1171:25, 1204:14, 1224:24, 1225:24, 1382:13 doubt - 1216:20, 1288:10, 1293:13, 1300:20, 1301:11 doubts - 1288:25, 1289:1, 1289:2, 1289:3 down - 1174:6, 1175:22, 1181:7, 1183:9, 1186:18, 1188:13, 1194:21, 1209:6, 1188.13, 1194.21, 1209.6, 1217:8, 1220:1, 1224:14, 1226:1, 1226:18, 1229:15, 1231:3, 1245:24, 1285:5, 1297:7, 1299:6, 1316:16, 1325:18, 1326:17, 1334:15, 1343:8, 1351:25, 1359:19, 1394:14 downhill - 1298:25 downloaded - 1339:14 dozen - 1266:22, 1267:5 dozens - 1266:21 Dozens - 1266:22 Dpas - 1334:15, 1335:18 Dpas - 1334:15, 1335:18 Dr - 1220:15, 1220:18, 1222:23, 1249:3, 1278:18 draft - 1217:11, 1237:25, 1333:13, 1333:17, 1338:1, 1338:9, 1342:7, 1346:8, 1346:11, 1346:14, 1346:16, 1346:17, 1346:18, 1346:22 1346:17, 1346:18, 1346:22, 1355:18, 1355:20, 1356:23, 1357:5, 1364:16, 1364:20, 1365:3, 1366:23, 1367:4,

1

1367:5, 1367:6, 1369:24 1374:10, 1377:12, 1377:13, 1377:20, 1380:8, 1380:17, 1380:19, 1380:24, 1381:1, 1381:3, 1381:7, 1381:9, 1387:5, 1387:12, 1387:16, 1388:11, 1390:10 drafted - 1366:16 drafting - 1162:19, 1190:22, 1192:18, 1192:19, 1192:24, 1193:14, 1193:18, 1193:25, 1194:6 drafts - 1233:22, 1238:1, 1276:12, 1276:14, 1276:16, 1276:19, 1276:23, 1346:24, 1347:1, 1366:18, 1372:2, 1374:2, 1374:11, 1374:24, 1375:10, 1379:5, 1387:14, 1387:16 draw - 1153:4, 1153:25 1154:5, 1156:13, 1156:19, 1158:1, 1158:16, 1185:16, 1187:6, 1217:25, 1247:6, 1292:7, 1342:3, 1353:4 drawing - 1212:8 drawings - 1200:21 drew - 1244:23, 1291:3, 1353:2 dried - 1203:9 Drive - 1394:25 drive - 1205:19, 1211:12, 1211:18, 1314:7, 1329:15, 1329:19 driving - 1168:21, 1206:10, 1210:15 dropped - 1348:2, 1355:8, 1387:18 due - 1348:14 duplication - 1194:17 during - 1154:20, 1177:22, 1200:16, 1213:9, 1220:5, 1220:24, 1222:15, 1222:17, 1226:7, 1246:18, 1264:4, 1265:5, 1266:17, 1269:13, 1265:5, 1266:17, 1269:13, 1269:24, 1270:18, 1275:14, 1275:24, 1276:2, 1284:8, 1284:17, 1288:19, 1290:19, 1290:22, 1298:2, 1299:9, 1305:5, 1305:7, 1324:16, 1325:9, 1326:1, 1336:16, 1348:14, 1355:7, 1366:1 1348:14, 1355:7, 1366:1, 1380:22 During - 1200:16, 1232:12, 1236:6, 1256:24, 1268:18, 1284:22, 1305:6 duties - 1210:5, 1373:18 dynamic - 1201:1 dynamics - 1200:13 Ε **e-mail** - 1151:14, 1151:16, 1151:18, 1151:19, 1158:20, 1158:22, 1159:15, 1159:24, 1160:2, 1162:23, 1163:14, 1163:16, 1163:19, 1163:20, 1176:4, 1177:2, 1183:17, 1183:20, 1184:7, 1184:9, 1184:11, 1188:8, 1190:4, 1191:5, 1191:7, 1191:9, 1191:17, 1192:1, 1192:8, 1193:4, 1194:12, 1338:1, 1339:12, 1339:13, 1346:23, 1347:15, 1376:4, 1382:20, 1384:18, 1385:25 e-mailed - 1346:14, 1346:19 e-mails - 1162:10

1162:15, 1162:17, 1162:18, 1162:23, 1176:15, 1187:1,

1187:4, 1188:6, 1188:22, 1189:3, 1190:2, 1190:3, 1192:15, 1192:16, 1192:18, 1193:18, 1346:21 early - 1257:21, 1268:15, 1279:20 easier - 1198:22 easy - 1343:4 edit - 1291:15, 1292:3, 1340:17, 1351:24, 1355:6, 1391:12 edited - 1291:11 editing - 1291:8 edits - 1353:22, 1354:5, 1354:8, 1391:20, 1391:21, 1391:24 educational - 1328:3 effect - 1294:10, 1315:24, 1316:2, 1349:23, 1365:8 effective - 1257:7, 1303:9, 1360.9 effort - 1226:15, 1267:3 efforts - 1202:17, 1207:3 1275:18, 1305:16 Efpw - 1185:22 either - 1162:16, 1179:2, 1214:10, 1223:20, 1236:4, 1240:4, 1242:19, 1261:10, 1273:6, 1276:19, 1292:22, 1294:6, 1297:4, 1308:2, 1333:6, 1334:24, 1342:13, 1355:25, 1386:14 elaborate - 1306:3 elect - 1223:3 electrical - 1196:20, 1196:21, 1197:16, 1303:12 Electrical - 1267:16 electricity - 1201:13, 1209:1 elevated - 1390:21 elicit - 1335:2 eliciting - 1334:10 eliminate - 1283:4, 1302:15 eliminated - 1158:11 elsewhere - 1366:2 emotion - 1264:8 emotional - 1264:16, 1305:2 employed - 1303:8, 1318:17 employee - 1211:3 employees - 1199:4, 1199:5, 1206:8, 1211:2, 1225:24 empty - 1255:4 encompassed - 1377:16 encountered - 1268:3, 1268:11 encouraged - 1288:15, 1388:21 End - 1189:25, 1194:18, 1260:23, 1335:21 end - 1156:24, 1195:3 1207:13, 1209:16, 1209:18, 1218:20, 1218:21, 1220:19, 1225:20, 1227:22, 1229:3, 1230:14, 1240:4, 1265:5, 1270:12, 1272:16, 1314:9 1316:16, 1326:25, 1340:18, 1355:14, 1355:16, 1383:22, 1394:24 ended - 1229:13 ends - 1208:5 engage - 1223:20 engaged - 1175:4 engine - 1210:20 engineer - 1214:7, 1235:2, 1274:15, 1288:14, 1303:13, 1309:2, 1328:2, 1366:4,

1373:5, 1392:16, 1392:22 Engineering - 1161:20, 1162:1, 1196:6, 1199:23, 1199:24, 1200:8, 1204:10, 1214:5, 1215:22, 1216:18, 1218:3, 1221:11, 1223:19, 1235:2, 1267:12, 1267:16, 1267:18, 1268:8, 1277:21, 1281:24, 1282:1, 1365:14, 1365:24, 1381:12, 1382:1, 1384:14, 1393:20 engineering - 1162:7, 1195:24, 1196:20, 1196:21, 1196:25, 1197:5, 1197:11, 1197:12, 1200:1, 1200:3, 1203:25, 1267:3, 1269:15, 1303:6, 1303:11, 1318:20, 1328:4 engineering's - 1365:16 engineers - 1162:1, 1248:23, 1271:23, 1287:4, 1288:16, 1288:17, 1393:20 English - 1173:13 enhanced - 1223:13 Enjoy - 1195:3, 1265:7, 1327:1 enlarge - 1246:8 enlisted - 1366:6 ensure - 1204:14, 1321:3, 1383:25, 1384:6 entailed - 1377:2 entered - 1152:1, 1167:2 entire - 1178:2, 1218:25, 1246:18, 1284:13, 1354:3, 1358:22, 1376:23, 1376:25, 1377:4, 1377:17, 1383:3, 1383:7 entirely - 1168:22, 1289:25, 1378:19 entirety - 1247:7, 1349:6 entitled - 1172:12, 1395:8 entourage - 1258:15 entry - 1208:19, 1329:14 Epri - 1214:10 equipment - 1197:17, 1201:22, 1211:3, 1211:7, 1310:8 Ermer - 1150:1 error - 1350:13, 1380:1, 1388:19 errors - 1357:17, 1370:24 escapes - 1257:20, 1303:5 Escheiman - 1200:4, 1230:10, 1244:16, 1309:4, 1309:13, 1310:24 essence - 1292:3, 1304:1 essential - 1256:13 essentially - 1196:18, 1197:9, 1199:20, 1201:10, 1202:10, 1203:20, 1206:11, 1214:11, 1216:11, 1218:25, 1219:18, 1222:9, 1225:11, 1229:13, 1229:19, 1230:25, 1229:13, 1229:19, 1230:25, 1232:17, 1228:29, 1244:20 1232:17, 1235:22, 1244:20, 1245:8, 1245:11, 1247:11, 1251:16, 1253:22, 1283:22, 1285:19, 1286:23, 1312:5, 1317:6, 1373:19 Essentially - 1261.2 establish - 1260:17 established - 1343:23 estimate - 1168:10 estimated - 1167:19 et - 1149:7, 1334:12 eval - 1219:18, 1227:3 evaluate - 1155:10 evaluated - 1334:11 evaluating - 1335:20 evaluation - 1160:8, 1172:5, 1172:6, 1172:8

1208:19, 1218:23, 1218:24, 1218:25, 1219:5, 1219:8, 1219:9, 1219:11, 1219:13, 1219:16, 1219:24, 1220:5, 1222:2. 1229:17. 1275:22. 1324:21, 1331:21, 1345:22 evaluations - 1158:21 evaluator - 1209:22. 1210:2 evaluators - 1222:5 evening - 1249:14, 1300:13, 1301:22, 1339:15, 1394:25 event - 1199:9, 1206:6, 1221:19, 1230:15, 1241:15, 1259:6, 1275:4, 1275:5, 1277:6, 1310:22, 1330:9, 1359:9, 1386:15 events - 1199:12, 1218:21, 1279:2, 1320:24 eventually - 1359:19 evidence - 1176:9, 1237:10, 1243:23, 1255:6, 1270:22, 1299:2, 1319:22, 1322:8, 1338:12, 1343:6, 1343:11, 1343:14, 1363:21, 1380:4, 1393:25 evidently - 1360:25 evolve - 1211:6 evolved - 1197:25, 1248:20, 1349:24 evolving - 1349:25 exact - 1196:1, 1215:5, 1218:15, 1219:12, 1225:10, 1240:24, 1245:13, 1254:19, 1257:24, 1274:6, 1284:1, 1311:15, 1311:19 exactly - 1164:13, 1214:9, 1214:23, 1255:19, 1311:2, 1393:22 Exactly - 1250:17 Examination - 1151:4 1185:9, 1195:11, 1306:24, 1318:3, 1327:8, 1389:9, 1396:2, 1396:8, 1396:10, 1396:15, 1396:17, 1396:19, 1396:23 examination - 1154:9. 1160:12, 1160:14, 1164:3, 1177:23, 1191:18, 1264:24, 1265:12, 1303:16, 1335:2, 1363:4, 1363:7, 1391:18, 1393:6, 1396:4, 1396:6, 1396:12, 1396:21, 1397:1 examinations - 1180:21, 1181:2, 1181:23, 1182:7, 1351:3 examined - 1394:9 example - 1206:17, 1295:10, 1307:17, 1310:9, 1341:16, 1345:19, 1393:19 examples - 1310:2 excellence - 1220:3 except - 1189:3, 1250:24 1295:13, 1295:18, 1295:23, 1370:18 exception - 1298:10 exchange - 1254:18, 1260:18, 1260:20, 1262:15, 1263:9, 1286:1 exchanging - 1222:18 excited - 1232:23 exclusively - 1229:11 excuse - 1160:7, 1180:20, 1374:5 Excuse - 1187:12, 1394:2 executive - 1220:2, 1234:25, 1254:20, 1274:12 executives - 1227:9, 274:11

exercised - 1263:3 exhibit - 1151:6, 1155:18, 1156:6, 1156:10, 1156:11, 1156:21, 1158:1, 1190:14, 1192:5, 1194:13, 1321:4, 1340:1, 1340:6, 1349:1, 1376:1, 1376:11, 1378:11, 1378:12, 1382:22 Exhibit - 1151:7, 1151:20, 1151:22, 1153:4, 1153:6, 1153:18, 1155:18, 1157:23, 1157:24, 1158:16, 1159:8, 1185:14, 1187:7, 1188:1, 1190:10, 1191:3, 1192:3, 1204:18, 1205:4, 1205:6, 1208:4, 1217:12, 1234:6, 1243:5, 1248:8, 1252:16, 1255:1, 1270:7, 1271:5, 1290:15, 1319:21, 1320:7, 1322:7, 1336:21, 1337:20, 1337:24, 1337:25, 1338:12, 1338:20, 1346:13, 1346:19, 1346:20, 1347:6, 1357:24, 1361:11, 1362:6, 1363:18, 1375:25, 1376:8, 1376:9, 1376:13, 1379:9, 1379:25, 1389:11, 1389:21, 1391:6, 1392:3, 1392:6 exhibited - 1158:3 Exhibits - 1206:20. 1206:23 exhibits - 1155:23 1193:23, 1204:17, 1207:1, 1394.15 existed - 1306:10, 1343:11 existence - 1304:19, 1305:19 exists - 1182:16 exit - 1222:4, 1278:21, 1278:23 expect - 1276:22, 1281:19, 1317:8, 1342:16, 1375:4, 1385:1, 1385:2, 1392:15, 1392:21 expectation - 1220:5, 1277:18, 1279:24, 1280:2, 1282:13, 1289:9, 1384:10 expectations - 1200:25, 1339:11 expected - 1271:22 1271:25, 1289:14, 1294:20, 1317:7, 1332:24, 1333:2, 1333:11, 1345:20, 1346:3, 1346:5, 1356:15, 1356:18, 1362:22, 1362:25, 1366:23, 1373:18, 1373:21, 1374:17, 1374:25, 1384:8, 1384:13, 1391:3 expecting - 1373:22 expense - 1226:17 expensive - 1225:14 experience - 1172:8 expert - 1214:4, 1228:1, 1233:20, 1235:5, 1249:4, 1253:6, 1273:17, 1273:21, 1313:9, 1313:15, 1376:19 expertise - 1226:19, 1303:13 experts - 1227:8, 1227:24, 1228:13, 1235:18, 1249:2, 1273:12, 1273:14 explain - 1179:25 192:13, 1205:11, 1210:6, 1230:12, 1239:12, 1259:3, 1305:20, 1343:6, 1343:8, 1349:16, 1352:7, 1354:12, 1370:10, 1379:20 Explain - 1335:24 explained - 1298:2, 1298:12, 1298:15, 1343:14

1387:5 explaining - 1165:4, 1165:12, 1165:24, 1335:23 explains - 1345:24 explanation - 1339:18 express - 1326:11 expressed - 1221:21, 1326:10, 1332:3 extemporaneously -1309:23 extended - 1383:5 extensive - 1201:19 extent - 1198:4, 1229:11, 1313:16, 1373:13, 1382:11, 1385:6 eyeball - 1230:4 eyeballs - 1237:8 eyes - 1243:3, 1250:21, 1250:23, 1283:21 eyewitness - 1251:4, 1252:1, 1325:21 F fabricated - 1225:15 face - 1375:11 facilities - 1262:23 fact - 1157:20, 1161:13, 1163:2, 1174:3, 1174:16, 1174:19, 1179:7, 1179:11, 1186:12, 1223:22, 1240:12, 1244:7, 1246:24, 1252:21, 1271:23, 1277:21, 1283:3, 1283:20, 1288:4, 1295:3, 1300:22, 1307:19, 1325:11, 1334:14 factor - 1239:16, 1314:6 factors - 1213:18, 1225:7, 1225:19, 1279:22, 1314:14, 1314:19 Facts- 1235:25 facts - 1250:11, 1306:5, 1393:25 factual - 1177:11 failed - 1310:22, 1316:22 Fair- 1265:23, 1269:20 fair - 1194:13, 1237:4, 1262:10, 1265:24, 1265:25, 1267:20, 1268:5, 1268:6, 1270:13, 1273:2, 1273:18, 1274:9, 1275:23, 1276:1, 1276:7, 1276:8, 1276:10, 1276:22, 1276:25, 1282:16, 1285:12, 1286:3, 1288:12, 1294:18, 1294:22, 1296:25, 1301:18, 1302:18 fairly - 1287:15 faith - 1293:14 fall - 1197:15 falsehood - 1173:22 familiar - 1252:20, 1355:3, 1363:11, 1363:15, 1373:11, 1388:21 far - 1162:22, 1169:8 1179:1, 1203:17, 1210:10, 1210:12, 1213:21, 1220:11, 1220:19, 1221:21, 1222:11, 1223:16, 1224:10, 1225:14, 1229:1, 1231:23, 1233:19, 1255:21, 1267:25, 1276:18, 1352:10, 1371:8, 1372:21, 1377:25 fashion - 1202:6, 1268:4, 1268:5 **fast** - 1253:24, 1265:15, 1300:11, 1314:4, 1314:19 feed - 1315:19 feedback - 1254:3 feeding - 1238:8, 1316:13, 316:15

feelings - 1254:2 fellow - 1253:1, 1269:22 felt - 1204:4, 1220:18, 1222:13, 1228:15, 1228:16, 1240:6, 1241:1, 1241:3, 1243:3, 1254:4, 1254:7, 1258:25, 1259:2, 1262:6, 1266:11, 1266:15, 1293:24, 1296:23, 1354:6 Fenoc- 1152:17, 1322:11, 1322:13 ferret - 1194:5 **few** - 1156:21, 1187:4, 1228:20, 1259:5, 1263:4, 1281:1, 1295:18, 1329:12 Fifteenth-1149:22 fifth - 1217:22 figure - 1183:5 file - 1253:5 filed - 1293:11, 1296:22, 1297:19 files - 1362:3 filtered - 1359:19 **final** - 1234:13, 1321:4, 1367:4, 1367:5, 1367:6, 1377:5 Finally- 1392:15 finally - 1248:1, 1354:9 findings - 1160:8, 1180:17, 1182:3, 1182:5, 1221.18 fine - 1173:20, 1197:21, 1207:7, 1287:22, 1306:12, 1376:20 Fine- 1157:3, 1175:4, 1180:7 finish - 1172:25, 1346:19, 1379:21 firm - 1267:3 first - 1157:24, 1167:8, 1175:5, 1177:14, 1181:18, 1175:5, 1177:14, 1181:18, 1182:4, 1187:6, 1188:5, 1190:25, 1196:1, 1196:7, 1196:12, 1199:5, 1201:2, 1201:4, 1206:11, 1206:24 1208:18, 1210:15, 1213:12 1214:21, 1215:17, 1217:18, 1218:1, 1233:25, 1234:16, 1236:21, 1238:18, 1248:3, 1249:22, 1250:13, 1251:2, 1252:9, 1253:25, 1279:6, 1291:3, 1295:6, 1297:1, 1304:22, 1304:25, 1318:10, 1329:13, 1333:24, 1336:18, 1329:13, 1333:24, 1336:18, 1339:1, 1339:20, 1339:22, 1340:17, 1340:20, 1341:5, 1341:6, 1342:3, 1342:8, 1342:9, 1342:22, 1348:22, 1349:18, 1351:7, 1352:4, 1354:14, 1355:8, 1356:24, 1357:22, 1366:16, 1366:17, 1369:10, 1370:22, 1373:17 1369:10, 1370:22, 1373:17, 1374:15, 1375:25, 1376:22, 1377:12, 1377:13, 1380:21, 1387:25, 1391:12 First- 1199:22, 1353:23 **Firstenergy**- 1156:3, 1193:7, 1196:22, 1196:24, 1198:3, 1233:25, 1258:9, 1318:23, 1320:3 **Firstenergy's-** 1337:22 **fit** - 1213:20, 1315:4, 1315:5 **five** - 1162:4, 1169:5, 1199:1, 1207:18, 1208:24, 1216:16, 1216:24, 1227:22, 1283:18, 1295:24, 1296:1, 1312:10 fix - 1209:7 flag - 1236:21, 1291:4

flagging - 1385:17 flange - 1202:17, 1202:19, 1203:11, 1205:18, 1207:16, 1208:16, 1209:10, 1243:2, 1295:22, 1299:3, 1305:10, 1305:12, 1305:15, 1305:23 flanges - 1157:11, 1202:16, 1205:23, 1207:17, 1207:18, 1209:14, 1243:25 flaw - 1224:10, 1241:3, 1248:5 flip - 1255:15 flipped - 1320:15 Floor- 1149:14 Florida- 1209:18, 1209:24, 1209:25 flow - 1244:6, 1296:5, 1299:17, 1350:6 fluidly - 1234:2 focal - 1275:21 focus - 1214:11, 1296:7, 1308:20 focused - 1213:9, 1273:3, 1273:10, 1356:18 folder - 1336:21 folks - 1223:7, 1249:14, 1283:10, 1284:18, 1312:19, 1329:1, 1333:21, 1334:11, 1355:2 follow - 1172:3, 1188:6, 1247:21, 1363:24, 1380:3 follow-up - 1247:21 followed - 1155:7, 1174:16, 1177:9, 1345:15 following - 1185:23, 1187:24, 1192:11, 1208:16, 1260:5, 1334:4, 1356:16, 1359:21, 1364:19, 1377:10 follows - 1154:18, 1157:9 food - 1198:15 foot - 1179:19 force - 1287:12 Force- 1259:18 foregoing - 1395:7 forget - 1215:4, 1240:24, 1247:5, 1256:22, 1257:6, 1274:6 forgetting - 1268:21 forgot - 1197:7 form - 1188:23, 1223:21, 1365:18, 1369:24 formal - 1206:5, 1239:9 formally - 1239:3 format - 1252:20, 1333:11, 1339:10, 1339:22, 1340:21, 1362:16, 1365:3, 1374:2, 1374:6, 1390:10, 1390:14, 1391:21, 1391:22 formatting - 1253:3 former - 1200:14, 1248:24 formulate - 1307:11, 1308:6, 1309:3 forth - 1176:22 forward - 1171:12, 1175:6, 1273:18, 1300:11, 1365:18 forwarded - 1151:17, 1159:3, 1159:5, 1160:2 forwarding - 1365:19 foundation - 1321:5, 1321:8 four - 1159:17, 1180:17, 1182:2, 1182:5, 1182:7, 1183:7, 1186:5, 1186:6, 1198:25, 1207:18, 1227:22, 1324:24 Fpl- 1209:23 Fra-4- 1154:6 fraction - 1225:10 Framatome- 1208:17, 1227:23, 1249:3, 1249:14

1250:2, 1250:9, 1250:11, 1282:10, 1283:15 frame - 1253:8, 1253:14, 1254:17, 1293:8, 1297:14, 1328:15, 1330:11, 1332:5 framed - 1220:7 framework - 1279:9 Frank- 1331:13, 1331:20 frankly - 1268:10 free - 1236:22, 1285:25, 1291:5, 1291:25, 1299:17, 1325:17 frenzy - 1280:20 Friday- 1346:14 friend - 1242:9 front - 1151:7, 1153:19, 1155:19, 1158:2, 1158:17, 1155:19, 1158:2, 1158:17, 1187:5, 1191:4, 1193:23, 1217:23, 1222:9, 1252:15, 1255:1, 1255:7, 1256:19, 1280:2, 1234:16, 1232-16 1280:2, 1334:16, 1338:18, 1338:19, 1340:7, 1374:10, 1391:6, 1392:4 Fti- 1208:17 fuel - 1224:16, 1224:18, 1224:23, 1225:8, 1225:9, 1225:10, 1225:12, 1225:13, 1225:17, 1226:11, 1279:20, 1280.7 full - 1195:15, 1224:22, 1318:12, 1327:15, 1356:13, 1374:9 fuller - 1296:2 fully - 1207:25, 1208:12, 1334:22 function - 1218:18, 1256:6 funding - 1214:12 funneling - 1283:14 **future -** 1181:2, 1181:4, 1181:8, 1181:9, 1181:10, 1182:11, 1183:2, 1183:14, 1185:11, 1185:23, 1186:2, 1213:7, 1213:21, 1263:9, 1319:17, 1323:22, 1323:23, 1345:12, 1353:21, 1354:2, 1386-22 Fyfitch- 1235:4, 1249:4 G gain - 1296:21, 1307:7, 1310:21 game - 1262:10 gap - 1159:21, 1160:6, 1182:16, 1182:17, 1304:1 gaps - 1159:22 gas - 1202:5, 1224:22 gasket - 1158:10 gathering - 1319:15 gearing - 1275:19 gears - 1208:25, 1279:24 Gee- 1386:20 **Geisen**- 1149:7, 1149:20, 1158:21, 1159:6, 1160:3, 1160:16, 1161:3, 1161:13, 1161:20, 1162:18, 1162:21, 1163:20, 1187:1, 1188:11, 1188:21, 1189:8, 1190:4, 1191:5, 1192:1, 1194:10, 1200:2, 1200:3, 1200:7, 1200:8, 1208:11, 1212:14, 1212:23, 1214:1, 1216:21, 1218:5, 1218:12, 1218:13, 1222:20, 1222:25, 1227:21, 1228:25, 1230:10, 1235:2, 1236:4, 1238:10, 1240:11, 1242:16, 1243:16, 1244:13, 1244:15, 1244:16, 1244:18, 1246:22, 1250:8, 1255:17, 1257:15, 1258:12, 1258:14

1317:17, 1322:17, 1323:2, 12 1323:11, 1324:14, 1325:2, 13 1325:6, 1325:13, 1325:24, 13 1330:5, 1334:15 13 Geisen's - 1161:17, 148:17, 1493:24, 1247:10, 1248:17, 1249:19, 1272:24, 1276:2, 1292:15, 1294:18, 1323:8, 1324:16, 1325:8 12 general - 1206:5, 1206:17, 1210:4, 1212:8, 1212:19, 1206:5, 1206:17, 1210:4, 1212:8, 1221:21, 1212:21, 1213:8, 1221:21, 1222:12, 1226:19, 1229:8, 1268:2, 1275:19, 1277:16, 14	4005 40 4000 7 4007 44	
120:5, 1260:9, 1260:13, 1281:16, 1282:14, 1282:22, 11 1281:16, 1282:14, 1282:22, 11 1283:7, 1283:16, 1284:13, 11 1284:18, 1285:1, 1286:23, 11 1289:16, 1290:2, 1290:6, 11 1291:15, 1292:14, 1292:18, 11 1293:2, 1293:16, 1294:14, 11 1296:8, 1296:11, 1296:20, 11 1297:1, 1297:18, 1297:24, 1298:19, 1299:9, 1299:10, 1300:25, 1301:5, 1301:14, 1301:21, 11 1300:9, 1300:12, 1300:25, 1301:5, 1301:14, 1301:21, 11 1309:12, 1310:24, 1310:25, 11 1309:12, 1310:24, 1310:25, 11 1309:12, 1310:24, 1310:25, 11 1311:24, 1313:20, 1314:24, 11 1337:17, 1322:17, 1323:2, 11 1323:11, 1324:14, 1325:2, 13 1330:5, 1334:15 Geisen's - 1161:17, 1323:14, 1325:4, 13 1330:5, 1334:15 1330:5, 1324:14, 1323:8, 1324:16, 1325:8 1324:14, 122:8, 1212:19, 1222:12, 122:12, 122:21, 122:24, 122:61:9, 1229:8, 122:21, 122:21, 122:8, 122:12, 122:12, 122:12, 122:12; 122:12, 122:12, 122:12, 122:12, 122:12, 122:12, 122:12, 122:12, 122:12, 122:12, 122:12, 122:12, 122:12, 122:12, 122:12, 122:12, 122:12, 123:13, 1302:3, 1348:5, 123:14, 1249:12 generator - 1310:13 generator - 1310:13 generator - 1310:13 generator - 1310:13 generator - 127:20 gentleman's - 1252:25	1265:18, 1266:7, 1267:14,	1.
1200:5, 1260:9, 1260:13, 1281:16, 1282:14, 1282:22, 11 1281:16, 1282:14, 1282:22, 11 1283:7, 1283:16, 1284:13, 11 1284:18, 1285:1, 1286:23, 11 1289:16, 1290:2, 1290:6, 11 1291:15, 1292:14, 1292:18, 11 1293:2, 1293:16, 1294:14, 13 1293:2, 1293:16, 1294:14, 13 1293:2, 1293:16, 1294:14, 13 1297:1, 1297:18, 1297:24, 1298:19, 1299:9, 1299:10, 1300:12, 1300:25, 1301:5, 1301:14, 1301:21, 11 1300:9, 1300:12, 1300:25, 1301:5, 1301:14, 1301:21, 11 1309:12, 1310:24, 1310:25, 11 1310:24, 1313:20, 1314:24, 11 130:5, 1334:15, 1304:5, 11 130:15, 1304:14, 1325:2, 11 1323:11, 1324:14, 1325:2, 11 1323:11, 1324:14, 1325:2, 11 1330:5, 1334:15 1330:5, 1334:15 1330:5, 1334:15 1330:5, 1334:15 1324:14, 1325:2, 122:19, 122:24, 1276:2, 129:215, 1294:18, 1323:8, 1324:16, 1325:8 1324:16, 1325:8 1324:16, 1325:8 1324:16, 1325:19, 1277:16, 11 1222:12, 1226:19, 1227:14, 1278:2, 12 124:21, 1213:8, 1221:21, 12 122:21, 1228; 128:19, 1277:16, 11 1362:16, 1365:4, 1390:11 1362:16, 1365:4, 1390:11 1362:16, 1365:4, 1390	1268:14, 1269:9, 1269:12,	
1200:5, 1260:9, 1260:13, 1281:16, 1282:14, 1282:22, 11 1281:16, 1282:14, 1282:22, 11 1283:7, 1283:16, 1284:13, 11 1284:18, 1285:1, 1286:23, 11 1289:16, 1290:2, 1290:6, 11 1291:15, 1292:14, 1292:18, 11 1293:2, 1293:16, 1294:14, 13 1293:2, 1293:16, 1294:14, 13 1293:2, 1293:16, 1294:14, 13 1297:1, 1297:18, 1297:24, 1298:19, 1299:9, 1299:10, 1300:12, 1300:25, 1301:5, 1301:14, 1301:21, 11 1300:9, 1300:12, 1300:25, 1301:5, 1301:14, 1301:21, 11 1309:12, 1310:24, 1310:25, 11 1310:24, 1313:20, 1314:24, 11 130:5, 1334:15, 1304:5, 11 130:15, 1304:14, 1325:2, 11 1323:11, 1324:14, 1325:2, 11 1323:11, 1324:14, 1325:2, 11 1330:5, 1334:15 1330:5, 1334:15 1330:5, 1334:15 1330:5, 1334:15 1324:14, 1325:2, 122:19, 122:24, 1276:2, 129:215, 1294:18, 1323:8, 1324:16, 1325:8 1324:16, 1325:8 1324:16, 1325:8 1324:16, 1325:19, 1277:16, 11 1222:12, 1226:19, 1227:14, 1278:2, 12 124:21, 1213:8, 1221:21, 12 122:21, 1228; 128:19, 1277:16, 11 1362:16, 1365:4, 1390:11 1362:16, 1365:4, 1390:11 1362:16, 1365:4, 1390	1273:20, 1274:8, 1275:17,	1
1200:5, 1260:9, 1260:13, 1281:16, 1282:14, 1282:22, 11 1281:16, 1282:14, 1282:22, 11 1283:7, 1283:16, 1284:13, 11 1284:18, 1285:1, 1286:23, 11 1289:16, 1290:2, 1290:6, 11 1291:15, 1292:14, 1292:18, 11 1293:2, 1293:16, 1294:14, 13 1293:2, 1293:16, 1294:14, 13 1293:2, 1293:16, 1294:14, 13 1297:1, 1297:18, 1297:24, 1298:19, 1299:9, 1299:10, 1300:12, 1300:25, 1301:5, 1301:14, 1301:21, 11 1300:9, 1300:12, 1300:25, 1301:5, 1301:14, 1301:21, 11 1309:12, 1310:24, 1310:25, 11 1310:24, 1313:20, 1314:24, 11 130:5, 1334:15, 1304:5, 11 130:15, 1304:14, 1325:2, 11 1323:11, 1324:14, 1325:2, 11 1323:11, 1324:14, 1325:2, 11 1330:5, 1334:15 1330:5, 1334:15 1330:5, 1334:15 1330:5, 1334:15 1324:14, 1325:2, 122:19, 122:24, 1276:2, 129:215, 1294:18, 1323:8, 1324:16, 1325:8 1324:16, 1325:8 1324:16, 1325:8 1324:16, 1325:19, 1277:16, 11 1222:12, 1226:19, 1227:14, 1278:2, 12 124:21, 1213:8, 1221:21, 12 122:21, 1228; 128:19, 1277:16, 11 1362:16, 1365:4, 1390:11 1362:16, 1365:4, 1390:11 1362:16, 1365:4, 1390	1276.18 1277.8 1277.18	
1200:5, 1260:9, 1260:13, 1281:16, 1282:14, 1282:22, 11 1281:16, 1282:14, 1282:22, 11 1283:7, 1283:16, 1284:13, 11 1284:18, 1285:1, 1286:23, 11 1289:16, 1290:2, 1290:6, 11 1291:15, 1292:14, 1292:18, 11 1293:2, 1293:16, 1294:14, 13 1293:2, 1293:16, 1294:14, 13 1293:2, 1293:16, 1294:14, 13 1297:1, 1297:18, 1297:24, 1298:19, 1299:9, 1299:10, 1300:12, 1300:25, 1301:5, 1301:14, 1301:21, 11 1300:9, 1300:12, 1300:25, 1301:5, 1301:14, 1301:21, 11 1309:12, 1310:24, 1310:25, 11 1310:24, 1313:20, 1314:24, 11 130:5, 1334:15, 1304:5, 11 130:15, 1304:14, 1325:2, 11 1323:11, 1324:14, 1325:2, 11 1323:11, 1324:14, 1325:2, 11 1330:5, 1334:15 1330:5, 1334:15 1330:5, 1334:15 1330:5, 1334:15 1324:14, 1325:2, 122:19, 122:24, 1276:2, 129:215, 1294:18, 1323:8, 1324:16, 1325:8 1324:16, 1325:8 1324:16, 1325:8 1324:16, 1325:19, 1277:16, 11 1222:12, 1226:19, 1227:14, 1278:2, 12 124:21, 1213:8, 1221:21, 12 122:21, 1228; 128:19, 1277:16, 11 1362:16, 1365:4, 1390:11 1362:16, 1365:4, 1390:11 1362:16, 1365:4, 1390	1278.25 1270.5 1270.10	
1281:16, 1282:14, 1282:22, 11 1283:7, 1283:16, 1284:13, 11 1284:18, 1285:1, 1286:23, 11 1287:2, 1287:8, 1289:12, 11 1289:16, 1290:2, 1290:6, 13 1291:15, 1292:14, 1292:18, 11 1293:2, 1293:16, 1294:14, 12 1298:1, 1296:20, 12 1298:1, 1299:9, 1299:10, 1300:12, 1300:25, 1301:5, 1301:14, 1301:21, 11 130:9, 1300:12, 1300:25, 1301:5, 1301:4, 1310:24, 1310:25, 1301:5, 1304:5, 11 130:19, 1303:15, 1304:5, 11 130:19, 1303:15, 1304:5, 11 1311:24, 1313:20, 1314:24, 11 1315:13, 1317:11, 1317:12, 11 1317:17, 1322:17, 1323:2, 11 1325:6, 1325:13, 1325:24, 13 1330:5, 1334:15 Geisen's - 1161:17, 1193:24, 1247:10, 1248:17, 1248:19, 1272:24, 1276:2, 1292:15, 1294:18, 1323:8, 1324:16, 1325:8 1324:16, 1325:8 general - 1206:5, 1206:17, 1210:4, 1212:8, 1212:19, 1212:21, 1212:8, 122:19, 122:21, 122:33, 1348:5, 123 1362:16, 1365:4, 1390:11 generalist - 1233:18 generalist - 1233:18 generalist - 123:18 generalist - 123:17	1280.5 1280.0 1280.13	
1293:2, 1293:16, 1294:14, 11 1296:8, 1296:11, 1296:20, 13 1297:1, 1297:18, 1297:24, 1298:2, 1298:8, 1298:12, 13 1298:19, 1299:9, 1299:10, 1300:25, 1301:5, 1300:12, 1300:25, 1301:5, 1304:5, 11 1302:19, 1303:15, 1304:5, 11 1309:12, 1310:24, 1310:25, 11 1317:17, 1322:17, 1323:2, 11 1317:17, 1322:17, 1323:2, 11 1325:6, 1325:13, 1325:24, 13 130:5, 1334:15 11 Geisen's - 1161:17, 1193:24, 1247:10, 1248:17, 1248:19, 1272:24, 1276:2, 1292:15, 1294:18, 1323:8, 132 general - 1206:5, 1206:17, 1210:4, 1212:8, 1221:9, 1222:14, 1226:19, 1229:8, 1268:2, 1275:19, 1277:16, 11 1362:16, 1365:4, 1390:11 12 generally - 1216:8, 1240:61 12 generated - 1155:10, 12 1209:2 13 generated - 1155:20 12 gentleman 's - 1335:17 12 gentlemen's - 1335:1	1200.0, 1200.9, 1200.10,	
1293:2, 1293:16, 1294:14, 11 1296:8, 1296:11, 1296:20, 13 1297:1, 1297:18, 1297:24, 1298:2, 1298:8, 1298:12, 13 1298:19, 1299:9, 1299:10, 1300:25, 1301:5, 1300:12, 1300:25, 1301:5, 1304:5, 11 1302:19, 1303:15, 1304:5, 11 1309:12, 1310:24, 1310:25, 11 1317:17, 1322:17, 1323:2, 11 1317:17, 1322:17, 1323:2, 11 1325:6, 1325:13, 1325:24, 13 130:5, 1334:15 11 Geisen's - 1161:17, 1193:24, 1247:10, 1248:17, 1248:19, 1272:24, 1276:2, 1292:15, 1294:18, 1323:8, 132 general - 1206:5, 1206:17, 1210:4, 1212:8, 1221:9, 1222:14, 1226:19, 1229:8, 1268:2, 1275:19, 1277:16, 11 1362:16, 1365:4, 1390:11 12 generally - 1216:8, 1240:61 12 generated - 1155:10, 12 1209:2 13 generated - 1155:20 12 gentleman 's - 1335:17 12 gentlemen's - 1335:1	1201:10, 1282:14, 1282:22,	
1293:2, 1293:16, 1294:14, 11 1296:8, 1296:11, 1296:20, 13 1297:1, 1297:18, 1297:24, 1298:2, 1298:8, 1298:12, 13 1298:19, 1299:9, 1299:10, 1300:25, 1301:5, 1300:12, 1300:25, 1301:5, 1304:5, 11 1302:19, 1303:15, 1304:5, 11 1309:12, 1310:24, 1310:25, 11 1317:17, 1322:17, 1323:2, 11 1317:17, 1322:17, 1323:2, 11 1325:6, 1325:13, 1325:24, 13 130:5, 1334:15 11 Geisen's - 1161:17, 1193:24, 1247:10, 1248:17, 1248:19, 1272:24, 1276:2, 1292:15, 1294:18, 1323:8, 132 general - 1206:5, 1206:17, 1210:4, 1212:8, 1221:9, 1222:14, 1226:19, 1229:8, 1268:2, 1275:19, 1277:16, 11 1362:16, 1365:4, 1390:11 12 generally - 1216:8, 1240:61 12 generated - 1155:10, 12 1209:2 13 generated - 1155:20 12 gentleman 's - 1335:17 12 gentlemen's - 1335:1	1283:7, 1283:16, 1284:13,	1:
1293:2, 1293:16, 1294:14, 11 1296:8, 1296:11, 1296:20, 13 1297:1, 1297:18, 1297:24, 1298:2, 1298:8, 1298:12, 13 1298:19, 1299:9, 1299:10, 1300:25, 1301:5, 1300:12, 1300:25, 1301:5, 1304:5, 11 1302:19, 1303:15, 1304:5, 11 1309:12, 1310:24, 1310:25, 11 1317:17, 1322:17, 1323:2, 11 1317:17, 1322:17, 1323:2, 11 1325:6, 1325:13, 1325:24, 13 130:5, 1334:15 11 Geisen's - 1161:17, 1193:24, 1247:10, 1248:17, 1248:19, 1272:24, 1276:2, 1292:15, 1294:18, 1323:8, 132 general - 1206:5, 1206:17, 1210:4, 1212:8, 1221:9, 1222:14, 1226:19, 1229:8, 1268:2, 1275:19, 1277:16, 11 1362:16, 1365:4, 1390:11 12 generally - 1216:8, 1240:61 12 generated - 1155:10, 12 1209:2 13 generated - 1155:20 12 gentleman 's - 1335:17 12 gentlemen's - 1335:1	1284:18, 1285:1, 1286:23,	1:
1293:2, 1293:16, 1294:14, 11 1296:8, 1296:11, 1296:20, 13 1297:1, 1297:18, 1297:24, 1298:2, 1298:8, 1298:12, 13 1298:19, 1299:9, 1299:10, 1300:25, 1301:5, 1300:12, 1300:25, 1301:5, 1304:5, 11 1302:19, 1303:15, 1304:5, 11 1309:12, 1310:24, 1310:25, 11 1317:17, 1322:17, 1323:2, 11 1317:17, 1322:17, 1323:2, 11 1325:6, 1325:13, 1325:24, 13 130:5, 1334:15 11 Geisen's - 1161:17, 1193:24, 1247:10, 1248:17, 1248:19, 1272:24, 1276:2, 1292:15, 1294:18, 1323:8, 132 1324:16, 1325:8 11 1301:25, 1302:3, 1348:5, 12 1326:16, 1365:4, 1390:11 12 1317:25, 1302:3, 1348:5, 12 1362:16, 1365:4, 1390:11 12 1376:17, 1210:122 12 1377:17, 1210:18, 1221:22, 12 1384:17 1201:17, 1201:18, 1221:22 12 1394:17 12 1264:23, 1309:18, 1326:20, 12 1394:17 12 1264:23, 1309:18, 1326:20, 12 1394:17 12 1279:1 151:19, 1233:14, 12 1279:2, 1277:24, 1278:3, 1278:3, 1278:4, 1278:3, 1278:4, 1278:3, 1278:4, 1278:3, 1278:4, 1278:3, 1278:4, 1278:3, 1278:4, 1278:3, 1278:4, 1278:3, 1278:4, 1278:3, 1278:4, 1278:3, 1373:17, 1384:25, 1388:23 12 1394:17	1287.2 1287.8 1280.12	1:
1293:2, 1293:16, 1294:14, 11 1296:8, 1296:11, 1296:20, 13 1297:1, 1297:18, 1297:24, 1298:2, 1298:8, 1298:12, 13 1298:19, 1299:9, 1299:10, 1300:25, 1301:5, 1300:12, 1300:25, 1301:5, 1304:5, 11 1302:19, 1303:15, 1304:5, 11 1309:12, 1310:24, 1310:25, 11 1317:17, 1322:17, 1323:2, 11 1317:17, 1322:17, 1323:2, 11 1325:6, 1325:13, 1325:24, 13 130:5, 1334:15 11 Geisen's - 1161:17, 1193:24, 1247:10, 1248:17, 1248:19, 1272:24, 1276:2, 1292:15, 1294:18, 1323:8, 132 1324:16, 1325:8 11 1301:25, 1302:3, 1348:5, 12 1326:16, 1365:4, 1390:11 12 1317:25, 1302:3, 1348:5, 12 1362:16, 1365:4, 1390:11 12 1376:17, 1210:122 12 1377:17, 1210:18, 1221:22, 12 1384:17 1201:17, 1201:18, 1221:22 12 1394:17 12 1264:23, 1309:18, 1326:20, 12 1394:17 12 1264:23, 1309:18, 1326:20, 12 1394:17 12 1279:1 151:19, 1233:14, 12 1279:2, 1277:24, 1278:3, 1278:3, 1278:4, 1278:3, 1278:4, 1278:3, 1278:4, 1278:3, 1278:4, 1278:3, 1278:4, 1278:3, 1278:4, 1278:3, 1278:4, 1278:3, 1278:4, 1278:3, 1278:4, 1278:3, 1373:17, 1384:25, 1388:23 12 1394:17	1289:16, 1290:2, 1290:6,	1:
1293:2, 1293:16, 1294:14, 11 1296:8, 1296:11, 1296:20, 13 1297:1, 1297:18, 1297:24, 1298:2, 1298:8, 1298:12, 13 1298:19, 1299:9, 1299:10, 1300:25, 1301:5, 1300:12, 1300:25, 1301:5, 1304:5, 11 1302:19, 1303:15, 1304:5, 11 1309:12, 1310:24, 1310:25, 11 1317:17, 1322:17, 1323:2, 11 1317:17, 1322:17, 1323:2, 11 1325:6, 1325:13, 1325:24, 13 130:5, 1334:15 11 Geisen's - 1161:17, 1193:24, 1247:10, 1248:17, 1248:19, 1272:24, 1276:2, 1292:15, 1294:18, 1323:8, 132 1324:16, 1325:8 11 1301:25, 1302:3, 1348:5, 12 1326:16, 1365:4, 1390:11 12 1317:25, 1302:3, 1348:5, 12 1362:16, 1365:4, 1390:11 12 1376:17, 1210:122 12 1377:17, 1210:18, 1221:22, 12 1384:17 1201:17, 1201:18, 1221:22 12 1394:17 12 1264:23, 1309:18, 1326:20, 12 1394:17 12 1264:23, 1309:18, 1326:20, 12 1394:17 12 1279:1 151:19, 1233:14, 12 1279:2, 1277:24, 1278:3, 1278:3, 1278:4, 1278:3, 1278:4, 1278:3, 1278:4, 1278:3, 1278:4, 1278:3, 1278:4, 1278:3, 1278:4, 1278:3, 1278:4, 1278:3, 1278:4, 1278:3, 1278:4, 1278:3, 1373:17, 1384:25, 1388:23 12 1394:17	1291:15, 1292:14, 1292:18,	1
1290:8, 1296:11, 1297:24, 1298:1, 1297:18, 1297:24, 1298:19, 1299:9, 1299:10, 1300:9, 1300:12, 1300:25, 1301:5, 1301:14, 1301:21, 1302:19, 1303:15, 1304.5, 1309:12, 1310:24, 1310:25, 1311:24, 1313:20, 1314:24, 1315:13, 1317:11, 1317:12, 1317:17, 1322:17, 1323:2, 1323:11, 1324:14, 1325:2, 1323:11, 1324:14, 1325:2, 1323:11, 1324:14, 1325:2, 1330:5, 1334:15 Geisen's - 1161:17, 1193:24, 1247:10, 1248:17, 1248:19, 1272:24, 1276:2, 1292:15, 1294:18, 1323:8, 1324:16, 1325:8 1324:16, 1325:8 1292:15, 1294:18, 1323:8, 124:21, 1213:8, 1221:21, 1222:12, 1226:19, 1229:8, 1268:2, 1275:19, 1277:16, 130:25, 1302:3, 1348:5, 1362:16, 1365:4, 1390:11 1362:16, 1365:4, 1390:11 1362:16, 1365:4, 1390:11 136:16, 1365:4, 1390:11 136:16, 1365:4, 1390:11 136:16, 1365:4, 1390:11 136:16, 1365:4, 1390:11 137:17, 1301:22 138:126 149:12 15:13, 1	1293.2 1293.16 1294.14	1
1297:1, 1297:18, 1297:24, 1298:2, 1298:8, 1298:12, 1309:12, 1300:12, 1300:25, 1301:5, 1301:14, 1301:21, 1309:12, 1310:24, 1310:25, 1311:24, 1313:20, 1314:24, 1315:13, 1317:11, 1317:12, 1317:17, 1322:17, 1323:2, 1323:11, 1324:14, 1325:2, 1325:6, 1325:13, 1325:24, 1330:5, 1334:15 Geisen's - 1161:17, 1193:24, 1247:10, 1248:17, 1248:19, 1272:24, 1276:2, 1292:15, 1294:18, 1323:8, 1324:16, 1325:8 general - 1206:5, 1206:17, 1210:4, 1212:8, 1212:19, 1212:21, 1226:19, 1229:8, 1268:2, 1275:19, 1277:16, 1362:16, 1365:4, 1390:11 1301:25, 1302:3, 1348:5, 1362:16, 1365:4, 1390:11 139eneralist - 1233:18 generated - 1155:10, 1209:2 generated - 1155:10, 1209:2 generated - 1155:20 generated - 1155:20 generated - 1155:20 generated - 1154:23 12 generated - 1155:20 generated - 1154:23 12 generated - 1155:20 genetically - 1216:8, 1240:6 13 generated - 1155:20 gentileman's - 1252:25 gentileman's - 1252:25 127:9, 1277:24, 1278:3, 1278:4, 1278:9, 1277:24, 1278:3, 1278:4, 1278:9, 1277:24, 1278:3, 1309:18, 1373:17, 1286:23, 1301:8, 1373:17, 1286:23, 1301:8, 1373:17, 1286:23, 1301:8, 1373:17, 1286:23, 1301:8, 1373:17, 1286:23, 1301:8, 1373:17, 1286:23, 1301:8, 1373:17, 1286:25, 1368:23 1391aring - 1370:24 Gibbs - 1200:11, 1222:1, 1227:2 Godd - 1200:11, 1222:1, 1227:2 Godd - 1200:11, 1222:1, 1227:2 Godd - 1200:11, 1222:1, 1227:2 1300:25, 1363:2	1296.8 1296.11 1296.20	1
1298:19, 1299:9, 1299:10, 1300:9, 1300:12, 1300:25, 1301:5, 1301:14, 1301:21, 1302:19, 1303:15, 1304:5, 1311:24, 1313:20, 1314:24, 1315:13, 1317:11, 1317:12, 1317:17, 1322:17, 1323:2, 1323:11, 1324:14, 1325:2, 1325:6, 1325:13, 1325:24, 1330:5, 1334:15, Geisen's - 1161:17, 1193:24, 1247:10, 1248:17, 1248:19, 1272:24, 1276:2, 1292:15, 1294:18, 1323:8, 1324:16, 1325:8, general - 1206:5, 1206:17, 1210:4, 1212:8, 1212:19, 1212:21, 1213:8, 1221:21, 1222:12, 1226:19, 1229:8, 1268:2, 1275:19, 1277:16, 1301:25, 1302:3, 1348:5, 1362:16, 1365:4, 1390:11, generalis - 1233:18, generalis - 1233:18, generated - 1155:10, 1209:2, generated - 1155:10, 1209:2, generated - 1155:10, 1209:2, generated - 1155:20, generated - 1154:23, generically - 1216:8, 1240:61, 1209:2, generically - 1275:20, gentieman - 1275:20, gentieman - 1275:20, gentiemen - 1194:22, 1264:23, 1309:18, 1326:20, 1394:17, gentiemen's - 1335:17, Gerry - 1151:19, 1233:14, 1249:12, Gi - 1196:19, Gibbs - 1220:24, 1220:25, 1221:9, 1277:24, 1278:3, 1278:4, 1278:9, 1278:12, given - 1180:3, 1180:24, 1186:9, 1188:15, 1247:12, 1286:23, 1301:8, 1373:17, 1384:25, 1388:23, 1394:17, gentiemen's - 1335:17, Gerry - 1151:19, 1233:14, 1249:12, Gi- 1196:19, Gibbs - 1220:24, 1220:25, 1221:9, 1277:24, 1278:3, 1278:4, 1278:9, 1278:12, given - 1180:3, 1180:24, 1186:9, 1188:15, 1247:12, 1286:23, 1301:8, 1373:17, 1384:25, 1388:23, 1394:17, government - 1152:2, 1426:24, 1278:25, 1520:11, 1222:11, 1226:25, 1363:2, 1392:12, 1334:16, 1336:15, 1362:5, 1363:2, 1392:14, 1334:16, 1336:15, 1362:5, 1363:2, 1392:5, 1363:2, 1392:5	1207.1 1207.18 1207.24	
1298:19, 1299:9, 1299:10, 1300:9, 1300:12, 1300:25, 1301:5, 1301:14, 1301:21, 1302:19, 1303:15, 1304:5, 1311:24, 1313:20, 1314:24, 1315:13, 1317:11, 1317:12, 1317:17, 1322:17, 1323:2, 1323:11, 1324:14, 1325:2, 1325:6, 1325:13, 1325:24, 1330:5, 1334:15, Geisen's - 1161:17, 1193:24, 1247:10, 1248:17, 1248:19, 1272:24, 1276:2, 1292:15, 1294:18, 1323:8, 1324:16, 1325:8, general - 1206:5, 1206:17, 1210:4, 1212:8, 1212:19, 1212:21, 1213:8, 1221:21, 1222:12, 1226:19, 1229:8, 1268:2, 1275:19, 1277:16, 1301:25, 1302:3, 1348:5, 1362:16, 1365:4, 1390:11, generalis - 1233:18, generalis - 1233:18, generated - 1155:10, 1209:2, generated - 1155:10, 1209:2, generated - 1155:10, 1209:2, generated - 1155:20, generated - 1154:23, generically - 1216:8, 1240:61, 1209:2, generically - 1275:20, gentieman - 1275:20, gentieman - 1275:20, gentiemen - 1194:22, 1264:23, 1309:18, 1326:20, 1394:17, gentiemen's - 1335:17, Gerry - 1151:19, 1233:14, 1249:12, Gi - 1196:19, Gibbs - 1220:24, 1220:25, 1221:9, 1277:24, 1278:3, 1278:4, 1278:9, 1278:12, given - 1180:3, 1180:24, 1186:9, 1188:15, 1247:12, 1286:23, 1301:8, 1373:17, 1384:25, 1388:23, 1394:17, gentiemen's - 1335:17, Gerry - 1151:19, 1233:14, 1249:12, Gi- 1196:19, Gibbs - 1220:24, 1220:25, 1221:9, 1277:24, 1278:3, 1278:4, 1278:9, 1278:12, given - 1180:3, 1180:24, 1186:9, 1188:15, 1247:12, 1286:23, 1301:8, 1373:17, 1384:25, 1388:23, 1394:17, government - 1152:2, 1426:24, 1278:25, 1520:11, 1222:11, 1226:25, 1363:2, 1392:12, 1334:16, 1336:15, 1362:5, 1363:2, 1392:14, 1334:16, 1336:15, 1362:5, 1363:2, 1392:5, 1363:2, 1392:5	1208.2 1208.9 1208.12	1
1300:9, 1300:12, 1300:25, 1301:5, 1301:14, 1301:21, 1302:19, 1303:15, 1304:5, 1311:24, 1313:20, 1314:24, 1315:13, 1317:11, 1317:12, 1317:17, 1322:17, 1323:2, 1323:11, 1324:14, 1325:2, 1323:11, 1324:14, 1325:2, 1330:5, 1334:15 Geisen's - 1161:17, 1193:24, 1247:10, 1248:17, 1248:19, 1272:24, 1276:2, 1292:15, 1294:18, 1323:8, 1324:16, 1325:8 general - 1206:5, 1206:17, 1210:4, 1212:8, 1221:19, 1212:21, 1213:8, 1221:21, 1222:12, 1226:19, 1227:16, 1362:16, 1365:4, 1390:11 1362:16, 1365:4, 1390:11 1379:21, 1216:8, 1240:6 1362:16, 1365:4, 1390:11 1379:22 1399:17, 1302:3, 1348:5, 1362:16, 1365:4, 1390:11 1399:14, 1212:22 1399:17, 1210:42, 1216:8, 1240:6 1399:17 1209:2 1399:17, 1201:22 1399:17, 1201:22 1399:17 1264:23, 1309:18, 1326:20, 1394:17 1264:23, 1301:8, 1373:17, 1384:25, 1388:23 1278:4, 1278:9, 1278:3, 1278:4, 1278:9, 1278:12 1266:23, 1301:8, 1373:17, 1384:25, 1388:23 1301:8, 1373:17, 1384:25, 1388:23 1301:8, 1373:17, 1384:25, 1388:23 1301:1, 1373:17, 1384:25, 1388:23 14000:1, 1192:21, 152:13, 1152:20, 1173:21, 152:13, 1152:20, 1173:21,	1290.2, 1290.0, 1290.12,	1
1301:5, 1301:14, 1301:21, 1 1302:19, 1303:15, 1304:5, 1 1309:12, 1310:24, 1310:25, 1 1311:24, 1313:20, 1314:24, 1 1315:13, 1317:11, 1317:12, 1 1317:17, 1322:17, 1323:2, 12 1325:6, 1325:13, 1325:24, 13 1330:5, 1334:15 Geisen's - 1161:17, 1193:24, 1247:10, 1248:17, 1248:19, 1272:24, 1276:2, 1292:15, 1294:18, 1323:8, 1324:16, 1325:8 1324:16, 1325:8 general - 1206:5, 1206:17, 1210:4, 1212:8, 1221:21, 1222:12, 1226:19, 1229:8, 1268:2, 1275:19, 1277:16, 17 1212:21, 1213:8, 1221:21, 1222:12, 1226:19, 1229:8, 1268:2, 1275:19, 1277:16, 17 1301:25, 1302:3, 1348:5, 12 1301:25, 1302:3, 1348:5, 12 1301:25, 1302:3, 1348:5, 12 1301:25, 1302:3, 1348:5, 12 1301:25, 1302:3, 1348:5, 12 1362:16, 1365:4, 1390:11 generated - 1155:10, 12 generator - 1310:13 generator - 1310:13 generic - 1154:23 generic - 1154:23 generic - 1154:23 gentleman ' 1275:20 gentleman's - 1335:17 Gerry - 1151:19, 1233:14, 12 1264:23, 1309:18, 1326:20, 11 1394:17 given - 1180:3, 1180:24, 11 given - 1180:3, 1180:24, 11 </td <td>1290.19, 1299.9, 1299.10,</td> <td></td>	1290.19, 1299.9, 1299.10,	
1302:19, 1303:15, 1304:5, 11 1309:12, 1310:24, 1310:25, 11 1311:24, 1313:20, 1314:24, 11 1315:13, 1317:11, 1317:12, 11 1317:17, 1322:17, 1323:2, 12 1323:11, 1324:14, 1325:2, 11 1325:6, 1325:13, 1325:24, 13 1330:5, 1334:15 Geisen's - 1161:17, 1193:24, 1247:10, 1248:17, 1248:19, 1272:24, 1276:2, 1292:15, 1294:18, 1323:8, 1324:16, 1325:8 general - 1206:5, 1206:17, 1210:4, 1212:8, 1221:21, 1229:19, 1229:8, 1268:2, 1275:19, 1227:16, 11 1283:23, 1286:9, 1298:9, 11 1301:25, 1302:3, 1348:5, 12 1301:25, 1302:3, 1348:5, 12 1302:16, 1365:4, 1390:11 generally - 1216:8, 1240:6 generated - 1155:10, 12 1209:2 generator - 1310:13 generator - 1310:13 generic - 1154:23 generic - 1154:23 gentleman's - 1252:25 gentleman's - 1252:25 gentleman's - 1252:25 gentleman's - 1335:17 Geirbs - 1220:24, 1220:25, 1221:9, 1277:24, 1278:3, 1301:8, 1373:17, 1384:25, 1388:23 1278:4, 1278:9, 1278:12 given - 1180:3, 1180:24, 13 generic - 1154:23 gentlemen's - 1335:17 Gerton - 1265:25	1300:9, 1300:12, 1300:25,	
1309:12, 1310:24, 1310:25, 1 1311:24, 1313:20, 1314:24, 1 1315:13, 1317:11, 1317:12, 1 1317:17, 1322:17, 1323:2, 1 1323:11, 1324:14, 1325:2, 1 1323:11, 1324:14, 1325:2, 1 1323:11, 1324:14, 1325:2, 1 1330:5, 1334:15 13 Geisen's - 1161:17, 1 1193:24, 1247:10, 1248:17, 1248:19, 1272:24, 1276:2, 1292:15, 1294:18, 1323:8, 13 3124:16, 1325:8 12 general - 1206:5, 1206:17, 1212:21, 1213:8, 1221:21, 122:12, 1226:19, 1277:16, 1 128:23, 1286:9, 1298:9, 1 1301:25, 1302:3, 1348:5, 12 generalist - 1233:18 13 generalist - 123:18 13 generator - 1310:13 13 generator - 1310:13 12 generic - 1154:23 12 <	1301:5, 1301:14, 1301:21,	1
1311:24, 1313:20, 1314:24, 1 1315:13, 1317:11, 1317:12, 1 1317:17, 1322:17, 1323:2, 1 1323:11, 1322:17, 1323:2, 1 1323:11, 1322:17, 1323:2, 1 1323:11, 1322:17, 1323:2, 1 1325:6, 1325:13, 1325:24, 13 1330:5, 1334:15 1 Geisen's - 1161:17, 1 1193:24, 1247:10, 1248:17, 1248:19, 1272:24, 1276:2, 1292:15, 1294:18, 1323:8, 13 general - 1206:5, 1206:17, 1212:21, 1213:8, 1221:21, 122:21, 1226:19, 1277:16, 1 1283:23, 1286:9, 1298:9, 1 1301:25, 1302:3, 1348:5, 12 generally - 1216:8, 1240:6 13 generated - 1155:10, 12 1209:2 13 generator - 1310:13 13 generator - 1310:13 13 generic - 1154:23 12 generic - 1154:23 12 <td>1302:19, 1303:15, 1304:5,</td> <td></td>	1302:19, 1303:15, 1304:5,	
1311:24, 1313:20, 1314:24, 1 1315:13, 1317:11, 1317:12, 1 1317:17, 1322:17, 1323:2, 1 1323:11, 1322:17, 1323:2, 1 1323:11, 1322:17, 1323:2, 1 1323:11, 1322:17, 1323:2, 1 1325:6, 1325:13, 1325:24, 13 1330:5, 1334:15 1 Geisen's - 1161:17, 1 1193:24, 1247:10, 1248:17, 1248:19, 1272:24, 1276:2, 1292:15, 1294:18, 1323:8, 13 general - 1206:5, 1206:17, 1212:21, 1213:8, 1221:21, 122:21, 1226:19, 1277:16, 1 1283:23, 1286:9, 1298:9, 1 1301:25, 1302:3, 1348:5, 12 generally - 1216:8, 1240:6 13 generated - 1155:10, 12 1209:2 13 generator - 1310:13 13 generator - 1310:13 13 generic - 1154:23 12 generic - 1154:23 12 <td>1309:12, 1310:24, 1310:25,</td> <td>1</td>	1309:12, 1310:24, 1310:25,	1
1330:5, 1323:15 13 1330:5, 1334:15 11 1330:5, 1334:15 12 193:24, 1247:10, 1248:17, 1248:19, 1272:24, 1276:2, 1292:15, 1294:18, 1323:8, 1324:16, 1325:8 general - 1206:5, 1206:17, 1210:4, 1212:8, 1221:21, 122:1, 1213:8, 1221:21, 1222:12, 1226:19, 1229:8, 1268:2, 1275:19, 1277:16, 11 1283:23, 1286:9, 1298:9, 11 1301:25, 1302:3, 1348:5, 12 1362:16, 1365:4, 1390:11 13 generally - 1216:8, 1240:6 13 generated - 1155:10, 12 1209:2 12 generator - 1310:13 13 generator - 1310:13 12 generator - 1310:13 12 generator - 1310:13 12 generic - 1154:23 12 generic - 1154:23 12 gentleman's - 1252:25 12 gentleman's - 1252:25 12 gentlemen's - 1335:17 12 Gei: 1196:19 12 Gi: 1196:19 12 Gi: 1196:19 12 given - 1180:3, 1180:24, 12 <td>1311:24, 1313:20, 1314:24,</td> <td>1.</td>	1311:24, 1313:20, 1314:24,	1.
1330:5, 1323:15 13 1330:5, 1334:15 11 1330:5, 1334:15 12 193:24, 1247:10, 1248:17, 1248:19, 1272:24, 1276:2, 1292:15, 1294:18, 1323:8, 1324:16, 1325:8 general - 1206:5, 1206:17, 1210:4, 1212:8, 1221:21, 122:1, 1213:8, 1221:21, 1222:12, 1226:19, 1229:8, 1268:2, 1275:19, 1277:16, 11 1283:23, 1286:9, 1298:9, 11 1301:25, 1302:3, 1348:5, 12 1362:16, 1365:4, 1390:11 13 generally - 1216:8, 1240:6 13 generated - 1155:10, 12 1209:2 12 generator - 1310:13 13 generator - 1310:13 12 generator - 1310:13 12 generator - 1310:13 12 generic - 1154:23 12 generic - 1154:23 12 gentleman's - 1252:25 12 gentleman's - 1252:25 12 gentlemen's - 1335:17 12 Gei: 1196:19 12 Gi: 1196:19 12 Gi: 1196:19 12 given - 1180:3, 1180:24, 12 <td>1315.13. 1317:11. 1317:12.</td> <td>1</td>	1315.13. 1317:11. 1317:12.	1
1330:5, 1323:15 13 1330:5, 1334:15 11 1330:5, 1334:15 12 193:24, 1247:10, 1248:17, 1248:19, 1272:24, 1276:2, 1292:15, 1294:18, 1323:8, 1324:16, 1325:8 general - 1206:5, 1206:17, 1210:4, 1212:8, 1221:21, 122:1, 1213:8, 1221:21, 1222:12, 1226:19, 1229:8, 1268:2, 1275:19, 1277:16, 11 1283:23, 1286:9, 1298:9, 11 1301:25, 1302:3, 1348:5, 12 1362:16, 1365:4, 1390:11 13 generally - 1216:8, 1240:6 13 generated - 1155:10, 12 1209:2 12 generator - 1310:13 13 generator - 1310:13 12 generator - 1310:13 12 generator - 1310:13 12 generic - 1154:23 12 generic - 1154:23 12 gentleman's - 1252:25 12 gentleman's - 1252:25 12 gentlemen's - 1335:17 12 Gei: 1196:19 12 Gi: 1196:19 12 Gi: 1196:19 12 given - 1180:3, 1180:24, 12 <td>1317 17 1322 17 1323 2</td> <td>1:</td>	1317 17 1322 17 1323 2	1:
1330:5, 1323:15 13 1330:5, 1334:15 11 1330:5, 1334:15 12 193:24, 1247:10, 1248:17, 1248:19, 1272:24, 1276:2, 1292:15, 1294:18, 1323:8, 1324:16, 1325:8 general - 1206:5, 1206:17, 1210:4, 1212:8, 1221:21, 122:1, 1213:8, 1221:21, 1222:12, 1226:19, 1229:8, 1268:2, 1275:19, 1277:16, 11 1283:23, 1286:9, 1298:9, 11 1301:25, 1302:3, 1348:5, 12 1362:16, 1365:4, 1390:11 13 generally - 1216:8, 1240:6 13 generated - 1155:10, 12 1209:2 12 generator - 1310:13 13 generator - 1310:13 12 generator - 1310:13 12 generator - 1310:13 12 generic - 1154:23 12 generic - 1154:23 12 gentleman's - 1252:25 12 gentleman's - 1252:25 12 gentlemen's - 1335:17 12 Gei: 1196:19 12 Gi: 1196:19 12 Gi: 1196:19 12 given - 1180:3, 1180:24, 12 <td>1323.11 1324.14 1325.2</td> <td>1</td>	1323.11 1324.14 1325.2	1
1330:5, 1334:15 Geisen's - 1161:17, 1193:24, 1247:10, 1248:17, 1248:19, 1272:24, 1276:2, 1292:15, 1294:18, 1323:8, 1324:16, 1325:8 general - 1206:5, 1206:17, 1210:4, 1212:8, 1212:19, 1212:21, 1213:8, 1221:21, 1222:12, 1226:19, 1229:8, 1268:2, 1275:19, 1277:16, 1301:25, 1302:3, 1348:5, 1362:16, 1365:4, 1390:11 generalist - 1233:18 generated - 1155:10, 1209:2 generators - 1201:17, 1201:18, 1201:22 gentieman - 1275:20 gentieman - 1275:20 gentiemen - 1194:22, 1264:23, 1309:18, 1326:20, 1394:17 generals - 1335:17 Gerry - 1151:19, 1233:14, 1249:12 Gi- 1196:19 Gibbs - 1220:24, 1220:25, 1278:4, 1278:9, 1278:3, 1278:4, 1278:9, 1278:3, 1278:4, 1278:9, 1278:12 global - 1173:7, 1298:10 go-to - 1265:25 goto: 1150:11, 1194:10, 1206:22 Government - 1152:2, 1266:23, 1301:8, 1373:17, 1384:25, 1388:23 glaring - 1370:24 Glenn - 1275:21 global - 1173:7, 1298:10 go-to - 1265:25 1201:10, 1334:7, 1384:25, 1382:31 global - 1173:7, 1298:10 go-to - 1265:25 1201:10, 1334:7, 1384:25, 1388:23 glaring - 1370:24 Glenn - 1275:21 1266:23, 1301:8, 1373:17, 1384:25, 1386:23 1394:17 1426:22, 1301:8, 1373:17, 1384:25, 1386:23 1394:17 1426:22, 1301:8, 1373:17, 1384:25, 1386:23 1394:17 1426:24 1426:25, 1363:2	1325-6 1325-13 1325-24	1
Geisen's - 1161:17, 1193:24, 1247:10, 1248:17, 1248:19, 1272:24, 1276:2, 1292:15, 1294:18, 1323:8, 1324:16, 1325:8 general - 1206:5, 1206:17, 1210:4, 1212:8, 1212:19, 1212:21, 1213:8, 1221:21, 1222:12, 1226:19, 1229:8, 1268:2, 1275:19, 1277:16, 11283:23, 1286:9, 1298:9, 1301:25, 1302:3, 1348:5, 1362:16, 1365:4, 1390:11 generalist - 1233:18 generator - 1310:13 generator - 1310:13 generator - 1310:13 generator - 1155:10, 1209:2 gentleman's - 1252:25 gentleman - 1275:20 gentleman's - 1252:25 gentleman's - 1252:25 gentlemen - 1194:22, 1394:17 gentlemen's - 1335:17 Gerry - 1151:19, 1233:14, 1249:12 Gi- 1196:19 Gibbs - 1220:24, 1220:25, 1221:9, 1277:24, 1278:3, 1278:4, 1278:9, 1278:12, 1384:25, 1388:23 1394:17, 1286:23, 1301:8, 1373:17, 1384:25, 1388:23 1394:17, 14193:23, 1232:16, 1260:12, 152:13, 1152:20, 1173:21, 1193:23, 1232:16, 1260:12, 1206:19, 1262:1, 1334:7, 1334:10, 1334:16, 1336:15, 1362:5, 1363:2	1320.5 1224.15	
1193:24, 1247:10, 1248:17, 1248:19, 1272:24, 1276:2, 1292:15, 1294:18, 1323:8, 1324:16, 1325:8 general - 1206:5, 1206:17, 1210:4, 1212:8, 1221:21, 1222:12, 1226:19, 1229:8, 1268:2, 1275:19, 1277:16, 1301:25, 1302:3, 1348:5, 1362:16, 1365:4, 1390:11 13 generally - 1216:8, 1240:6 generated - 1155:10, 1209:2 13 generators - 1201:17, 1201:18, 1201:22 gentieman's - 1252:25 gentleman - 1175:20 gentleman's - 1252:25 gentlemen - 1194:22, 1394:17 1249:12 Gi-1196:19 Gibbs - 1220:24, 1220:25, 1221:9, 1277:24, 1278:3, 1278:4, 1278:9, 1278:12, 1286:23, 1301:8, 1373:17, 1384:25, 1388:23 1394:17 1384:25, 1388:23 1478:4, 1278:9, 1278:12, 152:13, 1152:20, 1173:21, 1206:22 1394:17 1276:4, 1278:21, 1278:3, 1278:4, 1278:9, 1278:12, 1278:4, 1278:9, 1278:12, 1278:4, 1278:9, 1278:12, 1286:23, 1301:8, 1373:17, 1384:25, 1388:23 1394:17 1384:25, 1388:23 1394:17 1278:4, 1278:9, 1278:12, 1278:4, 1278:9, 1278:12, 1286:23, 1301:8, 1373:17, 1384:25, 1388:23 1391aring - 1370:24 1401aring - 1370:24 152:13, 1152:20, 1173:21, 1193:23, 1222:16, 1260:12, 1152:13, 1152:20, 1173:21, 1193:23, 1222:16, 1260:12, 1260:19, 1262:1, 1334:7, 1334:10, 1334:16, 1336:15, 1362:5, 1363:2		
1248:19, 1272:24, 1276:2, 1292:15, 1294:18, 1323:8, 1324:16, 1325:8 general - 1206:5, 1206:17, 1210:4, 1212:8, 1221:21, 1222:12, 1226:19, 1229:8, 1268:2, 1275:19, 1277:16, 1283:23, 1286:9, 1298:9, 1301:25, 1302:3, 1348:5, 1362:16, 1365:4, 1390:11 13 generalist - 1233:18 generalist - 1233:18 generalist - 1233:18 generators - 1201:17, 1209:2 generic - 1154:23 generic - 1154:23 gentleman - 1275:20 gentleman's - 1252:25 gentlemen's - 1335:17 1264:23, 1309:18, 1326:20, 1394:17 gentlemen's - 1335:17 1249:12 Gi- 1196:19 Gibbs - 1260:24, 1220:25, 1221:9, 1277:24, 1278:3, 1278:4, 1278:9, 1278:12, 1286:23, 1301:8, 1373:17, 1384:25, 1388:23 1278:4, 1278:9, 1278:12 1286:23, 1301:8, 1373:17, 1384:25, 1388:23 1278:4, 1278:9, 1278:12 1286:23, 1301:8, 1373:17, 1384:25, 1388:23 139aring - 1370:24 Glenn - 1275:21 gobal - 1173:7, 1298:10 go-to - 1265:25 1 goal - 1200:11, 1222:1, 1227:2 Gordon - 1150:1, 1194:10, 1206:22 1220:9, 1227:24, 1220:25, 1394:17 1394:17 1286:23, 1301:8, 1373:17, 1384:25, 1388:23 139aring - 1370:24 149aring - 1370:24 152:13, 1152:20, 1173:21, 1193:23, 1232:16, 1260:12, 1152:13, 1152:20, 1173:21, 1193:23, 1232:16, 1260:12, 1220:14, 1234:7, 1334:10, 1334:16, 1336:15, 1362:5, 1363:2		
1292:15, 1294:18, 1323:8, 1324:16, 1325:8 general - 1206:5, 1206:17, 1210:4, 1212:8, 1221:9, 1212:21, 1213:8, 1221:21, 1222:12, 1226:19, 1229:8, 1268:2, 1275:19, 1277:16, 1301:25, 1302:3, 1348:5, 1362:16, 1365:4, 1390:11 1362:16, 1365:4, 1390:11 1362:16, 1365:4, 1390:11 11 generally - 1216:8, 1240:6 1209:2 generator - 1310:13 generators - 1201:17, 1201:18, 1201:22 12 generic - 1154:23 gentleman - 1275:20 gentleman - 1275:20 gentlemen's - 135:17 1264:23, 1309:18, 1326:20, 1394:17 gentlemen's - 135:17 1264:23, 1309:18, 1326:20, 1394:17 gentlemen's - 135:17 127:14, 1278:3, 1278:4, 1278:9, 1278:3, 1278:4, 1278:9, 1278:3, 1278:4, 1278:9, 1278:12 1286:23, 1301:8, 1373:17, 1384:25, 1388:23 1278:4, 1278:9, 1278:12 1286:23, 1301:8, 1373:17, 1384:25, 1388:23 139bal - 1173:7, 1298:10 go-to - 1265:25 1 goal - 1200:11, 1222:1, 1227:2 Gordon - 1150:1, 1194:10, 1206:22 1220:19, 1262:1, 1334:7, 1334:10, 1334:16, 1336:15, 1362:5, 1363:2	1193:24, 1247:10, 1248:17,	
1324:16, 1325:8 general - 1206:5, 1206:17, 1210:4, 1212:8, 1212:19, 1212:21, 1213:8, 1221:21, 1222:12, 1226:19, 1229:8, 1268:2, 1275:19, 1277:16, 1301:25, 1302:3, 1348:5, 1362:16, 1365:4, 1390:11 3generalist - 1233:18 generalist - 1233:18 1362:16, 1365:4, 1390:11 3generalist - 1233:18 1362:16, 1365:4, 1390:11 3generalist - 1233:18 1209:2 12 generator - 1310:13 generators - 1201:17, 1201:18, 1201:22 gentleman - 1275:20 gentleman - 1275:20 gentlemen - 1194:22, 1264:23, 1309:18, 1326:20, 1394:17 gentlemen's - 1335:17 1264:23, 1309:18, 1326:20, 1394:17 gentlemen's - 1335:17 1264:23, 1309:18, 1326:20, 1394:17 gentlemen's - 1335:17 1278:4, 1278:9, 1278:3, 1278:4, 1278:9, 1278:12 1278:4, 1278:9, 1278:12 1286:23, 1301:8, 1373:17, 1384:25, 1388:23 13glaring - 1370:24 13glaring - 1370:24 14glaring - 1370:24 15glaring - 1370:24 1	1248:19, 1272:24, 1276:2,	
general 1206:5, 1206:17, 1210:4, 1212:8, 1212:19, 1212:21, 1213:8, 1221:21, 122:12, 1226:19, 1229:8, 1268:2, 1275:19, 1277:16, 1283:23, 1286:9, 1298:9, 11 1301:25, 1302:3, 1348:5, 12 1362:16, 1365:4, 1390:11 13 generalist 1233:18 generalist 1203:18 generally 1216:8, 1240:6 generated 1155:10, 1209:2 12 generators 1201:17, 1201:18, 1201:22 12 generators 1205:2 gentleman's 125:20 gentleman's 125:20 gentleman's 1264:23, 1309:18, 1326:20, 1394:17 12 gentlemen's 1335:17 Gerry 1151:19, 1233:14, 1249:12 12 Gi- 1196:19 12 Gibbs 1276:24, 1220:25, 1221:9, 1277:24, 1278:3, 1278:4, 1278:9, 1278:12 given 1180:3, 1180:24, 1384:25, 1388:23 13 given	1292:15, 1294:18, 1323:8,	
general 1206:5, 1206:17, 1210:4, 1212:8, 1212:19, 1212:21, 1213:8, 1221:21, 122:12, 1226:19, 1229:8, 1268:2, 1275:19, 1277:16, 1 1283:23, 1286:9, 1298:9, 1 1 1301:25, 1302:3, 1348:5, 1 1362:16, 1365:4, 1390:11 1 generalist 1233:18 1 generalist 1203:18 1 generally 1216:8, 1240:6 1 generated 1155:10, 1 1209:2 1 1 generator 1310:13 generators generators 1201:17, 1 1201:18, 1201:22 1 1 generic 1155:20 gentleman's 1252:25 gentleman's 1252:25 1 1 1264:23, 1309:18, 1326:20, 1 1394:17 1 gentlemen's 1335:17 1 1 Gertlemen's 1335:17 1 1 Gibbs 120:24, 1220:25, 1221:9, 1277:24, 1278:3, 1278:4, 1278:9, 1278:12, 12<	1324:16, 1325:8	12
1210:4, 1212:8, 1212:19, 1212:21, 1213:8, 1221:21, 1222:12, 1226:19, 1229:8, 1268:2, 1275:19, 1277:16, 1301:25, 1302:3, 1348:5, 1301:25, 1302:3, 1348:5, 1302:16, 1365:4, 1390:11 13 generalist - 1233:18 13 generally - 1216:8, 1240:6 12 generated - 1155:10, 1209:2 13 generator - 1310:13 12 generator - 1310:13 12 generator - 1310:17, 12 01:18, 1201:22 13 generically - 1275:20 14 gentieman's - 1252:25 15 gentieman's - 1252:25 17 gentiemen's - 1335:17 17 gentiemen's - 1335:17 12 Gibbs - 120:24, 1220:25, 1221:9, 1277:24, 1278:3, 1278:4, 1278:9, 1278:12 12 siven - 1180:3, 1180:24, 1186:9, 1188:15, 1247:12, 12 siven - 1180:3, 1180:24, 1186:9, 1388:23 13 glaring - 1370:24 13 gentiem - 1275:21 13 goto - 1265:25 1 goal - 1200:11, 1222:1, 1227:2 13 government - 1152:2, 14 size, 1388:23 15 size, 1382:23 16 size, 1303:18, 1373:17, 17 size, 1232:16, 1260:12, 17 size, 1232:16, 1260:12, 17 size, 1232:16, 1260:12, 17 size, 1383:15, 1247:12, 18 size, 1383:12, 1273:12, 19 size, 1383:23 19 size, 1383:23 10 size, 1330:24 11 size, 1334:7, 12 size, 1334:7, 13 size, 13 size, 1334:7, 13 size, 13 size, 1334:7, 13 size, 13 size, 13 size, 1334:7, 13 size, 13	general - 1206:5, 1206:17,	
1212:21, 1213:8, 1221:21, 1222:12, 1226:19, 1229:8, 1268:2, 1275:19, 1277:16, 1301:25, 1302:3, 1348:5, 1362:16, 1365:4, 1390:11 1362:16, 1365:4, 1390:11 139enerally - 1216:8, 1240:6 139enerated - 1155:10, 1209:2 139enerator - 1310:13 1209:2 129eneric - 1154:23 139eneric - 1154:23 129eneric - 1154:23 129eneric - 1154:23 129eneric - 1154:23 139entleman - 1275:20 139entleman - 1275:20 1394:17 1264:23, 1309:18, 1326:20, 1394:17 1264:23, 1309:18, 1326:20, 1394:17 127:24, 1278:3, 1278:4, 1278:9, 1278:3, 1278:4, 1278:9, 1278:3, 1278:4, 1278:9, 1278:3, 1278:4, 1278:9, 1278:12 1286:23, 1301:8, 1373:17, 1384:25, 1388:23 1278:4, 1278:9, 1278:12 1286:23, 1301:8, 1373:17, 1384:25, 1388:23 139bal - 1173:7, 1298:10 130-1265:25 120:11, 1196:19 139bal - 1275:21 139bal - 1200:11, 1222:1, 1227:2 139chon - 1265:25 139bal - 1200:11, 1222:1, 1226:29 139chon - 1265:25 139bal - 1200:11, 1222:1, 1326:23, 1301:8, 1373:17, 1384:12, 1384:23 139bal - 1200:11, 1222:1, 1426:22 152:13, 1152:20, 1173:21, 152:13, 1152:20, 117	1210.4 1212.8 1212.19	
1268:2, 1275:19, 1277:16, 1 1283:23, 1286:9, 1298:9, 11 1301:25, 1302:3, 1348:5, 11 1362:16, 1365:4, 1390:11 generalist - 1233:18 generalist - 1233:18 generalist - 1216:8, 1240:6 generator - 1310:13 generator - 1201:17, 1201:18, 1201:22 generic - 1154:23 gentleman - 1275:20 gentleman's - 1252:25 gentleman's - 1252:25 gentlemen - 1194:22, 1 1264:23, 1309:18, 1326:20, 11 1394:17 gentlemen's - 1335:17 Gerry - 1151:19, 1233:14, 12 1264:23, 1301:8, 1373:17, 11 Gibbs - 1220:24, 1220:25, 12 1278:4, 1278:9, 1278:12 given - 1180:3, 1180:24, 11 given - 1180:3, 1180:24, 12 given - 1180:3, 1180:24, 12 given - 1180:3, 11373:17, 11 1286:23, 13	1212.21 1213.8 1221.21	
1268:2, 1275:19, 1277:16, 1 1283:23, 1286:9, 1298:9, 11 1301:25, 1302:3, 1348:5, 11 1362:16, 1365:4, 1390:11 generalist - 1233:18 generalist - 1233:18 generalist - 1216:8, 1240:6 generator - 1310:13 generator - 1201:17, 1201:18, 1201:22 generic - 1154:23 gentleman - 1275:20 gentleman's - 1252:25 gentleman's - 1252:25 gentlemen - 1194:22, 1 1264:23, 1309:18, 1326:20, 11 1394:17 gentlemen's - 1335:17 Gerry - 1151:19, 1233:14, 12 1264:23, 1301:8, 1373:17, 11 Gibbs - 1220:24, 1220:25, 12 1278:4, 1278:9, 1278:12 given - 1180:3, 1180:24, 11 given - 1180:3, 1180:24, 12 given - 1180:3, 1180:24, 12 given - 1180:3, 11373:17, 11 1286:23, 13	1222.12 1226.19 1229.8	
1283:23, 1286:9, 1298:9, 11 1301:25, 1302:3, 1348:5, 12 1362:16, 1365:4, 1390:11 13 generalist - 1233:18 13 generalist - 1233:18 13 generalist - 1233:18 13 generaled - 1155:10, 13 generated - 1155:10, 13 generators - 1201:17, 12 1209:2 13 generator - 1310:13 generators - 1201:17, 1201:18, 1201:22 13 generically - 1215:2 generically - 125:20 gentleman's - 1252:25 gentleman's - 1252:25 gentlemen - 1194:22, 11 1264:23, 1309:18, 1326:20, 13 1394:17 gentlemen's - 1335:17 Gerry - 1151:19, 1233:14, 14 1249:12 14 Gibbs - 1220:24, 1220:25, 1221:9, 1277:24, 1278:3, 1278:4, 1278:9, 1278:12 13 given - 1180:3, 1180:24, 14 136:9, 1188:15, 1247:12, 13 1286:23, 1301:8, 1373:17, 13 1384:25, 1388:23 13 given - 1150:1, 1194:10, 12 global - 1173:7, 12	1268.2 1275.10 1277.16	1
1301:25, 1302:3, 1348:5, 12 1362:16, 1365:4, 1390:11 13 generalist - 1233:18 13 generated - 1156:10, 13 generated - 1155:10, 13 generators - 1201:17, 1201:22 generic - 1154:23 12 gentleman's - 1252:25 13 gentleman's - 1252:25 14 gentlemen's - 1335:17 12 Gerty - 1151:19, 1233:14, 13 12 1249:12 13 Gibbs - 120:24, 1220:25, 1221:9, 127:24, 1278:3, 1278:4, 1278:9, 1278:12 13 given - 1180:3, 1180:24, 11 13 1286:23, 1301:8, 1373:17, 13 1384:25, 1388:23 13 given - 1180:3, 1180:24, 11 13 glaring - 1370:24 <td>1200.2, 1275.19, 1277.10,</td> <td></td>	1200.2, 1275.19, 1277.10,	
1362:16, 1365:4, 1390:11 11 generalis - 1233:18 13 generalis - 1233:18 13 generalis - 1233:18 13 generalis - 1233:18 13 generated - 1155:10, 11 1209:2 13 generator - 1310:13 14 generators - 1201:17, 1201:18, 1201:22 generic - 1154:23 13 generic - 1154:23 14 generic - 1154:23 15 gentieman - 1275:20 gentieman - 1275:20 gentieman's - 1252:25 gentiemen - 1194:22, gentiemen - 1194:22, 11 1264:23, 1309:18, 1326:20, 15 1394:17 17 gentlemen's - 1335:17 15 Gir - 1196:19 15 Gibbs - 1220:24, 1220:25, 1221:9, 1277:24, 1278:3, 1278:4, 1278:9, 1278:12 11 given - 1180:3, 1180:24, 11 1186:9, 1188:15, 1247:12, 11 1286:23, 1301:8, 1373:17, 13 1384:25, 1388:23 11 given - 1170:24 13 glaring - 1370:24 13 <td< td=""><td>1203:23, 1280:9, 1298:9,</td><td></td></td<>	1203:23, 1280:9, 1298:9,	
generalist - 1233:18 13 generally - 1216:8, 1240:6 13 generated - 1155:10, 13 1209:2 13 generator - 1310:13 14 generators - 1201:17, 12 1201:18, 1201:22 13 generators - 1201:17, 12 1201:18, 1201:22 13 generically - 1215:2 13 generically - 1245:2 14 generically - 1245:2 15 gentleman's - 1252:25 17 gentleman's - 1252:25 17 gentleman's - 1252:25 17 gentlemen - 1194:22, 11 1394:17 17 gentlemen's - 1335:17 17 Gerry - 1151:19, 1233:14, 14 1249:12 14 Gibbs - 1220:24, 1220:25, 12 1219, 1277:24, 1278:3, 12 1286:23, 1301:8, 1373:17, 13 1286:23, 1301:8, 1373:17, 13 1286:23, 1301:8, 137:17, 13 1286:23, 1301:8, 137:121 13 glaring - 1370:24 14 glenn - 1275:25 17 <	1301:25, 1302:3, 1348:5,	
generated - 1155:10, 11 1209:2 13 generator - 1310:13 generators - 1201:17, 1201:18, 1201:22 12 generically - 1215:2 12 generically - 1215:2 12 generically - 1215:2 12 generically - 125:20 12 gentleman's - 1252:25 11 gentleman's - 1252:25 12 gentlemen - 1194:22, 11 1264:23, 1309:18, 1326:20, 13 1394:17 12 gentlemen's - 1335:17 12 Gerry - 1151:19, 1233:14, 13 1249:12 12 Gi- 1196:19 12 Gibbs - 1220:24, 1220:25, 12 1278:4, 1278:9, 1278:3, 1278:4, 1278:4, 1278:9, 1278:12 13 given - 1180:3, 1180:24, 14 1384:25, 1388:23 13 glaring - 1370:24 13 global - 1173:7, 1298:10 13 go-1265:25 1 goal - 1200:11, 1222:1, 13 1206:22 13 government - 1150:1, 1194:10, 13 <t< td=""><td>1362:16, 1365:4, 1390:11</td><td>1:</td></t<>	1362:16, 1365:4, 1390:11	1:
generated - 1155:10, 11 1209:2 13 generator - 1310:13 generators - 1201:17, 1201:18, 1201:22 12 generically - 1215:2 12 generically - 1215:2 12 generically - 1215:2 12 generically - 125:20 12 gentleman's - 1252:25 11 gentleman's - 1252:25 12 gentlemen - 1194:22, 11 1264:23, 1309:18, 1326:20, 13 1394:17 12 gentlemen's - 1335:17 12 Gerry - 1151:19, 1233:14, 13 1249:12 12 Gi- 1196:19 12 Gibbs - 1220:24, 1220:25, 12 1278:4, 1278:9, 1278:3, 1278:4, 1278:4, 1278:9, 1278:12 13 given - 1180:3, 1180:24, 14 1384:25, 1388:23 13 glaring - 1370:24 13 global - 1173:7, 1298:10 13 go-1265:25 1 goal - 1200:11, 1222:1, 13 1206:22 13 government - 1150:1, 1194:10, 13 <t< td=""><td>generalist - 1233:18</td><td>1.</td></t<>	generalist - 1233:18	1.
generated - 1155:10, 11 1209:2 13 generator - 1310:13 generators - 1201:17, 1201:18, 1201:22 12 generically - 1215:2 12 generically - 1215:2 12 generically - 1215:2 12 generically - 125:20 12 gentleman's - 1252:25 11 gentleman's - 1252:25 12 gentlemen - 1194:22, 11 1264:23, 1309:18, 1326:20, 13 1394:17 12 gentlemen's - 1335:17 12 Gerry - 1151:19, 1233:14, 13 1249:12 12 Gi- 1196:19 12 Gibbs - 1220:24, 1220:25, 12 1278:4, 1278:9, 1278:3, 1278:4, 1278:4, 1278:9, 1278:12 13 given - 1180:3, 1180:24, 14 1384:25, 1388:23 13 glaring - 1370:24 13 global - 1173:7, 1298:10 13 go-1265:25 1 goal - 1200:11, 1222:1, 13 1206:22 13 government - 1150:1, 1194:10, 13 <t< td=""><td>generally - 1216:8, 1240:6</td><td>13</td></t<>	generally - 1216:8, 1240:6	13
generator - 1310:13 generators - 1201:17, 1201:18, 1201:22 generic - 1154:23 generically - 1215:2 gentieman - 1275:20 gentleman - 1275:20 gentleman's - 1252:25 gentlemen - 1194:22, 1264:23, 1309:18, 1326:20, 1394:17 gentlemen's - 1335:17 Gerry - 1151:19, 1233:14, 1249:12 Gi- 1196:19 Gibbs - 1220:24, 1220:25, 1221:9, 1277:24, 1278:3, 1278:4, 1278:9, 1278:12 given - 1180:3, 1180:24, 1186:9, 1188:15, 1247:12, 1286:23, 1301:8, 1373:17, 1384:25, 1388:23 glaring - 1370:24 Glenn - 1275:21 gooto - 1265:25 1200:11, 1222:1, 1227:2 Gordon - 1150:1, 1194:10, 1206:22 government - 1152:2, 1152:13, 1152:20, 1173:21, 1193:23, 1232:16, 1260:12, 1206:19, 1262:1, 1334:7, 1334:10, 1334:16, 1336:15, 136:25, 1363:2		13
generator - 1310:13 generators - 1201:17, 1201:18, 1201:22 generic - 1154:23 generically - 1215:2 gentieman - 1275:20 gentleman - 1275:20 gentleman's - 1252:25 gentlemen - 1194:22, 1264:23, 1309:18, 1326:20, 1394:17 gentlemen's - 1335:17 Gerry - 1151:19, 1233:14, 1249:12 Gi- 1196:19 Gibbs - 1220:24, 1220:25, 1221:9, 1277:24, 1278:3, 1278:4, 1278:9, 1278:12 given - 1180:3, 1180:24, 1186:9, 1188:15, 1247:12, 1286:23, 1301:8, 1373:17, 1384:25, 1388:23 glaring - 1370:24 Glenn - 1275:21 gooto - 1265:25 1200:11, 1222:1, 1227:2 Gordon - 1150:1, 1194:10, 1206:22 government - 1152:2, 1152:13, 1152:20, 1173:21, 1193:23, 1232:16, 1260:12, 1206:19, 1262:1, 1334:7, 1334:10, 1334:16, 1336:15, 136:25, 1363:2		1:
generators - 1201:17, 1201:18, 1201:22 generic - 1154:23 12 generically - 1215:2 gentleman - 1275:20 gentleman's - 1252:25 gentlemen - 1194:22, 1264:23, 1309:18, 1326:20, 1394:17 gentlemen's - 1335:17 Gerry - 1151:19, 1233:14, 1249:12 Gi- 1196:19 12 Gibbs - 1220:24, 1220:25, 1221:9, 1277:24, 1278:3, 1278:4, 1278:9, 1278:12 given - 1180:3, 1180:24, 1186:9, 1188:15, 1247:12, 1286:23, 1301:8, 1373:17, 1384:25, 1388:23 glaring - 1370:24 Glenn - 1275:21 goal - 1200:11, 1222:1, 1227:2 Gordon - 1150:1, 1194:10, 1206:22 government - 1152:2, 1152:13, 1152:20, 1173:21, 1193:23, 1232:16, 1260:12, 1364:25, 1363:2	generator - 1310:13	
1201:18, 1201:22 12 generic - 1154:23 12 generically - 1215:2 12 gentleman - 1275:20 gentleman's - 1252:25 gentlemen - 1194:22, 11 1264:23, 1309:18, 1326:20, 12 1394:17 gentlemen's - 1335:17 Gerry - 1151:19, 1233:14, 12 1249:12 12 Gi- 1196:19 12 Gibbs - 1220:24, 1220:25, 1221:9, 1277:24, 1278:3, 1278:4, 1278:9, 1278:12 13 given - 1180:3, 1180:24, 11 186:9, 1188:15, 1247:12, 12 given - 1180:3, 1180:24, 11 1286:23, 1301:8, 1373:17, 11 1384:25, 1388:23 13 glaring - 1370:24 12 Glenn - 1275:21 13 global - 1173:7, 1298:10 10 go-1265:25 1 goal - 1200:11, 1222:1, 12 1206:22 12 government - 1150:1, 1194:10, 12 1206:22 12 government - 1152:2, 12 1152:13, 1152:20, 1173:21, 12 1260:19, 1262:1, 1	generators - 1201:17	
generic - 1154:23 1: generically - 1215:2 gentleman - 1275:20 gentleman's - 1252:25 gentlemen - 1194:22, 11 1264:23, 1309:18, 1326:20, 1394:17 1: gentlemen - 1194:22, 1 1264:23, 1309:18, 1326:20, 1: 1394:17 1: gentlemen's - 1335:17 1: gentlemen's - 1335:17 1: Gerry - 1151:19, 1233:14, 1: 1249:12 1: Gi- 1196:19 1: Gibbs - 1220:24, 1220:25, 1221:9, 1277:24, 1278:3, 1278:4, 1278:9, 1278:12 1: given - 1180:3, 1180:24, 1: given - 1180:3, 1180:24, 1: 1286:23, 1301:8, 1373:17, 1: 1384:25, 1388:23 1: glaring - 1370:24 1: global - 1173:7, 1298:10 go-to - 1265:25 goal - 1200:11, 1222:1, 1: 1206:22 1: government - 1150:1, 1194:10, 1: 1206:22 1: government - 1152:2, 1: 1152:13, 1152:20, 1173:21, 1:	1201.18 1201.22	1
generically - 1215:2 gentleman - 1275:20 gentleman's - 1252:25 gentlemen - 1194:22, 1264:23, 1309:18, 1326:20, 1394:17 gentlemen's - 1335:17 Gerry - 1151:19, 1233:14, 1249:12 Gi- 1196:19 Gibbs - 1220:24, 1220:25, 1278:4, 1278:9, 1278:3, 1278:4, 1278:9, 1278:12 given - 1180:3, 1180:24, 1186:9, 1188:15, 1247:12, 1286:23, 1301:8, 1373:17, 1384:25, 1388:23 glaring - 1370:24 Glenn - 1275:21 gooto - 1265:25 1200:11, 1222:1, 1227:2 Gordon - 1150:1, 1194:10, 1206:22 government - 1152:2, 1152:13, 1152:20, 1173:21, 1193:23, 1232:16, 1260:12, 1193:23, 1232:16, 1334:7, 1334:10, 1334:16, 1336:15,		1
gentleman - 1275:20 gentleman's - 1252:25 gentlemen's - 1252:25 gentlemen's - 1252:25 gentlemen's - 1335:17 1264:23, 1309:18, 1326:20, 12 1394:17 gentlemen's - 1335:17 1249:12 Gi - 1196:19 12 Gibbs - 1220:24, 1220:25, 1221:9, 1277:24, 1278:3, 1278:4, 1278:9, 1278:12 138:9, 1188:15, 1247:12, 12 1286:23, 1301:8, 1373:17, 12 1384:25, 1388:23 glaring - 1370:24 Glenn - 1275:21 gover - 1160:12, 1298:10 go-to - 1265:25 1 goal - 1200:11, 1222:1, 12 1227:2 Gordon - 1150:1, 1194:10, 12 1206:22 12 152:13, 1152:20, 1173:21, 12 1260:19, 1262:1, 1334:7, 13 134:10, 1334:16, 1336:15, 1362:5, 1363:2	generically 1215-2	
gentleman's - 1252:25 gentlemen - 1194:22, 1264:23, 1309:18, 1326:20, 1394:17 gentlemen's - 1335:17 Gerry - 1151:19, 1233:14, 1249:12 Gi- 1196:19 Gibbs - 1220:24, 1220:25, 1278:4, 1278:9, 1278:12 given - 1180:3, 1180:24, 1186:9, 1188:15, 1247:12, 1286:23, 1301:8, 1373:17, 1286:23, 1301:8, 1373:17, 1384:25, 1388:23 glaring - 1370:24 Glenn - 1275:21 global - 1173:7, 1298:10 go-to - 1265:25 1227:2 Gordon - 1150:1, 1194:10, 1206:22 government - 1152:2, 1152:13, 1152:20, 1173:21, 1260:19, 1262:1, 1334:7, 1326:5, 1363:2	generically - 1215,2	
gentlemen - 1194:22, 1 1264:23, 1309:18, 1326:20, 13 1394:17 12 gentlemen's - 1335:17 12 Gerry - 1151:19, 1233:14, 13 1249:12 12 Gi- 1196:19 12 Gibbs - 1220:24, 1220:25, 1221:9, 1277:24, 1278:3, 1278:4, 1278:9, 1278:12 13 given - 1180:3, 1180:24, 14 186:9, 1188:15, 1247:12, 12 1286:23, 1301:8, 1373:17, 11 1384:25, 1388:23 13 glaring - 1370:24 13 global - 1173:7, 1298:10 12 goola - 1265:25 1 goal - 1200:11, 1222:1, 12 1206:22 12 government - 1150:1, 1194:10, 12 1206:22 12 government - 1152:2, 12 1152:13, 1152:20, 1173:21, 12 1206:19, 1262:1, 1334:7, 1334:10, 1334:7, 1334:10, 1334:16, 1336:15, 1362:5, 1363:2	gentleman - 12/5/20	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	gentieman's - 1252:25	
1394:17 1: gentlemen's - 1335:17 1: gerty - 1151:19, 1233:14, 1: 1249:12 Gi. 1196:19 1: Gibbs - 1220:24, 1220:25, 1221:9, 1277:24, 1278:3, 1: 1278:4, 1278:9, 1278:12 1: 1: given - 1180:3, 1180:24, 1: 1: 1286:23, 1301:8, 1373:17, 1: 1: 1286:23, 1301:8, 1373:17, 1: 1: glering - 1370:24 1: 1: global - 1173:7, 1298:10 go-to - 1265:25 1: govern - 1150:1, 1194:10, 1: 1: 1206:22 1: 1: government - 1150:2, 1173:21, 1: 1: 193:23, 1232:16, 1260:12, 1: 1: 193:43:10, 1334:16, 1336:15, 1:362:5, 1363:2 1:	gentiemen - 1194:22,	
gentlemen's - 1335:17 11 Gerry - 1151:19, 1233:14, 11 1249:12 Gi Gi-1196:19 11 Gibbs - 1220:24, 1220:25, 1221:9, 1277:24, 1278:3, 1278:4, 1278:9, 1278:12 11 given - 1180:3, 1180:24, 11 1186:9, 1188:15, 1247:12, 11 1286:23, 1301:8, 1373:17, 11 1384:25, 1388:23 11 glaring - 1370:24 11 global - 1173:7, 1298:10 go-to - 1265:25 goal - 1200:11, 1222:1, 11 1206:22 11 government - 1150:1, 1194:10, 11 1206:22 11 government - 1152:2, 11 1152:13, 1152:20, 1173:21, 11 1193:23, 1232:16, 1260:12, 11 1260:19, 1262:11, 1334:7, 1334:10, 1334:16, 1336:15, 1362:5, 1363:2 1362:5, 1363:2		1.
Gerry - 1151:19, 1233:14, 13 1249:12 11 Gi- 1196:19 11 Gibbs - 1220:24, 1220:25, 1221:9, 1277:24, 1278:3, 1278:4, 1278:9, 1278:12 13 given - 1180:3, 1180:24, 11 1186:9, 1188:15, 1247:12, 12 1286:23, 1301:8, 1373:17, 11 1384:25, 1388:23 11 glaring - 1370:24 11 global - 1173:7, 1298:10 go-to - 1265:25 goal - 1200:11, 1222:1, 11 1206:22 11 government - 1150:1, 1194:10, 11 1206:22 11 government - 1152:2, 11 1193:23, 1232:16, 1260:12, 11 1260:19, 1334:7, 1334:10, 1334:7, 1334:10, 1334:16, 1336:15, 1362:5, 1363:2		1:
1249:12 Gi - 1196:19 11 Gibbs - 1220:24, 1220:25, 1221:9, 1277:24, 1278:3, 1278:4, 1278:9, 1278:12 12 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 15 13 15 13 15 13 15 13 15 13 15 13 15 13 15 13 15 13 15 13 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15	gentlemen's - 1335:17	1:
1249:12 Gi - 1196:19 11 Gibbs - 1220:24, 1220:25, 1221:9, 1277:24, 1278:3, 1278:4, 1278:9, 1278:12 12 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 15 13 15 13 15 13 15 13 15 13 15 13 15 13 15 13 15 13 15 13 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15 15	Gerry - 1151:19, 1233:14,	1:
Gi- 1196:19 12 Gibbs - 1220:24, 1220:25, 1221:9, 1277:24, 1278:3, 1278:4, 1278:9, 1278:12 13 given - 1180:3, 1180:24, 1186:9, 1188:15, 1247:12, 12 1286:23, 1301:8, 1373:17, 12 1384:25, 1388:23 11 glaring - 1370:24 13 Glenn - 1275:21 13 global - 1173:7, 1298:10 12 go-to - 1265:25 11 goal - 1200:11, 1222:1, 12 1227:2 12 Gordon - 1150:1, 1194:10, 12 1206:22 12 government - 1152:2, 12 1152:13, 1152:20, 1173:21, 12 1193:23, 1232:16, 1260:12, 13 1206:19, 1262:1, 1334:7, 1334:10, 1334:16, 1336:15, 1362:5, 1363:2	1249:12	
Gibbs - 1220:24, 1220:25, 1221:9, 1277:24, 1278:3, 1278:4, 1278:9, 1278:12 given - 1180:3, 1180:24, 1186:9, 1188:15, 1247:12, 1286:23, 1301:8, 1373:17, 1384:25, 1388:23 glaring - 1370:24 Glenn - 1275:21 goto - 1265:25 goal - 1200:11, 1222:1, 1227:2 Gordon - 1150:1, 1194:10, 1206:22 government - 1152:2, 1152:13, 1152:20, 1173:21, 1193:23, 1232:16, 1260:12, 1260:19, 1262:1, 1334:7, 1334:10, 1334:16, 1336:15, 1362:5, 1363:2	Gi - 1196:19	1:
1221:9, 1277:24, 1278:3, 1278:4, 1278:9, 1278:12 given - 1180:3, 1180:24, 1186:9, 1188:15, 1247:12, 1286:23, 1301:8, 1373:17, 1384:25, 1388:23 glaring - 1370:24 13global - 1173:7, 1298:10 go-to - 1265:25 1 goal - 1200:11, 1222:1, 1227:2 Gordon - 1150:1, 1194:10, 1206:22 government - 1152:2, 1152:13, 1152:20, 1173:21, 1193:23, 1232:16, 1260:12, 1260:19, 1262:1, 1334:7, 1334:10, 1334:16, 1336:15, 1362:5, 1363:2	Gibbs - 1220:24, 1220:25.	
1278:4, 1278:9, 1278:12 13 given - 1180:3, 1180:24, 1186:9, 1188:15, 1247:12, 12 1286:23, 1301:8, 1373:17, 12 1384:25, 1388:23 13 glaring - 1370:24 13 global - 1275:21 13 global - 1173:7, 1298:10 12 go-to - 1265:25 11 goal - 1200:11, 1222:1, 12 1266:22 11 government - 1150:1, 1194:10, 12 1206:22 11 government - 1152:2, 12 1152:13, 1152:20, 1173:21, 12 1260:19, 1262:1, 1334:7, 13 1334:10, 1334:16, 1336:15, 1362:5, 1363:2	1221:9. 1277:24. 1278:3	
given - 1180:3, 1180:24, 1186:9, 1188:15, 1247:12, 1286:23, 1301:8, 1373:17, 1384:25, 1388:23 glaring - 1370:24 Glenn - 1275:21 global - 1173:7, 1298:10 go-to - 1265:25 1 goal - 1200:11, 1222:1, 1227:2 Gordon - 1150:1, 1194:10, 1206:22 government - 1152:2, 1152:13, 1152:20, 1173:21, 1152:13, 1152:20, 1173:21, 1260:19, 1262:1, 1334:7, 1334:10, 1334:16, 1336:15, 1362:5, 1363:2		1
1186:9, 1188:15, 1247:12, 12 1286:23, 1301:8, 1373:17, 12 1384:25, 1388:23 glaring - 1370:24 Glenn - 1275:21 global - 1173:7, 1298:10 go-to - 1265:25 goal - 1200:11, 1222:1, 12 1206:22 government - 1150:1, 1194:10, 12 1206:22 government - 1152:2, 12 1152:13, 1152:20, 1173:21, 12 1193:23, 1232:16, 1260:12, 13 1334:10, 1334:7, 1334:7, 1334:10, 1334:7, 1334:10, 1334:16, 1336:15, 1362:5, 1363:2	given - 1180.3 1180.24	
1286:23, 1301:8, 1373:17, 1384:25, 1388:23 glaring - 1370:24 Glenn - 1275:21 goto - 1265:25 goal - 1200:11, 1222:1, 1227:2 Gordon - 1150:1, 1194:10, 1206:22 government - 1152:2, 1152:13, 1152:20, 1173:21, 1193:23, 1232:16, 1260:12, 1260:19, 1262:1, 1334:7, 1334:10, 1334:16, 1336:15, 1362:5, 1363:2	1186-9 1188-15 1247-12	1
1384:25, 1388:23 11 glaring - 1370:24 11 Glenn - 1275:21 11 global - 1173:7, 1298:10 10 go-to - 1265:25 11 goal - 1200:11, 1222:1, 11 12027:2 12 Gordon - 1150:1, 1194:10, 12 1206:22 12 government - 1152:2, 12 1152:13, 1152:20, 1173:21, 12 1193:23, 1232:16, 1260:12, 12 1260:19, 1262:1, 1334:7, 1334:10, 1334:15, 134:10, 1334:16, 1336:15, 1362:5, 1363:2	1286-23 1301-9 1373-17	1
glaring - 1370:24 13 Glenn - 1275:21 13 global - 1173:7, 1298:10 10 go-to - 1265:25 11 goal - 1200:11, 1222:1, 13 1227:2 11 Gordon - 1150:1, 1194:10, 13 1206:22 11 government - 1152:2, 13 1152:13, 1152:20, 1173:21, 13 1152:32, 1232:16, 1260:12, 13 1260:19, 1262:1, 1334:7, 1334:16, 1336:15, 1362:5, 1363:2 1366:15,	1200.25, 1501.0, 1575.17,	
Glenn - 1275:21 13 global - 1173:7, 1298:10 10 go-to - 1265:25 1 goal - 1200:11, 1222:1, 12 1227:2 11 Gordon - 1150:1, 1194:10, 12 1206:22 12 government - 1152:2, 12 1152:13, 1152:20, 1173:21, 12 1193:23, 1232:16, 1260:12, 13 1260:19, 1262:1, 1334:7, 1334:10, 1336:15, 1362:5, 1363:2 136:15,		
global - 1173:7, 1298:10 go-to - 1265:25 1 goal - 1200:11, 1222:1, 12 1227:2 12 Gordon - 1150:1, 1194:10, 12 1206:22 12 government - 1152:2, 12 152:13, 1152:20, 1173:21, 12 193:23, 1232:16, 1260:12, 13 1266:19, 1262:1, 1334:7, 1334:10, 1334:16, 1336:15, 1362:5, 1363:2 1362:5, 1363:2	glaring - 13/0:24	1.
go-to - 1265:25 1 goal - 1200:11, 1222:1, 12 1227:2 12 Gordon - 1150:1, 1194:10, 12 1206:22 12 government - 1152:2, 12 152:13, 1152:20, 1173:21, 12 193:23, 1232:16, 1260:12, 12 1260:19, 1262:1, 1334:7, 13 134:10, 1334:16, 1336:15, 1362:5, 1363:2	Glenn - 12/5:21	1.
goal - 1200:11, 1222:1, 12 1227:2 12 Gordon - 1150:1, 1194:10, 12 1206:22 12 government - 1152:2, 12 1152:13, 1152:20, 1173:21, 12 1193:23, 1232:16, 1260:12, 12 1260:19, 1262:1, 1334:7, 1334:10, 1334:16, 1336:15, 1334:10, 1334:16, 1336:15, 1362:5, 1363:2	global - 11/3:7, 1298:10	. !
1227:2 Gordon - 1150:1, 1194:10, 11 1206:22 government - 1152:2, 11 1152:13, 1152:20, 1173:21, 11 1193:23, 1232:16, 1260:12, 13 1260:19, 1262:1, 1334:7, 1334:10, 1334:16, 1336:15, 1362:5, 1363:2		
1227:2 Gordon - 1150:1, 1194:10, 11 1206:22 government - 1152:2, 11 1152:13, 1152:20, 1173:21, 11 1193:23, 1232:16, 1260:12, 13 1260:19, 1262:1, 1334:7, 1334:10, 1334:16, 1336:15, 1362:5, 1363:2	goal - 1200:11, 1222:1,	1:
1206:22 government - 1152:2, 11 1152:13, 1152:20, 1173:21, 11 1193:23, 1232:16, 1260:12, 11 1260:19, 1262:1, 1334:7, 1334:10, 1334:16, 1336:15, 1362:5, 1363:2		1:
1206:22 government - 1152:2, 11 1152:13, 1152:20, 1173:21, 11 1193:23, 1232:16, 1260:12, 11 1260:19, 1262:1, 1334:7, 1334:10, 1334:16, 1336:15, 1362:5, 1363:2		1
government - 1152:2, 11 1152:13, 1152:20, 1173:21, 11 1193:23, 1232:16, 1260:12, 11 1260:19, 1262:1, 1334:7, 13 1334:10, 1334:16, 1336:15, 1362:5, 1363:2		1:
1152:13, 1152:20, 1173:21, 1: 1193:23, 1232:16, 1260:12, 1: 1260:19, 1262:1, 1334:7, 1334:10, 1334:16, 1336:15, 1362:5, 1363:2		1
1260:19, 1262:1, 1334:7, 1334:10, 1334:16, 1336:15, 1362:5, 1363:2	1152 13 1152 20 1173 21	
1260:19, 1262:1, 1334:7, 1334:10, 1334:16, 1336:15, 1362:5, 1363:2	1193-23 1232-16 1260-12	1
1334:10, 1334:16, 1336:15, 1362:5, 1363:2	1260.40 1222.10, 1200.12,	
1362:5, 1363:2	1200:19, 1202:1, 1334:7,	
1362:5, 1363:2 government's - 1193:15,		!
government's - 1193:15,	1302:5, 1363:2	
	government's - 1193:15.	

317:24 Government's - 1151:20. 153:4, 1153:18, 1185:13, 187:7, 1188:1, 1190:10, 192:3, 1204:18, 1205:4, 205:6, 1206:20, 1206:23, 208:4, 1217:12, 1234:6, 248:8, 1290:15, 1319:21, 320:7, 1336:20, 1337:24, 337:25, 1338:12, 1338:20, 346:12, 1347:6, 1357:24, 361:11, 1362:6, 1375:25, 379:9, 1391:6, 1392:3, 392:6 government-type -232:16 governmental - 1361:2 Goyal - 1151:4, 1151:6, 152:1, 1160:14, 1160:16, 162:10, 1164:3, 1164:5, 178:7, 1182:10, 1184:6 185:9, 1185:11, 1188:18 188:21, 1190:2, 1247:12, 273:23, 1274:4, 1282:5, 308:3, 1313:10, 1394:7, 396:2, 1396:4, 1396:6, 396.8 Goyal's - 1204:24 grammatical - 1391:22 gratuitous - 1385:8 great - 1225:6, 1240:15, 275:13 greater - 1377:23 greatest - 1382:11 greatly - 1392:19 greensheet - 1153:9, 176:3, 1177:7, 1177:9, 184:8, 1217:6, 1277:8, 277:11, 1357:10, 1357:12, 357:14, 1357:20, 1359:2, 359:7, 1367:8, 1368:18, 370:2, 1370:3, 1374:18, 374:22, 1388:15, 1392:17, 392:20, 1393:1 greensheets - 1369:5 Greg - 1220:24, 1220:25, 221:3, 1221:10, 1221:11, 221:15 ground - 1223:21, 1288:1 grounds - 1321:6, 1321:9 group - 1161:21, 1162:4, 162:8, 1199:25, 1204:14, 210:15, 1214:12, 1217:9, 221:20, 1221:22, 1223:21, 230:9, 1258:10, 1329:24, 332:8, 1332:12 Group - 1162:1, 1214:10, 273:6 groups - 1227:19, 1331:12 **grow** - 1253:24, 1314:5, 314:20, 1314:22 growth - 1222:8, 1223:17, 227:25, 1228:11, 1248:5, 284:4, 1287:13, 1287:15 313:18, 1313:22, 1314:25, 315:7, 1315:15, 1315:19, 316:9 guess - 1155:12, 1196:12, 198:8, 1216:19, 1223:5, 224:16, 1226:13, 1230:11, 231:17, 1232:25, 1233:3, 237:2, 1239:6, 1241:1, 241:11, 1249:10, 1251:25, 260:10, 1262:18, 1266:20, 267:4, 1310:3, 1328:12, 333:5, 1349:12 guessed - 1287:20 guests - 1213:1, 1214:15 guide - 1290:24, 1311:8

auise - 1334:17

gun - 1239:22 gut - 1305:1 gut-type - 1305:1 Gutierrez - 1369:8 Gutterrez - 1369:8 Gutterez - 1370:7, 1370:10 Guy - 1203:13, 1203:14, 1203:21, 1220:13, 1220:17, 1222:19, 1222:21, 1223:3, 1223:12, 1223:14, 1224:2, 1224:7, 1225:4, 1227:19, 1230:24, 1232:25, 1234:23, 1248:3, 1274:5, 1280:1, 1285:7, 1290:4, 1330:12, 1330:17, 1359:18 guy - 1177:12, 1258:16, 1266:1, 1278:4, 1289:5, 1313:17 guys - 1231:9

H

habit - 1361:19 hairs - 1259:24 half - 1154:19, 1215:14, 1224:6, 1225:12, 1246:8 hall - 1356:20, 1356:22 hand - 1156:21, 1156:23, 1205:8, 1283:25, 1293:7, 1316:8, 1320:7, 1341:3, 1342:25, 1343:16, 1351:10, 1352:14, 1353:18, 1387:2 hand-in-hand - 1293:7, 1316:8 handing - 1270:6 handle - 1243:4 handled - 1378:3 handout - 1322:7 handwriting - 1322:4, 1338:2, 1338:4, 1338:5, 1338:7 handwritten - 1336:18, 1347:3, 1376:7 happily - 1263:5 happy - 1264:21, 1303:19, 1326:11 hard - 1157:5, 1183:5, 1289:3, 1355:21 Hardin - 1161:23 hardware - 1170:5 Head - 1208:15 head - 1157:11, 1157:12, 1157:14, 1157:18, 1158:9, 1158:12, 1163:13, 1164:10, 1166:5, 1168:22, 1170:17, 1170:20, 1171:2, 1171:6, 1171:25, 1172:17, 1172:22, 1173:17, 1175:7, 1175:11, 1175:14, 1175:17, 1175:21, 1175:23, 1176:1, 1176:2, 1176:3, 1176:5, 1176:17, 1176:18, 1179:7, 1179:11, 1180:2, 1180:14, 1180:20, 1181:23, 1181:25, 1182:6, 1182:16, 1182:17, 1182:21, 1182:24, 1183:21, 1185:1, 1186:14, 1191:9, 1191:20 1197:14, 1202:14, 1202:16, 1202:19, 1202:20, 1202:23, 1203:2, 1203:10, 1204:3, 1204:8, 1205:24, 1207:19 1207:20, 1207:23, 1208:18, 1209:14, 1211:18, 1211:19, 1211:22, 1211:23, 1225:11, 1229:18, 1246:18, 1246:1900; 1246:19, 1246:19, 1246:19, 1246:19, 1246:19, 1 1264:13, 1267:7, 1269:4, 1269:18, 1271:11, 1272:7 1284:14, 1288:13, 1295:13, 1295:18, 1299:7, 1304:19, 1306:6, 1306:16, 1313:5, 1314:17, 1315:5, 1324:4,

1324:8, 1343:17, 1343:22, 1344:9, 1344:22, 1344:23, 1345:11, 1345:16, 1345:19, 1349:9, 1351:3, 1351:20, 1352:9, 1352:18, 1352:25, 1353:7, 1353:13, 1353:15, 1353:20, 1354:1, 1354:3, 1380:23, 1381:13, 1381:17, 1381:20, 1382:9, 1385:22, 1394.8 headed - 1324:21 header - 1192:8 heading - 1235:25, 1340:17 headquarters - 1329:5, 1360:3 heads - 1253:20 health - 1204:13 hear - 1220:11, 1256:18, 1375:20 heard - 1214:24, 1220:12, 1235:22, 1240:6, 1253:2, 1261:2, 1360:17 hearing - 1187:25, 1192:12, 1254:3, 1260:6, 1263:4, 1278:9, 1334:5 hearsay - 1298:5, 1321:6, 1321:8 heavy - 1266:23 held - 1216:8, 1282:18 help - 1157:2, 1164:1, 1221:1, 1221:13, 1221:15, 1252:17, 1309:3, 1321:20, 1332:5, 1332:6, 1383:25 helping - 1309:6 helps - 1325:6 herein - 1348:18, 1349:11, 1349:16 hesitant - 1292:5 hesitate - 1249:10, nesitate - 1249:10, 1249:24, 1258:23, 1266:23, 1268:23, 1268:25, 1273:16 **Hibey** - 1149:21, 1159:10, 1160:12, 1160:15, 1163:22, 1186:25, 1187:12, 1187:19, 1187:22, 1188:20, 1189:4, 1190:3, 1190:6, 1190:14, 1190:19, 1190:22, 1192:9, 1192:18, 1192:22, 1193:3, 1194:8, 1194:9, 1301:12, 1362:9, 1396:5 high - 1201:12, 1215:3, 1215:6, 1222:3, 1232:5, 1266:11, 1273:3, 1274:10, 1275:24, 1278:2, 1281:21 high-level - 1215.6, 1281:21 higher - 1219:22, 1290:2, 1376:15 highest - 1241:4 highlight - 1341:3, 1341:8, 1341:15, 1351:4, 1358:6 highlighted - 1341:25, 1350:25, 1351:7, 1352:14, 1355.10 highlighter - 1341:2 highlighting - 1340:4, 1341:6, 1341:14 hindsight - 1306:14 hired - 1221:7, 1253:21, 1267:15, 1332:11 Hiser - 1228:1, 1229:1, 1236:13, 1255:20, 1255:22, 1283:22, 1303:17, 1303:18, 1303:22, 1314:1 history - 1202:16, 1203:11, 1220:9, 1225:3 hit - 1193:21, 1241:3, 1306.3 hoisted - 1256:20

hold - 1195:22, 1200:7, 1355-14 holding - 1164:6 hole - 1179:21, 1247:5, 1251:18 **holes** - 1179:8, 1179:11, 1179:14, 1183:19, 1183:22, 1191:21, 1191:22, 1252:6 holiday - 1226:7 home - 1339:14, 1347:21 honest - 1227:1, 1253:20, 1266:15 honestly - 1283:19, 1303:24 honesty - 1266:12 Honor - 1151:23, 1153:22, 1156:6, 1157:1, 1159:8, 1160:11, 1163:22, 1172:24, 1185:7, 1187:12, 1187:17, 1187:22, 1188:2, 1189:7, 1189:20, 1189:23, 1190:6, 1190:14, 1190:19, 1190:21, 1191:1, 1192:9, 1194:19, 1206:19, 1234:7, 1234:10, 1270:21, 1270:24, 1271:1, 1272:12, 1290:11, 1292:11, 1306:20, 1306:22, 1317:15, 1317:24, 1320:8, 1321:1, 1321:10, 1321:18, 1322:6, 1326:15, 1326:16, 1322.51, 1326:15, 1326:16, 1326:18, 1327:4, 1334:13, 1335:11, 1340:11, 1347:5, 1347:7, 1347:9, 1357:25, 1362:5, 1362:9, 1362:2, 1362:8, 1362:9, 1363:2, 1363:5, 1363:21, 1363:24, 1368:2, 1368:11, 1370:16, 1371:10, 1372:14, 1372:19, 1372:22, 1376:16, 1379:8, 1379:12, 1389:2, 1389:4, 1389:7, 1389:25, 1393:3, 1393:24 Honorable - 1149:10 hope - 1227:4 hopefully - 1227:13 hoping - 1286:10 host - 1218:24, 1223:2, 1249:3 hosts - 1222:5 hot - 1209:1, 1213:17, 1329.19 hotel - 1233:7, 1234:1 hour - 1194:23, 1265:7, 1356:15 hours - 1226:9, 1258:25, 1301:19, 1394:18 housekeeping - 1305:22 Houston - 1318:11 huge - 1210:7 hundred - 1334:22 Hundreds - 1200:17 hunting - 1259:23 hurried - 1226:6 Huston - 1317:25, 1318:3, 1318:5, 1318:12, 1318:14, 1318:15, 1321:15, 1321:20, 1329:18, 1396:17 hypothetical - 1394:2, 1394:3 idea - 1179:22, 1225:22, 1230:7, 1237:5, 1283:15, 1290:1, 1290:4, 1296:6, 1310:15, 1328:25 ideas - 1286:1 identification - 1270:7. 1363:19, 1389:21 identified - 1153:22 156:7, 1156:8, 1167:23

1190:11, 1192:4, 1197:8, 1198:9, 1329:18, 1330:13 identify - 1151:12, 1153:6, 1155:1, 1155:5, 1155:10, 1155:25, 1156:2, 1158:19, 1163:19, 1168:8, 1191:3, 1205:14, 1206:6, 1209:5, 1320:8, 1337:25, 1345:18, 1357:16, 1361:12, 1372:8 identifying - 1334:1 illustrate - 1224:19 imagine - 1211:4 immediately - 1356:16 immunity - 1334:24 impact - 1224:4, 1241:4, 1241:9 impeach - 1368:12 impeachment - 1370:13, 1371:21 impede - 1182:18, 1182:22 impediment - 1163:12, 1163:17, 1176:5, 1179:5 1181:13, 1182:1, 1183:18 impediments - 1183:16, 1311:11, 1311:17, 1351:2, 1351:15, 1387:3, 1387:9 impediments)to -1180:19, 1181:22 implementation - 1200:16 implemented - 1220:3 implied - 1354:2 implies - 1215:8 imply - 1238:5, 1352:10 important - 1210:13, 1210:20, 1219:3, 1223:24, 1238:13, 1242:11, 1254:9, 1316:19, 1341:4, 1348:17, 1349:10, 1349:15, 1350:2, 1353:8, 1361:16, 1362:2, 1370:8, 1371:6, 1388:6, 1391:24, 1392:1 importantly - 1218:22, 1314:5 impressed - 1269:20, 1288:20, 1288:23 impression - 1189:8 1189:9, 1192:16, 1193:7, 1232:6, 1232:24, 1385:9 impressive - 1232:4 improper - 1334:10 in-basket - 1355:18 in-between - 1264:2 in-depth - 1309:25, 1310:3, 1310:6, 1310:8 inability - 1268:3 inaccurate - 1372:8 inappropriate - 1374:25, 1375:3, 1375:5 inches - 1182:18 include - 1153:15, 1159:18, 1168:10, 1181:21, 1182:5, 1319:18, 1332:18, 1274:25, 129:18, 1232:18, 1374:25, 1385:19 Include - 1180:18, 1351:1 included - 1198:2, 1227:21, 1243:25, 1248:6, 1249:3, 1296:18, 1320:16, 1321:4, 1322:13, 1330:13, 1370:5, 1375:9, 1380:19, 1385:20 including - 1222:6, 1242:13, 1286:17, 1385:10 Including - 1286:14 incomplete - 1372:8 incorporate - 1383:17 incorporated - 1333:2, 333.4 incorporating - 1366:24 incorrect - 1284:16

inculcate - 1277:1

incurring - 1193:12 indeed - 1324:1, 1343:22, 1385:18 indented - 1380:21 independently - 1320:23, 1323:25 indicate - 1198:14, 1235:16, 1245:19, 1262:2, 1342:17, 1350:9, 1354:8, 1358:7, 1358:16, 1359:6, 1370:18 indicated - 1191:17. 1220:16, 1279:18, 1311:8, 1326:9, 1341:10, 1355:25, 1358:10, 1369:13, 1374:14, 1392:6 indicates - 1158:8. 1159:16, 1160:8, 1191:17, 1390.9 indicating - 1260:2 indicted - 1259:24, 1259:25, 1260:11 indictment - 1152:20 individual - 1198:17, 1199:4, 1233:18, 1247:1, 1268:1, 1307:11, 1307:23, 1308:13, 1309:21, 1310:1, 1310:19, 1331:13, 1361:3, 1375:7 individuals - 1308:6 indulge - 1163:22 indulgence - 1246:2, 1264:17, 1389:1 **industry** - 1160:8, 1172:8, 1197:17, 1206:4, 1209:21, 1211:11, 1211:24, 1213:18, 1213:21, 1214:11, 1219:18, 1219:23, 1223:16, 1229:9, 1239:19, 1256:11, 1310:4, 1310:5, 1327:22, 1330:12, 1330:14, 1331:21 inferring - 1309:7 inform - 1351:14, 1360:7, 1387:3 information - 1154:9. 1159:3, 1160:7, 1163:7, 1163:10, 1183:1, 1183:6, 1185:23, 1192:21, 1192:22, 1215:23, 1202: 1202: 12 1215:23, 1220:8, 1220:18, 1227:9, 1227:10, 1228:19, 1228:21, 1228:22, 1228:24, 1229:1, 1229:14, 1229:22, 1230:7, 1230:8, 1231:2, 1232:6, 1235:17, 1235:21, 1236:6, 1236:8, 1236:10, 1236:12, 1238:8, 1241:7, 1241:18, 1241:20, 1242:25, 1244:10, 1244:18, 1244:19, 1244:20, 1245:1, 1247:13, 1247:15, 1249:22, 1250:4, 1250:25, 1252:8, 1253:2, 1254:6, 1254:17, 1254:18, 1256:14, 1257:3, 1274:7 1281:18, 1281:19, 1281:21, 1282:14, 1283:12, 1286:8, 1286:12, 1286:25, 1287:24, 1299:17, 1307:3, 1307:10, 1308:6, 1308:21, 1325:3, 1326:12, 1329:23, 1330:16 1332:17, 1337:16, 1338:25, 1332:17, 1337:16, 1338:29, 1342:12, 1353:6, 1354:24, 1357:18, 1364:17, 1364:18, 1365:17, 1365:22, 1365:25, 1371:8, 1378:6, 1380:20, 1384:14, 1385:2, 1385:19, 1391:16, 1394:3 Informations - 1215:5 informed - 1244:18, 1330:24, 1337:22, 1359:18 initial - 1217:15, 1275:23,

1291:13, 1291:23, 1314:4, 1336:14, 1338:8, 1360:14, 1388:22 initialed - 1218:4 initials - 1165:16, 1165:18, 1165:19, 1358:9, 1367:8, 1368:17, 1388:15 initiate - 1205:13, 1206:5 initiated - 1183:19 initiating - 1152:21 initiative - 1269:21, 1288:20, 1288:23 initiator - 1206:9 Intrator - 1206:9 Inpo - 1209:21, 1215:16, 1218:22, 1219:5, 1219:8, 1219:11, 1219:16, 1219:18, 1219:12, 1219:24, 1220:5, 1221:15, 1222:1, 1222:2, 1222:5, 1223:2, 1223:6, 1227:3, 1274:22, 1274:24, 1274:25, 1275:22, 1278:21 1274:25, 1275:22, 1278:21, 1279:3, 1279:9 input - 1277:14, 1366:25 inquire - 1245:14 inquired - 1285.4 inserted - 1352:22 Insider - 1270:2, 1270:11, 1270:16, 1271:11, 1272:6 insofar - 1258:24 inspect - 1176:5, 1179:11, 1179:12, 1183:21, 1188:14, 1228:7, 1228:8, 1344:24 inspected - 1166:23. 1166:25, 1167:24, 1168:2, 1168:5, 1168:8, 1175:7, 1179:7, 1201:23, 1246:19, 1348:14, 1348:25, 1349:6, 1351:19, 1351:20, 1352:18, 1352:24, 1387:22 inspecting - 1179:14 inspection - 1154:20, inspection - 1154:20, 1155:12, 1156:14, 1156:18, 163:13, 1164:10, 1166:5, 1172:22, 1174:13, 1175:22, 1175:23, 1179:16, 1179:22, 1181:12, 1182:7, 1182:9, 1182:19, 1182:22, 1183:7, 1183:8, 1183:9, 1183:22, 1184:3, 1185:1, 1191:9 1184:3, 1185:1, 1191:9, 1220:9, 1222:12, 1246:9, 1250:22, 1251:4, 1257:2, 1257:5, 1257:12, 1257:15, 1263:24, 1268:19, 1284:8, 1284:9, 1284:19, 1284:21, 1286:25, 1287:24, 19, 1294;21, 1286:25, 1287:24, 1288:5, 1288:8, 1295:12, 1295:20, 1303:1, 1303:3, 1303:4, 1310:17, 1313:2, 1313:11, 1312:12, 1317:19, 1323:21 1313:13, 1317:18, 1323:21, 1313:13, 1317:18, 1323:21, 1323:23, 1324:4, 1324:7, 1324:23, 1325:22, 1342:18, 1345:11, 1345:14, 1352:1, 1353:1, 1345:14, 1352:1, 1353:1, 1354:1, 1354:11, 1354:15, 1380:12, 1380:22 Inspections - 1367:20 inspections - 1173:23, 1180:15, 1180:20, 1181:4, 1181:6, 1181:7, 1181:11, 1181:18, 1181:24, 1182:12, 1185:12, 1185:24, 1186:2, 1186:5, 1201:19, 1213:22, 1228:6, 1228:23, 1229:12, 1237:6, 1245:2, 1252:2, 1252:6, 1256:15, 1256:25 1252:5, 1256:15, 1256:25, 1257:8, 1281:23, 1282:11 1282:15, 1282:16, 1282:23

1283:1, 1283:17, 1284:2 1284:10, 1284:23, 1296:15, 1302:13, 1307:24, 1308:10, 1308:14, 1311:1, 1311:12, 1308:14, 1311:1, 1311:12, 1311:18, 1315:9, 1315:17, 1315:19, 1315:22, 1316:9, 1316:10, 1324:22, 1353:20, 1376:16, 1376:176:1765:176:176:176:1765:176:176:176:1765:176:1765:176:1765:176: 1378:16, 1378:18, 1386:3, 1386.22 inspector - 1342:12, 1345:13, 1380:13 inspectors - 1328:10. 1328:11 instead - 1251:1, 1262:5, 1308:20 Institute - 1209:21 instruct - 1304:5, 1304:7, 1304.9 instructed - 1197:9. 1223:13, 1227:11 instructions - 1265:1, 1326:22, 1357:14 insulate - 1316:21 insulation - 1180:19. 1181:22, 1182:16, 1186:14, 1351.2 Integrity - 1159:1, 1315:3 integrity - 1266:8, 1266:11, 1288:25, 1289:1 intelligence - 1319:15 intelligent - 1274:17 intend - 1178:1, 1188:4, 1334:9 intended - 1219:22. 1251:10, 1290:23 intending - 1335:19 intends - 1368:12 intent - 1183:6, 1207:21, 1208:9 intention - 1207:25, 1230:23, 1237:7 interact - 1328:20, 1332:16 interacted - 1329:4, 1329:5 interaction - 1242:15, 1330:21, 1333:24 interactions - 1265:23, 1328:10 interest - 1211:11, 1213:3. 1329:14 interested - 1201:10, 1284:3, 1326:5, 1326:8, 1344:8 interface - 1235:4, 1251:19 interfaced - 1290:3, 1371:5 interfaces - 1255:21 interim - 1379:5 intermediate - 1268:25 internal - 1217:3, 1221:22, 1332:19, 1388:2 internals - 1167:2 interpose - 1187:13 interpretation - 1173:2, 1173:4, 1283:4, 1302:15 interview - 1278:23, 1357:22 interviewed - 1320:12 interviews - 1278:22 intricate - 1287:16 introduce - 1160:7 intrusive - 1220:1 Investigation - 1357:23 investigation - 1357.25 investigation - 1259:16, 1259:22, 1259:23, 1262:5, 1333:18, 1333:20, 1333:21, 1333-25 Investigations - 1320:13

investigations - 1259:10 investigators - 1259:18 involve - 1332:22 involved - 1162:18. 1162:20, 1178:20, 1189:11, 1200:19, 1214:12, 1215:24, 1216:1, 1216:11, 1216:12, 1220:21, 1223:18, 1224:7, 1227:24, 1248:25, 1252:2 1253:2, 1266:24, 1274:22 1274:24, 1275:17, 1276:11, 1276:15, 1276:18, 1279:2, 1279:15, 1279:25, 1280:3, 1280:4, 1282:10, 1287:4, 1301:16, 1308:3, 1313:5, 1313:15, 1360:18, 1376:19, 1388.3 involvement - 1193:25, 1313:12 involves - 1357:11 involving - 1279:3 issue - 1170:6, 1171:19, 1176:7, 1179:13, 1180:10, 1194:4, 1194:13, 1203:19, 1205:20, 1206:6, 1206:14, 1207:9, 1207:11, 1207:13, 1207:24, 1211:15, 1211:16, 1211:24, 1212:5, 1212:7, 1212:20, 1213:5, 1215:4, 1220:6, 1222:11, 1223:4, 1220:6, 1222:11, 1223:4, 1223:14, 1223:19, 1223:24, 1224:7, 1225:5, 1225:6, 1225:9, 1226:2, 1226:4, 1227:4, 1227:14, 1231:7, 1231:23, 1235:20, 1235:23, 1237:1, 1237:14, 1238:14, 1238:17, 1239:14, 1239:18, 1250:16, 1250:20, 1253:23 1250:16, 1250:20, 1253:23, 1254:9, 1254:21, 1260:13, 1273:15, 1274:1, 1283:7, 1287:7, 1287:17, 1311:24 1313:6, 1329:18, 1329:19, 1334:14, 1335:17, 1335:19, 1342:22, 1344:14, 1348:23, 1350:5, 1362:2, 1392:9, 1393:21 issued - 1162:12, 1187:15, 1188:10, 1189:1, 1189:6, 1190:2, 1190:3, 1215:13, 1220:20, 1001, 1, 1001, 1 1330:20, 1331:1, 1331:6 1349:22, 1350:2, 1361:16 issues - 1195:2, 1204:10, 1205:25, 1207:10, 1207:15, 1211:6, 1213:2, 1213:19, 1214:12, 1221:23, 1227:24, 1228:10, 1233:20, 1248:5, 1256:11, 1265:4, 1273:3, 1277:16, 1279:25, 1280:14, 1316:8, 1326:24, 1333:18, 1361:16, 1362:4, 1362:19, 1373:11, 1391:13, 1394:23 issuing - 1214:22, 1330:14 item - 1323:20, 1324:3, 1324:23, 1340:20, 1350:22, 1391:15 items - 1341:16 itself - 1200:13, 1205:24, 1263:10, 1341:4, 1341:22, 1344:23, 1349:4, 1351:6, 1366:25 J J-weld- 1212:9 Jan- 1161:23 January- 1197:10, 1199:8, 1199:20, 1262:20 Jco- 1188:10, 1191:12, 1191:13 job - 1177:5, 1196:2

1197:10, 1197:13, 1198:13, 1199:5, 1199:17, 1200:3, 1200:7, 1219:9, 1221:6, 1244:24, 1267:10, 1267:14, 1267:15, 1267:17, 1267:25, 1268:1, 1268:13, 1308:24, 1319:13, 1328:12, 1332:24, 1359:24, 1360:4, 1365:21, 1373.17 jobs - 1195:23, 1196:11, 1196:24, 1199:15, 1200:2, 1279:8 Joe- 1200:5, 1370:8 **John**- 1150:2, 1164:5, 1193:20, 1194:5, 1194:6, 1363:9 ioin - 1196:14 joined - 1196:15 Judge- 1149:11, 1155:23, 1188:5, 1193:1, 1264:21 judgment - 1172:10 July- 1192:20, 1193:4 jumped - 1357:8 June- 1330:11 Juror- 1152:9 jurors - 1197:21, 1227:15, 1237:3, 1340:17 jurors' - 1347:9 jury - 1159:13, 1187:25, 1192:12, 1192:17, 1193:24, 1194:15, 1196:10, 1196:11, 1198:14, 1202:12, 1202:22, 1205:5, 1205:11, 1207:2, 1210:11, 1211:15, 1217:17, 1225:9, 1230:20, 1233:22, 1234:17, 1234:22, 1260:6, 1260:9, 1260:11, 1271:2, 1309:15, 1319:7, 1322:7 1322:20, 1323:18, 1325:16, 1326:4, 1328:25, 1334:5, 1334:16, 1336:24, 1338:16, 1338:22, 1339:5, 1343:3, 1347:6, 1349:16, 1352:23, 1354:12, 1355:5, 1355:6, 1356:10, 1357:25, 1360:17, 1377:1, 1394:15, 1394:24 jury's - 1364:9 Justice- 1149:13, 1149:17, 1337:10 justification - 1171:12, 1171:14 Justified- 1188:10 justify - 1227:11 Κ Katz-1149:10 **keep** - 1216:6, 1280:10, 1310:9, 1361:22, 1361:23 keeping - 1213:6, 1361:19, 1362.4 **Kennedy -** 1331:13, 1366:4 **key** - 1216:9, 1216:12, 1216:14, 1221:23 kick - 1331:14 kick-off - 1331:14 kill - 1272:13 kind - 1208:25, 1212:2, 1212:4, 1214:13, 1216:22 1226:23, 1236:10, 1236:12, 1240:3, 1252:8, 1253:5, 1254:9, 1288:11, 1289:5 1301:16, 1307:20, 1309:19, 1317:8, 1318:19, 1326:7, 1332:20, 1339:18, 1362:15 knowing - 1284:3, 1306:9, 1306:16, 1344:8 knowledge - 1170:4, 1178:24, 1193:24, 1194:7, 1223:15, 1233:17, 1276:20

1277:13, 1287:7, 1298:6, 1353:6, 1353:11, 1353:12, 1357:17, 1384:6, 1385:4 knowledgeable - 1221:13, 1308:7 **known** - 1152:1, 1153:9, 1160:20, 1217:6, 1245:7, 1372:24, 1373:4 L lack - 1288:1 ladies - 1194:22 Ladies- 1264:23, 1326:20. 1394:17 **language** - 1157:15, 1166:19, 1177:6, 1228:13, 1281:4, 1283:24, 1292:4, 1303:22, 1353:3 large - 1191:22, 1275:8, 1391:20 Last- 1170:15 last - 1154:8, 1155:18, 1156:10, 1166:24, 1169:24, 1170:14, 1170:16, 1171:1, 1186:5, 1191:16, 1208:3, 1208:6, 1216:10, 1237:22 1238:19, 1238:25, 1250:23, 1261:19, 1263:22, 1263:23, 1272:4, 1281:1, 1283:18, 1284:9, 1288:5, 1291:11, 1204.9, 1200.9, 1291.11, 1295:24, 1300:15, 1300:17, 1300:21, 1306:2, 1318:7, 1321:7, 1323:20, 1324:8, 1327:16, 1334:8, 1335:6, 1335:15, 1344:2, 1345:10, 1372:7, 1381:3, 1382:10 late - 1198:8, 1356:14 latter - 1248:25 lawyers - 1337:17 layer - 1352:9 layers - 1302:15 laying - 1164:25 lead - 1227:3, 1287:10, 1292.6, 1292.8, 1308.5, 1313:17, 1332:9, 1364:14, 1364:19, 1365:10, 1365:23, 1366:13, 1390:18, 1393:10, 393:14, 1393:16 leader - 1198:9, 1256:20 leaders - 1263:9 leadership's - 1230:23 leading - 1227:20 leads - 1261:14 Leads- 1261:16 ieakage - 1155:1, 1155:6, 1155:11, 1157:18, 1158:11, 1158:13, 1202:16, 1203:11, 1205:19, 1207:16, 1209:10, 1299:3, 1305:10, 1305:12, 1305:15 leakages - 1202:19 leaked - 1243:2, 1243:25 leaker - 1304:2 leaking - 1157:11, 1158:9, 1305:23 learn - 1202:22, 1211:11, 1215:13, 1223:7, 1227:3, 1232:21, 1232:24, 1337:19, 1357:19 Learned- 1259:18 learned - 1201:10. learned - 1201:10, 1202:13, 1202:15, 1202:20, 1204:8, 1211:15, 1211:20, 1215:14, 1224:11, 1230:1, 1230:3, 1247:20, 1250:25, 1251:15, 1263:7, 1268:24, 1278:18, 1304:18, 1310:8, 1331:9, 1359:20 learning - 1241:6 learning - 1241:6

least - 1231:9, 1234:3, 1240:5, 1254:7, 1261:8, 1263:20, 1275:24, 1296:2, 1356:5, 1369:24, 1374:11 leave - 1189:7, 1189:10, 1375:6, 1394:18 leaves - 1394:15 leaving - 1192:16 led - 1189:9, 1189:11, 1248:3, 1277:4 left - 1176:18, 1177:1 1197:15, 1202:23, 1223:7, 1241:17, 1254:13, 1264:2, 1286:5, 1324:8, 1337:21, 1343:16, 1353:18, 1355:18, 1358:24, 1359:3, 1361:7, 1380:23, 1381:17, 1381:20, 1320:14, 1329:14 1382:14, 1382:18 left-hand - 1343:16. 1353:18 legal - 1241:11, 1337:7, 1337:22 legitimate - 1385:21 lengthy - 1326:19 less - 1232:18 lessons - 1263:7 Lessons- 1259:18 letter - 1154:23, 1260:2, 1332:17, 1333:2, 1334:1, 1336:19, 1339:3, 1339:22, 1343:13, 1348:11, 1348:12 1350:21, 1352:22, 1357:16, 1360:7, 1365:17, 1370:24, 1372:7, 1372:9, 1372:13 Letter- 1175:5, 1241:25 1293:12, 1312:18, 1336:6, 1336:13, 1337:11, 1338:1, 1338:9, 1355:20, 1357:20, 1393.1 letters - 1153:7, 1215:5, 1254:24, 1296:18, 1371:6, 1371.8 letting - 1319:15 level - 1207:5, 1213:25, 1215:3, 1215:6, 1218:16, 1220:1, 1220:2, 1221:17, 1222:3, 1224:8, 1224:9, 1241:4, 1256:7, 1273:3, 1274:10, 1280:1, 1281:21, 1288:1, 1295:7, 1390:21 levels - 1198:15 Lew- 1198:8 license - 1206:12, 1349:22, 1350:1 licensed - 1262.22, 1263:10 licensees - 1351:14, 1387.2 Licensing- 1327:23, 1328:2, 1328:16, 1328:20, 1370:11 licensing - 1328:2, 1329:5, 1330:15, 1348:19, 1349:20, 1350:3, 1359:24, 1386:1 lie - 1178:20, 1304:5 Life- 1199:25, 1200:5 lift - 1166:19 light - 1179:20 Light- 1209:25 likable - 1253-1 likelihood - 1262:12 likely - 1236:4, 1259:24, 1319:17, 1343:12 likewise - 1360:5, 1388:5 limitations - 1175:21 1175:23, 1180:19, 1181:1, 1181:22, 1351:1 limited - 1215:7, 1267:6, 1376:24

line - 1200:11, 1221:20, 1222:1, 1227:2, 1260:8, 1260:15, 1272:19, 1279:23, 1291:11, 1342:9, 1360:23, 1367:8, 1372:7 lines - 1280:3, 1360:25 lingo - 1288:12 liquid - 1352:10 list - 1184:24, 1208:20, 1320:11, 1320:12, 1320:16, 1322:4, 1322:11, 1322:13, 1322:16, 1364:17 listed - 1248:15 listen - 1265:1, 1361:3, 1361:6, 1394:19 listened - 1247:4 literally - 1233:9, 1296:4 Live 1318:16 live - 1263:6, 1318:15 load - 1266:24 locate - 1157:2 location - 1157:12 locked - 1337:8, 1337:14 Lockwood- 1158:20, LOCKWOOD- 1158:20, 1159:5, 1160:3, 1200:2, 1200:4, 1216:19, 1222:20, 1222:22, 1227:21, 1230:10, 1235:3, 1240:18, 1240:20, 1241:13, 1301:9, 1330:18, 1332:2, 1332:3, 1360:15, 1366:10, 1366:12 1366:10, 1366:12 Lockwood's- 1298:20 logic - 1181:10 logical - 1212:22, 1237:21, 1253:11, 1291:18, 1293:6, 1299:24, 1301:12, 1302:20, 1310:21, 1311:20 long-term - 1200:1 longs - 1222:18 Lonnie- 1216:15, 1216:18, 1242:6, 1242:9 look - 1166:6, 1203:15 1204:17, 1208:4, 1217:12, 1217:21, 1221:17, 1229:20, 1230:5, 1230:6, 1234:6, 1237:8, 1238:20, 1244:2, 1245:22, 1248:8, 1248:22, 1249:17, 1255:10, 1256:10, 1264:4, 1270:8, 1271:7, 1271:15, 1272:4, 1305:2, 1316:5, 1317:5, 1323:5, 1333:9, 1333:11, 1336:20 1337:17, 1337:24, 1338:18, 1339:10, 1339:20, 1340:16, 1341:4, 1342:14, 1342:24, 1346:12, 1346:25, 1350:9, 1350:18, 1355:11, 1355:24, 1356:5, 1356:9, 1357:8, 1361:10, 1363:23, 1367:5, 1389:20, 1390:3, 1390:17 looked - 1229:20, 1236:16, 1239:17, 1241:22, 1241:23, 1242:25, 1244:8, 1244:9, 1244:11, 1245:15, 1245:17, 1245:25, 1247:8, 1252:10, 1264:11, 1264:15, 1297:7, 1299:10, 1305:23, 1310:1, 1310:2, 1316:12, 1343:20, 1346:15, 1346:16, 1346:18, 1346:20, 1348:4, 1349:1, 1384:7, 1391:13, 1391:15 looking - 1154:15, 1170:14, 1173:6, 1173:7, 1181:3, 1186:19, 1224:25, 1229:17, 1243:16, 1244:9, 1245:20, 1246:5, 1251:19, 1251:20, 1251:22, 1255:16, 1255:20, 1260:13, 1277:5, 1281:22, 1297:4, 1305:21, 1305:24, 1307:17, 1312:20

1313:3, 1315:4, 1330:20, 1333:16, 1337:5, 1340:9, 1341:24, 1343:21, 1344:1 1346:17, 1350:21, 1357:16, 1362:16, 1379:25, 1391:16 Looking- 1353:18, 1380:11 looming - 1275:3 loop - 1201:17, 1201:18 loss - 1277:4, 1314:7 low - 1171:22, 1172:6, 1205:15, 1382:12 lower - 1156:20, 1156:22, 1205:8, 1342:24 luck - 1222:18 lunch - 1264:21, 1265:7 Lunch- 1265:9 M machine - 1226:15, 1364:8, 1368:1 mail - 1151:14, 1151:16 1151:18, 1151:19, 1158:20, 1158:22, 1159:15, 1159:24, 1160:2, 1162:23, 1163:14, 1163:16, 1163:19, 1163:20, 1176:4, 1177:2, 1183:17, 1183:20, 1184:7, 1184:9, 1184:11, 1188:8, 1190:4, 1191:5, 1191:7, 1191:9, 1191:17, 1192:1, 1192:8, 1193:4, 1194:12, 1338:1, 1339:12, 1339:13, 1346:23, 1347:15, 1376:4, 1382:20, 1384:18, 1385:25 mailed - 1346:14, 1346:19 mails - 1162:10, 1162:15, 1162:17, 1162:18, 1162:23, 1176:15, 1187:1, 1187:4, 1188:6, 1188:22, 1189:3, 1190:2, 1190:3, 1192:15 1192:16, 1192:18, 1193:18, 1346:21 main - 1199:22, 1200:10, 1200:20, 1201:16, 1202:19, 1213:18, 1227:19, 1234:20, 1241:8, 1248:4, 1285:7, 1286:23 maintaining - 1382:12 maintenance - 1197:4, 1200:17 major - 1319:20, 1323:2,

1206:25 1378:19 1159:16 **majority** - 1175:9, 1176:8, 1176:21, 1275:14, 1287:17, 1344:3, 1344:4, 1344:6, 1344:10, 1344:15, 1344:16, 1344:25, 1344:25, 1349:2, 1351:18, 1361:9, 1381:4, 1301:19, 1381:4, 1381:19, 1382:2, 1393:21, man - 1192:25, 1266:15 Management - 1200:1, management - 1184:11, 1184:14, 1184:15, 1184:16, 1184:17, 1184:18, 1188:16, 1198:3, 1198:5, 1198:16, 1203:24, 1205:15, 1206:13, 1207:10, 1210:8, 1210:22, 1211:10, 1212:5, 1212:7, 1212:15, 1212:16, 1212:17, 1275:19, 1277:1, 1307:4, 1266:22 Manager - 1218:3, 1235:3, meant - 1212:9, 1216:4, 1236:25, 1237:3, 1237:19, 1247:20, 1251:6, 1252:1, 1257:8, 1259:21, 1259:23

1267:17, 1277:22 manager - 1161:4, 1161:7, 1161:13, 1161:15, 1161:20, 1198:13, 1200:8, 1203:25,

1331.20

1394.9

1200:5

1390.21

1331:3, 1332:3, 1333:8, 1359:19, 1360:2, 1360:11, 1360:16, 1366:11 manager's - 1202:25 1203:4, 1203:15, 1305:7 managers - 1161:1, 1198:19, 1199:1, 1199:2, 1269:15, 1271:22, 1276:23, 1309:18 **managing** - 1200:13, 1286:24, 1287:10, 1287:12, 1332:14 manner - 1152:22, 1276:7 manufacturer - 1201:23 map - 1243:20, 1243:24, 1244:5, 1295:19, 1298:21 March - 1197:14, 1224:2, 1262:17, 1324:5 margin - 1343:16, 1351:11, 1352:15, 1353:18. 1387:2, 1387:9 Mark - 1159:4, 1159:25, 1160:2, 1183:15, 1184:10, 1221:1, 1221:5, 1221:15 marked - 1185:13 1190:10, 1192:3, 1270:7, 1271:5, 1357:6, 1357:7, 1361:11, 1363:18, 1368:5, 1389.20 marshal - 1276:8 marshaled - 1276:6 Maryland - 1232:9 match - 1217:23 material - 1201:24, materially - 1241:14 materials - 1285:1 matrix - 1216:25, 1217:7 matter - 1179:14, 1214:4, 1235:5, 1235:18, 1249:2, 1273:12, 1273:14, 1290:21, 1313:8, 1325:11, 1395:8 matters - 1231:20, Mattson - 1158:23, 1158:25, 1159:1, 1159:3, Mcintyre - 1275:21 Mckim - 1249:4 Mclaughlin - 1158:20, 1159:4, 1159:5, 1159:25, 1160:2, 1183:15, 1183:23, 1184:1, 1184:10, 1184:23, 1184:24, 1221:1, 1221:5, 1227:21, 1277:25 mean - 1175:13, 1176:16, 1176:25, 1181:1, 1183:13, 1184:14, 1186:18, 1207:22, 1208:22, 1212:4, 1214:14, 1224:13, 1232:1, 1250:19, 1253:20, 1257:4, 1273:18, 1283:10, 1285:16, 1285:19, 1293:13, 1307:16, 1310:4, 1316:18, 1332:14, 1333:20, 1335:11, 1335:24, 1335:25, 1336:1, 1343:6, 1344:11, 1344:16, 1349:17, 1349:21, 1374:11, 1379:2 meaning - 1168:15, means - 1152:19, 1170:20, 1171:5, 1209:3, 1251:4, 1325:22, 1345:23

1240:19, 1267:24, 1290:3,

1307:7, 1309:21, 1328:23, 1330:18, 1330:23, 1331:2,

1261:12, 1261:13, 1261:21, 1262:8, 1281:4, 1285:17, 1304:1, 1307:6, 1316:14, 1334:2, 1343:8, 1344:15	
1262:8, 1281:4, 1285:17,	
1304:1, 1307:6, 1316:14.	
1334:2. 1343:8. 1344:15	
measure - 1171:14	
measures - 1219:18	
mechanical - 1150:9,	
1157:12, 1248:22, 1303:6,	
1303:11	
mechanics - 1239:18	
mechanism - 1211:12,	
1314:8, 1329:15, 1329:19	
mechanisms - 1205:19	
mechanisms - 1205;19	
media - 1233:12, 1309:4 mediation - 1263:5	
mediation - 1203:5 medium - 1308:19	
mealum - 1506.19	
meet - 1170:3, 1177:14, 1203:16, 1229:15, 1260:1, 1261:5, 1290:1, 1301:18, 1336:3, 1349:24, 1349:25,	
1203.10, 1229.15, 1200.1,	
1201:5, 1290:1, 1301:18,	
1336:3, 1349:24, 1349:25,	
1355:13, 1355:15	
meeting - 1210:19,	
meeting - 1210:19, 1216:8, 1216:21, 1216:23,	
1220:0, 1210:21, 1210:23, 1222:15, 1222:17, 1223:6, 1226:24, 1227:12, 1228:20, 1220:5, 1221:18, 1221:44	
1226:24, 1227:12, 1228:20,	
1229:5, 1231:8, 1231:11,	
1231:24, 1232:2, 1232:7,	
1232:8, 1232:15, 1234:20,	
1235:1, 1235:9, 1236:8,	
1239:4, 1240:1, 1240:2,	
1231:24, 1232:2, 1232:7, 1231:24, 1232:2, 1232:7, 1232:8, 1232:15, 1234:20, 1235:1, 1235:9, 1236:8, 1239:4, 1240:1, 1240:2, 1247:22, 1247:23, 1247:24, 1247:25, 1248:1, 1248:3, 1248:6, 1248:12, 1248:19	
1247:25, 1248:1, 1248:3,	
1248:6, 1248:12, 1248:19,	
1248:6, 1248:12, 1248:19, 1253:17, 1253:19, 1253:21, 1254:7, 1254:11, 1254:20,	
1254:7. 1254:11. 1254:20.	
1256:21, 1256:24, 1257:19,	
1254:7, 1254:11, 1254:20, 1256:21, 1256:24, 1257:19, 1258:1, 1258:2, 1258:4, 1258:7, 1258:8, 1258:10, 1258:20, 1258:21, 1261:6, 1262:1, 1272:21, 1274:1, 1274:4, 1274:6, 1274:7, 1278:25, 1280:25, 1281:5, 1285:25, 1289:22, 1290:19, 1292:17, 1299:16, 1299:19, 1300:15, 1300:18, 1300:23, 1302:1, 1302:23, 1311:23	
1258.7 1258.8 1258.10	
1258.20 1258.21 1261.6	
1262.1 1272.21 1274.1	
1274.4 1274.6 1274.7	
1278.25 1280.25 1281.5	
1285.25 1280.22 1201.0	
1203.23, 1209.22, 1290.19,	
1292.17, 1299.10, 1299.19,	
1300.15, 1300.16, 1300.25,	
1302:1, 1302:23, 1311:23,	
1312:23, 1314:13, 1319:24,	
1312:23, 1314:13, 1319:24, 1319:25, 1320:1, 1320:2, 1320:3, 1320:5, 1320:19,	
1320:3, 1320:5, 1320:19,	
1320:22, 1320:24, 1321:11,	
1321:25, 1322:2, 1322:5,	
1320:22, 1320:24, 1321:11, 1321:25, 1322:2, 1322:5, 1322:7, 1322:12, 1322:20,	ļ
1330:12, 1331:14, 1333:8, 1360:10, 1361:8, 1361:9,	
1366:10	
meetings - 1210:10,	
1210:11, 1210:12, 1210:23,	
meetings - 1210:10, 1210:11, 1210:12, 1210:23, 1210:25, 1211:2, 1211:10, 1212:15, 1212:17, 1213:23, 1214:2, 1214:15, 1216:12, 1230:21, 1248:2, 1248:25, 1254:20, 1257:25, 1264:4, 1272:18, 1274:12, 1280:23, 1290:6, 1300:25, 1301:1, 1301:4, 1319:11, 1319:18, 1320:10, 1320:11, 1320:14, 1359:25, 1360:13, 1360:15	
1212:15, 1212:17, 1213:23,	
1214:2, 1214:15, 1216:12,	
1230:21, 1248:2, 1248:25,	
1254:20, 1257:25, 1264:4,	
1272:18, 1274:12, 1280:23.	
1290.6, 1300:25, 1301:1	
1301:4, 1319:11, 1319:18.	
1320:10, 1320:11, 1320:14	
1359:25, 1360:13, 1360:15	
member - 1161:6, 1161:9	
member's - 1337:2	
members - 1331:10,	
1337:3	
memo - 1188:11, 1322:5,	
1332:19	
memorandum - 1193:4	
memory - 1206-9 1210-1	
1227.18 1238.2 1052.12	
1250-4 1260-15 4204-14	
1227:18, 1238:2, 1253:13, 1259:4, 1269:15, 1281:11, 1282:1, 1299:22, 1300:24, 1301:3, 1302:20, 1323:1,	
1202.1, 1299.22, 1300.24,	
1301:3, 1302:20, 1323:1, 1333:16	

mention - 1163:16, 1384:20 mentioned - 1160:17, 1178:6, 1191:14, 1199:18, 1207:9, 1213:12, 1214:21, 1218:23, 1225:7, 1226:4, 1228:22, 1233:5, 1234:23 1236:13, 1238:17, 1248:21, 1251:8, 1252:19, 1256:1, 1277:24, 1330:17, 1353:11, 1365:10 mentor - 1215:16. 1221:13, 1274:24, 1274:25 mergers - 1196:24 Merrifield - 1274:13, 1274:15 message - 1160:3, 1160:5, 1223:17, 1232:17, 1232:20, 1234:24, 1256:21 met - 1177:16, 1177:19 1230:17, 1230:18, 1260:25, 1261:8, 1332:2, 1333:11, 1339:11, 1343:23 **metal** - 1180:20, 1181:2, 1181:23, 1182:8, 1203:20, 1351:3 metallurgy - 1273:14 method - 1155:1, 1310:2, 1382:13 methodology - 1298:3, 1298:13, 1299:14 metrics - 1210:21 Meyers - 1165:20, 1165:21, 1198:8 Michigan - 1215:17, 1275:1, 1328:1 micromanager - 1276:21 micromanaging - 1276:23 microphone - 1197:18, 1327:12 mid - 1194:23, 1199:11. 1209:11.1326:21 mid-afternoon - 1326:21 mid-cycle - 1199:11, 1209:11 mid-morning - 1194:23 middle - 1166:24, 1223:20, 1387:20 might - 1157:1, 1170:6, 1177:19, 1202:13, 1210:14, 1211:4, 1213:16, 1214:18, 1214:22, 1230:11, 1282:25, 1283:9, 1301:1, 1302:8, 1304:10, 1378:8 miles - 1213:16 milestone - 1230:14 military - 1231:22 **Miller** - 1149:20, 1184:18, 1184:19, 1184:21, 1329:7, 1332:2, 1332:8, 1333:5, 1339:10, 1340:22, 1359:19, 1359:21, 1366:11, 1366:12, 1373:20, 1373:21, 1374:20 Miller's - 1371:3, 1373:22 mind - 1174:4, 1180:1, 1195:1, 1213:1, 1213:15, 1241:12, 1241:16, 1257:4, 1258:3, 1286:4, 1335:9, 1343:19, 1359:10 minds - 1227:12, 1265:4, 1326:24, 1394:22 mindset - 1203:19. 1294:15, 1309:25 Mine - 1380:4 minimize - 1171:25. 1225:24 minimized - 1204:14 minimum - 1182:16, 1364:21

minute - 1189:20, 1193:1

1300:16, 1300:17, 1300:21, 1325:5, 1356:15, 1357:7 minutes - 1319:24, 1326.21 mislead - 1304:7 misled - 1263:2, 1263:3 mispronouncing 1389:17 miss - 1277:2 missed - 1155:22 missing - 1371:14, 1391:16 mission - 1201:20 mistake - 1293:23, 1294:4, 1310:19, 1310:22 mistaken - 1194:14 **Mod** - 1169:5, 1169:6, 1169:8, 1191:9, 1191:11, 1309.20 Mode - 1208:19, 1208:20 mode - 1208:22, 1209:3, 1209:4, 1209:8, 1256:13 Model - 1313:24 model - 1202:3, 1213:14, 1250:21, 1287:13, 1287:15, 1287:16, 1313:18, 1313:22, 1313:23, 1313:24, 1313:25, 1314:3, 1314:8, 1314:25, 1315:7, 1315:15, 1315:20, 1315:23, 1316:1, 1316:6, 1316:9, 1317:3 models - 1314:1 modes - 1208:23, 1209:5 modification - 1169:4, 1200:15, 1211:4, 1221:23 modifications - 1266:17, 1267:6, 1268:4, 1309:20, 1310:18 Moffitt - 1195:8, 1195:11, 1195:13, 1195:17, 1195:18, 1195:19, 1248:16, 1260:9, 1264:20, 1265:12, 1265:14, 1270:6, 1271:4, 1272:15, 1290:14, 1304:4, 1306:18, 1306:24, 1307:1, 1396:10, 1396:12, 1396:15 Moffitt's - 1206:20 moment - 1163:22 1220:21, 1237:15, 1307:22, 1333:15, 1347:11, 1353:12, 1389:1 **Monday** - 1347:21, 1348:2, 1355:9 money - 1226:16 **monitor** - 1154:2, 1208:8, 1217:22, 1243:11, 1246:5, 1271:4, 1343:1, 1350:9, 1354-11 monitored - 1319:12 monitoring - 1201:21 monitors - 1347:10 month - 1193:4, 1214:15, 1215:11, 1219:1, 1219:14, 1224:12, 1238:15, 1279:3, 1331:25, 1359:12 monthly - 1210:22 months - 1224:19 1225:25, 1235:10, 1235:11, 1258:6, 1263:4, 1266:25 morale - 1224:23, 1225:8, 1226:4, 1226:5 **morning** - 1151:2, 1160:16, 1163:2, 1194:23, 1195:13, 1195:14, 1210:12, 1274:18, 1348:2, 1383:16 most - 1158:11, 1209:6, 1225:14, 1238:15, 1253:25, 1258:15, 1268:1, 1283:11, 1308:7, 1314:5, 1350:15, 1361:8, 1391:24, 1392:1

motion - 1321:14 **mouse** - 1179:8, 1179:11, 1179:14, 1179:21, 1183:22, 1191:21, 1247:5, 1251:18 mouth - 1286:5 move - 1165:15, 1168:4, 1186:18, 1189:23, 1194:15, 1196:18, 1197:22, 1206:19, 1251:18, 1270:21, 1321:1, 1338:11, 1347:5, 1362:6, 1371:12, 1378:21, 1382:17 moved - 1168:5, 1208:18, 1310:7, 1379:7, 1379:8 moves - 1336:16 movies - 1277:3 **moving** - 1252:21, 1308:20, 1335:10, 1335:15, 1382.19 multiple - 1367:25 **must** - 1214:17, 1221:4, 1261:18 Ν name - 1161:17, 1162:21, 1162:23, 1184:8, 1195:15, 1195:17, 1204:24, 1215:8, 1218:6, 1248:17, 1252:25, 1268:21, 1315:3, 1318:7, 1318:12, 1322:4, 1327:15, 1327:16, 1327:17, 1329:6, 1337:4, 1337:16, 1358:7, 1358:15, 1369:8, 1374:18, 1374:18, 1374:18, 1374:22, 1389:17 Name - 1162:22 named - 1275:21, 1329:8 names - 1215:5, 1329:8 narration - 1246:20 narrowly - 1193:14 nature - 1241:6, 1241:8, 1247:25, 1271:13, 1286:6, 1319:7, 1328:5 Navy - 1196:14, 1196:15, 1198:11 Nde - 1181:9 near - 1292:22 necessarily - 1231:18, 1251:19 necessary - 1357:18, 1385:11 necessitated - 1224:19 necessitating - 1388:23 necessity - 1219:8 need - 1164:1, 1172:3, 1181:7, 1203:1, 1205:18, 1220:24, 1228:19, 1244:17, 1335:11, 1348:13, 1356:1, 1356:2, 1368:4, 1385:12, 1385:19, 1385:20 needed - 1175:24 1204:12, 1204:13, 1206:6, 1208:19, 1240:23, 1268:10, 1269:1, 1273:25, 1276:6, 1280:6, 1280:10, 1330:6, 1330:7, 1355:11, 1358:22 needs - 1184:11, 1220:3, 1354:24, 1368:11 Nei - 1258:3, 1273:6, 1273:7 nerve - 1203:24 nervous - 1196:4 never - 1178:19, 1263:3, 1269:12, 1284:20, 1294:3, 1333:10, 1359:4, 1367:7, 1379:4 new - 1159:21, 1160:5, 1160:6, 1211:16, 1211:21, 1225:13, 1230:4, 1237:8, 1267:10, 1267:14, 1267:23, 1273:15, 1273:17, 1283:21,

1308:1, 1308:5, 1366:23 New - 1149-14 news - 1361:15. 1361:17 newsletter - 1269:25. 1270:19 newspaper - 1272:1 Next - 1180:18, 1272:8, 1359:12 next - 1155:9, 1156:9, 1165:3, 1167:17, 1168:2, 1168:10, 1180:5, 1195:5, 1199:9, 1205:22, 1218:16, 1224:2, 1224:21, 1226:25, 1230:14, 1233:9, 1241:15, 1246:13, 1253:17, 1254:13, 1287:18, 1301:1, 1301:3. 1314:11, 1317:24, 1324:19, 1324:23, 1326:18, 1327:3, 1330:9, 1330:21, 1339:15, 1345:8, 1346:7, 1349:2, 1351:17, 1352:13, 1352:16, 1355:24, 1356:4, 1359:9, 1379:23, 1387:20, 1390:17, 1390:21 Ng-en-00324 - 1154:21 night - 1233:6, 1234:1, 1234:3, 1236:8, 1250:1, 1300:25, 1358:20 night-before - 1233:6 nobody - 1361:1 non - 1173:21, 1334:12, 1391:14 non-prosecution -1173:21 non-responsiveness -1391:14 non-subjects - 1334:12 non-targets - 1334:12 nonconformance 1169:19 nonconforming - 1170:17. 1171:3 None - 1353:17 normal - 1212:9, 1270:17, 1279:7, 1312:17 normally - 1364:21 Normally - 1170:3 Northern - 1149:1 notation - 1359:7 Note - 1160:5, 1351:14 note - 1246:11, 1246:14, 1246:15, 1341:10, 1341:11, 1341:12, 1341:23, 1342:6, 1349:5, 1351:8, 1351:9, 1351:10, 1351:13, 1351:16, 1351:22, 1352:23, 1353:7, 1353:9, 1354:6, 1354:9, 1387:2, 1387:8 notebook - 1320:9 noted - 1155:2, 1155:9 notereading - 1150:9 notes - 1320:10, 1320:18, 1320:24, 1321:16, 1321:21, 1322:4, 1322:22, 1323:2 1325:6, 1325:11, 1341:23, 1342.1 nothing - 1192:19, 1309:22, 1386:3 Nothing - 1317:22, 1326:15, 1326:16, 1363:5, 1389:4, 1394:12 notice - 1334:7, 1334:20, 1334:21, 1359:17 noticed - 1351:17 November - 1257:21, 1300:4, 1300:11, 1302:10, 1312:22 nowhere - 1161:18, 1163:16 Nozzle - 1171:18 1196:14, 1196:15, 1196:17

nozzle - 1176:21, 1180:14, 1229:17, 1242:12, 1243:1, 1244:8, 1246:20, 1247:1, 1244:8, 1246:24, 1286:24 1273:10, 1286:14, 1286:24, 1288:2, 1289:10, 1292:22, 1293:3, 1293:9, 1295:22, 1299:3, 1304:2, 1314:15, 1315:5, 1324:24, 1330:10, 1345:12, 1359:10 nozzle's - 1304:1 nozzle-by-nozzle 1229:17, 1242:12, 1286:14, 1286:24, 1288:2, 1289:10, 1292:22, 1293:3, 1293:9 nozzles - 1157:6, 1160:6, 1175:9, 1211:12, 1211:13, 1229:19, 1237:10, 1245:21, 1251:19, 1257:17, 1273:15, 1284:14, 1295:13, 1317:5, 1317:9, 1344:3, 1344:9, 1344:20, 1344:25, 1348:25, 1349:6, 1351:18, 1352:24, 1353:21, 1354:1, 1387:22, 1393:21 Nrc - 1152:16, 1153:7, 1156:4, 1160:7, 1163:6, 1163:9, 1178:20, 1179:15, 1180:3, 1181:11, 1183:1, 1191:19, 1206:16, 1213:2, 1214:15, 1214:22, 1215:2, 1215:4, 1217:2, 1220:15, 1223:16, 1223:20, 1228:2, 1229:16, 1223:20, 1228:2, 1228:23, 1229:1, 1229:4, 1229:9, 1230:19, 1230:25, 1231:3, 1231:12, 1235:4, 1239:3, 1240:21, 1247:21 1247:22, 1250:6, 1253:22, 1256:8, 1257:25, 1258:5, 1258:11, 1258:12, 1262:18, 1262:19, 1262:20, 1263:2, 1263:3, 1263:16, 1263:18, 1280:16, 1282:18, 1285:4, 1286:7, 1293:12, 1294:8, 1299:19, 1300:5, 1300:13, 1301:1, 1301:18, 1301:22, 1302:5, 1302:17, 1304:5, 1304:7, 1304:10, 1307:2, 1312:14, 1312:23, 1319:16, 1319:25, 1320:3, 1320:13, 1321:2, 1325:8, 1326:5, 1326:8, 1328:10, 1328:22 1329:16, 1329:20, 1330:14, 1331.4, 1332:18, 1333:11, 1333:20, 1337:9, 1338:24, 1339:2, 1339:19, 1339:21, 1340:25, 1343:6, 1343:13, 1343:21, 1344:7, 1344:8, 1349:9, 1350:22, 1351:14, 1353:6, 1353:9, 1354:24, 1357:11, 1357:18, 1357:22, 1358:25, 1359:1, 1359:14, 1359:15, 1359:17, 1359:22, 1359:23, 1360:5, 1360:6, 1360:8, 1362:3, 1363:12 1364:3, 1364:22, 1365:5 1365:19, 1370:22, 1370:25, 1371:1, 1371:7, 1379:3, 1381:5, 1384:25, 1385:3, 1387:2, 1388:6, 1390:3, 1391:16 Nrc's - 1227:8, 1229:2, 1230:17, 1255:24, 1285:4, 1302:19, 1319:24, 1322:4, 1339:11, 1343:20, 1350:23, 1391:14 Nrr - 1328:22, 1329:1, 1331:3, 1359:25, 1360:1, 1371:5 nuclear - 1196:12,

1197:16, 1198:2, 1206:4 1220:14, 1262:22, 1319:9, 1327:22, 1356:11, 1360:2 Nuclear - 1183:25, 1185:2, 1195:19, 1197:23, 1209:22, 1319:1, 1319:11, 1328:23. 1359:13, 1367:20 nugget - 1307:13 nuggets - 1307:14 number - 1153:8, 1154:15, 1156:3, 1156:17, 1156:22, 1162:1, 1162:8, 1162:11, 1162:15, 1162:17, 1199:1, 1207:17, 1208:5, 1244:2, 1244:3, 1266:19, 1266:25, 1295:13, 1319:10, 1376:1, 1382:22 Number - 1182:14, 1205:18, 1348:18, 1376:8, 1376:13, 1385:25, 1386:6 numbered - 1156:15, 1164:21, 1376:11 numbers - 1242:1 1293:13, 1312:12, 1321:2, 1323:5, 1323:24, 1369:6 Nw - 1149:14, 1149:22, 1150:3

0

oath - 1226:23, 1249:11, 1271:24, 1298:17, 1301:10, 1311:19, 1367:19 object - 1321:5, 1321:8 objection - 1159:10, 1159:11, 1187:13, 1187:18, 1190:19, 1190:24, 1192:10, 1193:20, 1193:22, 1194:16, 1206:22, 1270:23, 1338:13, 1338:14, 1347:7, 1347:8 **Objection - 1170:22** 1178:23, 1190:6, 1190:14, 1298:5, 1317:13, 1317:15, 1322:23 objections - 1151:22. 1362.7 Objective - 1235:7 objective - 1222:8, 1235:9 obligations - 1385:7 obscured - 1243:1, 1244:4, 1257:17, 1307:19, 1307:20 observed - 1155:11, 1157:10, 1326:7 obtain - 1332:16 obvious - 1278:2 obviously - 1201:25, 1260:19, 1270:18, 1310:22 occasion - 1177:19 occupied - 1275:13 occur - 1208:18 occurred - 1219:10. 1262:11, 1267:9 occurrence - 1171:21 October - 1149:5, 1151:13, 1154:15, 1156:4, 1156:5, 1224:12, 1227:7, 1227:15 1227:18, 1230:14, 1230:15, 1230:16, 1238:16, 1244:15, 1253:11, 1253:18, 1255:14, 1280:17, 1280:19, 1280:24, 1281:9, 1281:12, 1281:14, 1282:13, 1282:18, 1283:17, 1285:6, 1285:25, 1286:3, 1287:25, 1288:22, 1289:19, 1289:20, 1290:19, 1292:14, 1293:5, 1294:13, 1295:6, 1298:16, 1299:16, 1303:17, 1320:3, 1320:19, 1320:22, 1321:11, 1322:12, 1327:21

1360:18, 1361:18, 1362:12, 1368:7, 1368:23, 1372:5 offer - 1151:7, 1156:11, 1321:10. 1335:8 offered - 1217:13, 1284:22, 1334:15, 1334:23, 1335.4 office - 1175:16, 1177:3, 1202:25, 1203:4, 1203:15, 1216:9, 1227:19, 1233:7, 1233:25, 1297:12, 1298:20, 1305:8, 1309:18, 1329:2, 1329:4, 1329:5, 1331:3, 1333:22, 1333:25, 1336:16, 1337:3, 1337:6, 1339:13, 1355:17 **Office -** 1320:13, 1328:22, 1357:22, 1367:20 officer - 1197:9, 1220:14 Officer - 1359:13 offices - 1264:14, 1316:24, 1337:2 often - 1209:6, 1215:16 Ohio - 1149:1, 1149:5, 1150:6, 1196:20, 1240:8, 1240:10, 1301:15 Oi- 1372:5 on-line - 1272:19 on-site - 1209:16, 1328:11, 1331:12 on-the-spot - 1233:24 once - 1345:21 oncoming - 1277:6 one - 1155:18, 1155:22, 1156:9, 1157:6, 1159:20, 1159:21, 1166:4, 1166:5, 1174:6, 1179:20, 1184:17, 1187:4, 1188:6, 1189:20, 1190:15, 1193:1, 1196:7 1201:9, 1202:16, 1204:10, 1205:22, 1205:23, 1205:24, 1209:6, 1209:7, 1211:10, 1212:19, 1213:12, 1213:23, 1214:6, 1218:1, 1223:21, 1225:1, 1225:18, 1230:1, 1232:5, 1237:21, 1237:22, 1237:23, 1238:15, 1244:4, 1244:17, 1245:13, 1247:9, 1249:20, 1252:3, 1260:13, 1263:8, 1263:10, 1266:20, 1270:19, 1270:20, 1273:5, 1273:6, 1275:9, 1276:22, 1277:6, 1277:15, 1277:17, 1278:5, 1278:24, 1281:2, 1282:22, 1283:1, 1283:11, 1286:5, 1286:23, 1293:14, 1294:25, 1295:3, 1296:4, 1296:18, 1300:25, 1301:21, 1308:24, 1308:25, 1310:6, 1310:10, 1312:15, 1313:1, 1316:19, 1317:8, 1317:10, 1324:1, 1324:13, 1324:15, 1325:15 1325:12, 1329:17, 1335:15, 1337:3, 1342:3, 1342:4, 1342:13, 1342:14, 1345:10, 1346:25, 1347:11, 1349:11, 1349:12, 1349:18, 1350:6, 1350:8, 1361:23, 1362:3, 1369:10, 1371:2, 1373:7, 1377:2, 1377:3, 1382:1, 1382:25, 1387:17, 1392:9, 1394:18 One - 1173:20, 1200:11, 1274:13, 1331:10, 1339:20, 1347:11, 1384:19 ones - 1229:20, 1257:16, 1307:19, 1321:4, 1370:18, 1392:1 ongoing - 1259:10, 1382:5 online - 1270:19, 1270:20

Ons3-1185:22 onus - 1206:15 open - 1159:22, 1169:3, 1280:6, 1280:10, 1304:1 operate - 1203:17, 1235:11, 1314:10 operated - 1201:14, 1209.23 operating - 1197:9, 1219:21, 1224:22, 1225:23, 1285:9, 1349:22 operation - 1220:19. 1227:11, 1254:21 operations - 1170:2 1197:2, 1203:4, 1268:10 Operations - 1188:11, 1209.22 operator - 1196:17, 1208:23 opinion - 1172:4, 1181:8, 1204:2, 1223:16, 1224:18, 1224:24, 1266:8, 1266:12, 1267:22, 1278:5, 1344:10, 1346:2 opinions - 1221:22 opportunity - 1198:12, 1217:10, 1231:3, 1231:9, 1234:24, 1235:18, 1255:24, 1263:10, 1267:23, 1283:21, 1286:8, 1335:1 opposed - 1181:25 opposite - 1293:21 ops - 1305:7 oral - 1189:18 order - 1254:6, 1280:10, 1285:18 ordered - 1337:1 organization - 1198:17, 1199:22, 1209:21, 1211:3, 1218:17, 1222:3, 1266:24, 1275:7, 1276:7, 1309:6, 1331:16, 1331:19, 1332:10 organizational - 1200:11. 1200:12 organizations - 1210:16, 1307:13 orientation - 1246:19, 1251:10 original - 1336:17, 1340:7, 1344:13, 1349:1 originally - 1158:22, 1159.24, 1310:5 originator - 1333:3. 1375:8 otherwise - 1188:25 Otherwise - 1370:15 ourselves - 1225:4. 1231.5 outage - 1180:5, 1199:11, 1199:12, 1199:14, 1200:9, 1200:10, 1200:13, 1200:16, 1201:2, 1201:4, 1201:19, 1202:12, 1203:23, 1203:24 1207:10, 1209:11, 1209:17, 1209:19, 1209:23, 1220:23, 1221:6, 1221:17, 1224:1, 1224:21, 1224:24, 1225:16, 1225:20, 1225:22, 1226:7, 1226:12, 1226:14, 1228:7, 1237:16, 1244:8, 1250:13, 1250:23, 1250:23, 1250:13, 1256:23, 1259:7, 1266:16, 1266:18, 1266:25, 1267:9, 1267:20, 1268:18, 1269:13, 1269:24, 1270:20, 1272:16, 1288:19, 1305:5, 1305:6, 1308:2, 1314:11, 1323:21, 1323:22, 1323:24, 1324:1, 1324:7, 1324:8, 1350:10, 1350:12, 1350:16 Outage - 1270:2, 1270:11

1270:16, 1271:11, 1272:6 **outages** - 1158:10, 1200:24, 1226:12, 1226:22, 1230:2, 1236:15, 1236:18, 1247:13, 1270:18, 1323:25 outcome - 1235:14, 1315:24 outcomes - 1223:25 outline - 1290:25, 1311:10 outside - 1187:25. 192:12, 1197:25, 1220:22, 1260:5, 1279:17, 1309:17, 1328:21, 1328:23, 1334:5, 1360:25 overall - 1235:9, 1251:20, 1348:6 overcome - 1319:13 overhead - 1185:17 overlapping - 1310:20 overlay - 1237:16 overrule - 1190:24 Overruled - 1170:23 1178:25, 1190:8, 1298:10, 1317:16 oversaw - 1210:8 oversight - 1221:5, oversignt - 1221:5, 1242:24, 1256:8 own - 1160:2, 1172:4, 1172:5, 1174:4, 1175:15, 1295:1, 1255:04, 1255:04 1225.1, 1255.24, 1322.3 owned - 1288:12 Owners - 1214:10, 1273:6 ownership - 1240:15, 1288:15 Ρ package - 1323:15 packages - 1200:15 1200:21, 1211:4, 1267:2 **page** - 1153:25, 1154:3, 1156:17, 1156:20, 1156:22, 1157:2, 1157:24, 1158:1, 1158:2, 1164:21, 1165:3, 1165:7, 1165:8, 1165:10, 1165:11. 1165:12. 1167:8 1167:17, 1167:18, 1168:18, 1186:15, 1186:19, 1186:20, 1208:6, 1217:18, 1217:22, 1234:16, 1235:6, 1235:24, 1236:20, 1243:11, 1246:5, 1246:6, 1246:13, 1248:9, 1248:10, 1249:18, 1252:18, 1290:14, 1322:7, 1323:5, 1323:17, 1323:20, 1324:10, 1324:19, 1340:1, 1340:10, 1342:9, 1344:2, 1345:8, 1347:14, 1349:10, 1350:8, 1350:19, 1351:17, 1351:22, 1351:25, 1352:13, 1353:9, 1353:10, 1354:9, 1357:25, 1369:1, 1371:13, 1371:14, 1372:4, 1376:18, 1377:20, 1378:9, 1378:12, 1378:15, 1378:20, 1378:22, 1381:3, 1382:11, 1386:9, 1387:1, 1387:20, 1388:6, 1390:3, 1390:17 Page - 1154:1, 1164:22, 1164:24 pages - 1156:21, 1235:6, 1320.9, 1320:13, 1320:18, 1320:19, 1320:21, 1321:2, 1321:3, 1321:4, 1321:15, 1321:21, 1321:24, 1324:13, 1324:15, 1377:2, 1377:9 painful - 1222:7 paint - 1304:9 paper - 1290:25 paperwork - 1319:12

1319:14 Paragraph - 1182:14 paragraph - 1154:5. 1154:8, 1154:19, 1164:20, 1166:24, 1178:11, 1180:12, 1183:5, 1190:25, 1191:16, 1340:3, 1340:16, 1342:8, 1345:10, 1350:22, 1354:10, 1354:14, 1354:16, 1380:11, 1380:21, 1381:3 paragraphs - .1272:4, 1378:2, 1383:8 parentheses - 1342:10 part - 1152:14, 1168:8, 1168:11, 1171:13, 1176:8, 1196.7, 1200:18, 1200:20, 1200:23, 1202:10, 1207:24, 1210:13, 1219:15, 1228:9, 1228:18, 1245:5, 1250:5, 1250:6, 1292:14, 1293:5, 1293:12, 1299:3, 1302:18, 1303:11, 1305:7, 1305:22, 1306:9, 1306:12, 1310:23, 1312:14, 1325:7, 1329:17, 1341:7, 1342:21, 1342:25, 1350:13, 1363:15, 1391:2, 1391.17, 1392:12 partially - 1346:18 participants - 1322:5, 1322:11 particular - 1187:14, 1202:13, 1205:17, 1207:8, 1209:8, 1213:5, 1216:21, 1236:3, 1236:5, 1237:9, 1241:11, 1245:21, 1327:16, 1359:22. 1392:7 particularly - 1211:12 1226:11, 1248:5, 1377:23 parties - 1217:9, 1254:21 parts - 1217:5 past - 1158:10, 1180:17, 181:4, 1181:11, 1181:18, 1181:24, 1182:2, 1182:5, 1182:7, 1182:2, 1183:2, 1183:7, 1184:3, 1228:23, 1238:8, 1245:1, 1282:15, 1282:23, 1283:16, 1284:2, 1284:10, 1284:23, 1286:25, 1287:23, 1307:24, 1308:13, 1310:17, 1311:12, 1311:17, 1315:9, 1315:17, 1315:19, 1315:22, 1316:8, 1316:10, 1321:10, 1353:16, 1378:15, 1378:18, 1386:3, 1386:24 path - 1223:22 pay - 1153:1 **Pcaq** - 1157:21, 1158:8, 1164:9, 1164:14, 1165:1, 1166:19, 1167:11, 1167:12, 1168:16, 1168:19, 1168:22, 1169:6, 1169:8, 1169:17, 1170:13, 1171:11, 1173:18 Pcaqs - 1169:15 Pdf - 1253:6 pedal - 1202:5 peer - 1216:19, 1218:24, 223:2, 1275:7, 1275:8, 1279:9 peers - 1219:19, 1219:23 penalties - 1153:1 penetration - 1211:18, 1314:8 **penetrations** - 1228:8, 1236:21, 1291:4, 1291:25, 1324:24, 1324:25, 1325:1, 1325:16 people - 1153:12, 1178:2. 1178:5, 1178:7, 1180:25, 1185:17, 1190:4, 1198:5, 1198:19, 1200:17, 1200:25

1201:20, 1201:23, 1203:23, 1204:14, 1205:13, 1205:16, 1210:11, 1210:12, 1210:24, 1216:11, 1216:17, 1216:18, 1216:24, 1219:25, 1221:14, 1222:6, 1222:15, 1222:19, 1223:4, 1224:6, 1226:6, 1226:6, 1226:13, 1227:21 1226:9, 1226:13, 1227:21, 1227:22, 1228:2, 1228:12 1230:9, 1231:15, 1231:18, 1232:3, 1232:16, 1237:6, 1238:11, 1247:11, 1247:14, 1247:16, 1248:7, 1249:3, 1250:9, 1251:9, 1251:21, 1252:2, 1252:4, 1253:21, 1253:22, 1254:8, 1254:11, 1256:7, 1256:11, 1258:25, 1256:7, 1256:11, 1258:25, 1268:8, 1268:9, 1272:2, 1275:11, 1277:7, 1277:12, 1278:24, 1281:25, 1285:9, 1286:6, 1294:1, 1295:21, 1298:19, 1300:18, 1302:17 1298:19, 1300:18, 1302:17, 1304:24, 1307:8, 1307:25, 1308:9, 1309:3, 1310:23, 1311:15, 1313:5, 1316:21, 1322:15, 1325:12, 1355:13, 1366:25, 1384:23, 1385:7, 1388:15 People - 1232:5, 1252:3 people's - 1275:10 per - 1358:11, 1369:13 perceived - 1232:19 percent - 1163:13, 1175:7. 1175:9, 1175:12, 1176:5, 1176:6, 1176:7, 1176:21, 1176:22, 1177:1, 1180:2, 1183:21, 1191:18, 1295:12, 1334:23, 1344:11, 1348:11, 1348:23, 1349:4, 1349:6, 1349:13, 1351:18, 1352:24, 1353:1, 1382:2, 1387:10, 1387:21, 1388:7, 1393:21, 1394:9 percent/90 - 1176:11 percent/majority -1176:11 percentage - 1352:18, 1381:12, 1385:22, 1388:3 percolated - 1207:9 perfect - 1276:10 perfectly - 1269:15 perform - 1324:3, 1373:18 performance - 1219:19, 1219:20, 1226:8 performed - 1154:10, 1179:22, 1180:16, 1181:6, 1181:12, 1182:2, 1182:4, 1324:22, 1345:12, 1353:21, 1354:2, 1380:22 performing - 1210:23 Perhaps - 1198:21, 1239:12, 1255:23 perhaps - 1161:10 1244:3, 1247:12, 1257:24, 1268:25, 1303:9 period - 1194:1, 1209:22 periodically - 1267:1, 1275:8 permit - 1194:25, 1265:3, 1326:23, 1394:21 permitted - 1388:13 **Perry** - 1196:25, 1197:1, 1197:22, 1198:1, 1201:5, 1208:24 person - 1169:16, 1184:17, 1198:23, 1198:24, 1206:10, 1220:15, 1221:10, 1233:19, 1235:3, 1244:17, 1249:1, 1274:17, 1289:5, 1302:16, 1308:2, 1308:7,

1308:24, 1308:25, 1313:8, 1313:17, 1330:3, 1332:14, 1342:18, 1388:22, 1392:18 personal - 1223:15, 1279:23 personally - 1179:21, 223:12, 1223:18, 1261:14, 1279:25, 1283:3, 1373:11, 1375:17 personnel - 1162:2, 1162:7 persons - 1348:14 persons - 1340.14 perspective - 1182:25, 1206:14, 1219:19, 1230:4, 1239:11, 1259:17, 1259:20, 1261:3, 1280:22, 1288:17, 1305:25 perspectives - 1198:6, 1248:21, 1316:5 persuade - 1235:13, 1235-15 Peter - 1249:3, 1313:24 Ph.d.s - 1253:21 phone - 1229:13, 1281:14, 1286:3, 1295:10, 1328:24, 1357:2, 1359:14, 1359:22, 1360:14, 1360:20, 1360:22, 1360:23, 1361:3, 1361:4, 1361:5, 1361:6, 1361:7, 1362.12 photo - 1244:3 photograph - 1245:13 photographs - 1243:14, 1243:19, 1255:15, 1255:16, 1255:17, 1255:25, 1296:17, 1307.18 photos - 1206:25, 1242:19, 1242:25, 1243:4, 1243:23, 1244:1, 1244:9, 1244:12, 1244:14, 1245:18, 1245:23, 1251:23, 1255:19, 1284:23, 1286:18, 1298:15, 1299:20, 1299:21, 1370:5 phrase - 1160:24, 1283:6, 1204:25, 1204:2 1321:7 physics - 1204:13 picture - 1157:5, 1157:9, 1173:7, 1176:6, 1231:8, 1243:21, 1277:2, 1277:4, 1296:3, 1296:4, 1296:6, 1304:10, 1349:9 pictures - 1157:6, 1212:8, 1245:20, 1253:3, 1264:12, 1296:12, 1297:7, 1298:20 piece - 1208:3, 1284:4, 1293:7, 1319:20, 1329:22 pieces - 1202:15, 1205:23, 1224:15, 1225:14, 1237:12, 1284:6, 1308:22 pile - 1307:14 piles - 1157:10 pipeline - 1318:21 place - 1176:11, 1232:8, 1245:24, 1280:16, 1311:9, 1334:7, 1375:13, 1381:11, 1382:3, 1385:21 places - 1309:17 placing - 1181:15 Plaintiff - 1149:5 Plaintiffs - 1149:13 plan - 1191:17, 1191:19 plane - 1277:6 planned - 1229:5. 1266:17, 1268:4 plans - 1185:23, 1188:13, 1226:21, 1323:21, 1323:23 Plant - 1197:23 plant - 1169:7, 1173:14, 1180.16, 1181:5, 1181:7, 1182:5, 1185:22, 1196:17

.

1196:25, 1198:24, 1200:18, 1200:19, 1201:8, 1202:6, 1202:25, 1203:15, 1203:18, 1202:23, 1205:13, 1206:10, 1204:15, 1205:13, 1206:10, 1209:1, 1209:9, 1210:4, 1210:5, 1211:5, 1212:2, 1213:3, 1213:17, 1214:16, 1215:17, 1219:24, 1220:9, 1224:5, 1224:14, 1225:3, 1225:15, 1226:18, 1238:11, 1239:21, 1250:2, 1266:17, 1267:7, 1267:8, 1267:21, 1269:25, 1270:16, 1271:20, 1272:1. 1272:19. 1272:21. 1273:21, 1274:25, 1275:4, 1275:19, 1280:6, 1280:10, 1288:9, 1288:12, 1288:16, 1314:10, 1314:13, 1329:2, 1337:21, 1339:16, 1349:22, 1349:24, 1349:25, 1355:12, 1355:13, 1356:11, 1357:12, 1359:3, 1359:18, 1360:2, 1360:4, 1360:10, 1361:16, 1384:23, 1385:1 plant-wide - 1269:25 planted - 1240:5 plants - 1154:24, 1180:17, 1182:2, 1198:2, 1208:23, 1273:4, 1273:8, 1275:10 players - 1216:9, 1216:12, 1216:14 plea - 1335:5, 1335:8 **Po** - 1149:17 Point - 1209:18, 1209:23, 1218:23, 1272:15 point - 1171:16, 1173:6 188:15, 1189:18, 1190:23, 1191:16, 1192:23, 1192:24, 1193:5, 1193:15, 1198:1, 1198:2, 1218:8, 1222:15, 1233:12, 1239:1, 1241:2, 1241:5, 1251:1, 1260:14, 1262:4, 1262:6, 1274:21, 1275:21, 1278:22, 1279:6, 1284:7, 1284:23, 1292:17, 1293:19, 1296:11, 1297:3, 1299:9, 1300:4, 1300:8, 1309:19, 1313:13, 1314:3 1316:7, 1316:11, 1318:20, 1319:13, 1322:6, 1324:17 1327:12, 1328:17, 1333:15, 1335:6, 1339:25, 1342:11, 1342:12, 1351:3, 1351:24, 1360:1, 1360:11, 1360:12, 1371:4, 1380:8, 1380:25, 1389.24 pointed - 1191:20 **pointing** - 1341:16, 353:3, 1353:19 points - 1295:7, 1341:3, 1342.9 pole/wire - 1179:19 pollination - 1198:5 pool - 1225:13 Poole - 1149:13, 1317:24, 1318:4, 1321:1, 1321:7, 1321:10, 1321:19, 1322:6, 1322:10, 1322:24, 1325:19, 1326:13, 1326:18, 1375:20, 1396:18 pools - 1225:16 poorly - 1315:11 **popcorn -** 1236:22, 1237:3, 1237:9, 1291:5, 1299:6, 1325:17 popcorn-type - 1236:22, 1291:5, 1325:17 **portion** - 1156:13, 1164:19, 1322:21, 1323:2, 1325:23, 1330:5, 1358:3,

1358:4, 1374:15, 1386:15, 1394:8 portions - 1323:6 pose - 1157:14 position - 1263.13 1268:15, 1367:7, 1388:11 **positive** - 1216:20, 1343:6, 1343:11, 1343:14 possessed - 1282:14 possibility - 1330:13, 1379:21 possible - 1158:12. 1223:24, 1330:25, 1382:11 post - 1268:25, 1279:9 posted - 1267:25 potential - 1206:15, 1285:18 Potential - 1160:22 potentially - 1205:14, 1226:1, 1259:25, 1336:1 pounds - 1201:15. 1347:12 Power - 1195:20, 1197:23, 1209:22, 1209:25, 1319:1, 1328:1 power - 1197:17, 1198:24, 1200:18, 1200:19, 1202:11, 1204:15, 1205:13, 1208:23, 1212:2, 1213:3, 1219:24, 1220:8, 1226:17, 1226:21, 1267:8, 1272:1, 1272:21, 1273:3, 1273:8, 1310:11, 1356:11, 1359:16, 1360:2 Powerpoint - 1233:14, 1233:15, 1233:16, 1233:22, 1233:23, 1234:2, 1234:18, 1290:22, 1320:1 Powerpoints - 1234:3 practice - 1319:9, 1319:20, 1388:17 practices - 1219:23 Prasoon - 1151:4, 1160:14, 1164:3, 1185:9, 1247:17, 1273:23, 1282:5, 1313:10, 1396:2, 1396:4, 1396:6, 1396:8 Prasoon's - 1159:23. 1313:12 pre - 1268:25, 1269:1 preceded - 1289:20 preceding - 1230:2, 1279:2, 1324:8 precleaning - 1268:19 preclude - 1209:5 precluded - 1279:7, 1295:20 predates - 1192:24 predecessor - 1221:11, 1268:12 predecisional - 1285:14. 1285.23 preliminary - 1233:11, 1290:21 preoccupation - 1277:4 preoccupied - 1219:13, 1277:2 preparation - 1215:24 1216 1, 1218:24, 1219:10, 1221:6, 1221:9, 1221:17, 1233:4, 1233:6, 1236:6, 1241:19, 1246:23, 1275:22, 1281:5, 1287:13, 1364:15, 1366:2 preparations - 1234:13 prepare - 1188:16, 1200:9, 1220:23, 1249:16, 1280:23, 1331:23, 1364:16, 1365:5 **prepared** - 1249:7, 1250:1, 1254:4, 1274:1, 1274:6, 1322:13, 1329:24, 1330:3,

1371:2, 1372:14, 1373:7, 1380:17 **preparing** - 1193:9, 1248:4, 1275:2, 1275:18, 1293:9, 1329:16, 1339:16, 1347:20, 1357:22 prescribe - 1289:16 present - 1171:21 1209:10, 1239:3, 1239:6, 1255:21, 1256:16, 1256:24, 1258:18, 1272:18, 1282:19, 1323:2, 1323:14, 1330:3 presentation - 1212:24, 1213:4, 1213:5, 1213:9, 1232:18, 1234:15, 1239:9, 1241:14, 1249:18, 1250:6, 1252:18, 1255:24, 1286:25, 1300:5, 1301:4, 1302:9, 1323:8, 1324:16, 1325:8, 1325:9, 1326:1, 1330:4, 1330.6 presentations - 1213:24, 1233:8, 1233:9, 1274:8, 1281:10, 1290:22 presented - 1212:7 1236:2, 1236:3, 1241:17 1241:20, 1241:21, 1248:12, 1250:8, 1256:21, 1290:18, 1290:23, 1296:2, 1322:21, 1323:6, 1323:10, 1323:11, 1324:14, 1325:23, 1349:8 presenter - 1214:1, 1228:25 presenters - 1234:20 presenting - 1232:6, 1250:5, 1255:22, 1325:2 presently - 1158:9 preservation - 1348:19, 1349:19, 1386:1 president - 1198:23, 1203:13, 1222:6, 1231:17, 1330:11, 1359:14 press - 1355:14 pressure - 1154:24 1155:12, 1171:24, 1172:17, 1228:16, 1233:5, 1324:4 pressures - 1204:9 pressurized - 1201:2 1201:7, 1201:14, 1211:25 presumably - 1260:11 presume - 1324:2, 1335:10 **pretty -** 1215:3, 1219:2, 1219:12, 1233:6, 1233:24, 1234:2, 1264:16, 1319:13, 1344:10 prevent - 1360:9 prevented - 1353:1 preview - 1292:25 previous - 1157:11 1194:24, 1228:6, 1229:12, 1246:5, 1256:14, 1265:1, 1267:24, 1268:3, 1294:25, 1295:3, 1295:9, 1313:13, 1326:22, 1350:21, 1351:19 previously - 1182:15, 1243:8, 1248:9, 1270:6, 1319:22, 1337:7, 1346:15 primarily - 1196:25, 1197:5, 1200:14, 1204:12, 1234:24 primary - 1201:17. 1328:22 principal - 1227:24. 1253:23, 1277:17 principles - 1382:12 print - 1376:11 printed - 1347:15 printouts - 1242:20

Probabilistic - 1239:7

probabilistic - 1239:15, 1239:16, 1239:19, 1248:23, 1249:1, 1250:3, 1310:7, 1314.1, 1323.9, 1323:12 probabilities - 1239:23 probability - 1171:21, 1172:6, 1379:21 probe - 1251:17 problem - 1163:18 1163:19, 1176:1, 1177:8 1177:11, 1180:4, 1183:24, 1197:7, 1205:14, 1207:17, 1213:22, 1238:19, 1238:22, 1238:24, 1250:22, 1252:13, 1268:2, 1310:14, 1345:18, 1345:21 problems - 1177:6. 1182:8, 1197:8, 1198:9, 1267:21, 1278:10, 1345:18, 1345:20 procedural - 1391:4 procedure - 1154:10 1154:21, 1154:25, 1155:5, 1166:4, 1166:6, 1166:9, 1166:11, 1166:13, 1166:18, 1166:20, 1166:22, 1167:6, 1167:8, 1167:14, 1167:21, 1167:25, 1168:3, 1168:13, 1168:16, 1169:3, 1169:9, 1169:10, 1169:21, 1170:3, 1170:4, 1170:6, 1170:21, 1171:6, 1172:3, 1173:6, 1173:14, 1173:18, 1175:3, 1251:20, 1345:14, 1357:12, 1357:13, 1363:12, 1364:3, 1364:6, 1365:7, 1365:23, 1380:13, 1390:4, 1391:2, 1394:11 **Procedure** - 1165:5, 1165:13, 1165:22, 1166:2, 1172:16, 1173:25, 1174:17, 1174:20 proceed - 1204:3, 1231:3 proceeded - 1323:8 proceeding - 1204:4, 1204:6 proceedings - 1395:8 Proceedings - 1150:9 process - 1177:15, 1206:6, 1222:8, 1234:5 1247:18, 1338:22, 1367:3, 1367:5 produced - 1150:9. 1229:4, 1270:17, 1286:14 **product** - 1217:10, 1234:13 production - 1210:24 profess - 1303:13 professional - 1254:4. 1258.6 professional-type -1258.6 proffer - 1261:9, 1261:13, 1261:21, 1336:15 program - 1196:15, 1197:3 project - 1328:23, 1330:23, 1331:2, 1331:3, 1360:1, 1360:2, 1360:11 projector - 1271:2, 1290:12 **promise -** 1379:16, 1379:17 promised - 1326:9 promotion - 1198:12 promptly - 1356:14 pronounce - 1318:7, 1389:18 Pronounced - 1318:11 pronounced - 1318:10 propagation - 1224:10

1254:1 **proper** - 1187:13, 1187:15, 1189:17, 1190:7, 1194:7, 1365:18 proposed - 1365:5, 1390:20, 1390:23, 1390:24, 1393:11 proprietary - 1159:19 propulsion - 1196:17 prosecuted - 1262:12 prosecution - 1152:2, 1152:6, 1152:19, 1152:21, 1163:3, 1173:21, 1174:10, 1334:25 prosecutor - 1259:19, 1335:20 prosecutor's - 1333:22, 1333:25, 1335:9 prosecutorial - 1334:17 prosecutors - 1259:12, 1260:1, 1260:10, 1261:1, 1261:6, 1261:13, 1263:17, 1264:5, 1336:3 provide - 1152:6, 1154:25, 1179:16, 1181:9, 1183:1, 1185:23, 1197:21, 1221:4, 1256:7, 1284:22, 1285:1, 1286:18, 1360:5, 1364:19, 1365:17, 1388:15 provided - 1182:11 1214:7, 1227:9, 1261:13, 1333:1, 1338:10, 1339:2, 1344:13, 1345:3, 1346:18, 1346:23, 1353:6, 1355:10, 1355:20, 1359:4, 1362:14, 1364:21, 1365:24, 1366:17, 1367:6, 1371:9, 1377:5, 1377:6, 1383:10, 1383:13, 1383:15, 1384:14 provides - 1307:3, 380:12 **providing** - 1183:2, 1184:2, 1244:17, 1253:12, 1357:18 **public** - 1219:22, 1254:11, 258:2, 1258:4 publish - 1271:1, 1347:6 published - 1157:7, 1157:20 pull - 1197:19, 1208:8, 1231:5, 1232:1, 1260:13 pulled - 1227:6, 1279:15, 1393:19 pulling - 1334:18 pulse - 1267:1 pulsing - 1216:11, 1244:21 pump - 1310:9, 1310:11 pumps - 1211:7 purple - 1342:5 Purpose - 1188:3 purpose - 1154:25 1172.21, 1188:3, 1188:6, 1206:3, 1232:15, 1256:12, 1296:20, 1319:15, 1342:6, 1345.9, 1353:23, 1353:24, 1376:20 purposes - 1371:21 pursuant - 1163:2 purview - 1283:8 put - 1172:8, 1175:22, 1182:25, 1185:16, 1187:7, 1187:16, 1188:10, 1197:1, 1193:15, 1193:23, 1213:3, 1225:11, 1230:3, 1230:23, 1233:17, 1233:23, 1236:16, 1236:20, 1227:4, 1226:21, 1232:23, 1236:16, 1236:20, 1237:8, 1237:11, 1250:21, 1250:23, 1258:23, 1283:21, 1331:13, 1332:17, 1334:19, 1337:6, 1337:14,

1341:15, 1343:8, 1350:13, 1353:7, 1354:6, 1362:3, 1363:19, 1364:8, 1365:18, 1368:1, 1368:17, 1372:15, 1375:5, 1376:10, 1376:12, 1387.8 Putting - 1312:8 putting - 1226:15, 1234:1, 1308:22, 1329:24, 1331:11, 1334:16, 1340:10, 1340:21, 1367:8 puzzle - 1237:12 Pwr - 1154:24, 1201:7, 1201:14, 1201:17, 1202:7, 1202:8, 1288:11 pyramid - 1198:20 Q

gualification - 1180:15, 1185:24, 1341:17, 1342:10, 1342:17 qualifications - 1342:9 Qualified - 1257:8 qualified - 1181:7 1181:12, 1256:25; 1257:1, 1257:5, 1257:12, 1257:16, 1257:18, 1258:16, 1303:1, 1303:3, 1303:9, 1303:16, 1303:21, 1303:25, 1307:8, 1324:4, 1342:13, 1342:20, 1345:13, 1380:13 Quality - 1160:23 quality - 1201:12, 1258:25, 1303:20, 1326:6 quarter - 1225:12 questioned - 1354:17, 1368:22, 1390:16 questioning - 1260:8, 1260:16, 1345:13, 1390:15 questions - 1160:11 1163:24, 1186:25, 1188:20, 1194:20, 1203:4, 1259:5, 1263:22, 1264:20, 1272:23, 1272:25, 1277:13, 1289:13, 1302:6, 1302:19, 1306:20, 1317:21, 1321:21, 1322:1, 1322:19, 1323:16, 1325:8, 1326:13, 1329:20, 1329:25, 1333:16, 1338:24, 1339:2 1339:20, 1340:25, 1348:24, 1349:2, 1350:7, 1360:6, 1360:7, 1363:3, 1368:9, 1378:18, 1379:24, 1381:1, 1391:9, 1391:14, 1393:3 quick - 1215:6 quick-response - 1215:6 quickly - 1265:15, 1292:24 quite - 1187:4, 1196:14, 1219:25, 1223:22, 1224:20, 1225:3, 1232:7, 1232:24, 1233:11, 1240:12, 1240:15. 1245:7, 1262:7, 1291:18, 1300:19, 1301:12, 1302:20, 1303:19, 1310:18 quotes - 1154:25, 1343:5 quoting - 1350:23 R

Ra- 1158:23 radar - 1275:24, 1276:2 Rai- 1154:6 raise - 1335:17, 1376:15 raised - 1362:19 ran - 1196:18, 1225:3 range - 1277:16 ranking - 1185:21 ranks - 1309:2 rate - 1248:5, 1254:1

1287:13, 1287:15, 1314:25, 1315:7, 1315:15, 1315:20, 1316:9 rates - 1223:17, 1227:25, 1228:11, 1284:4 Rather- 1293:25 rather - 1224:4, 1264:23, 1302:16, 1325:13, 1360:9, 1379:25. 1388:22 re - 1384:20 reach - 1179:23, 1223:20 reaction - 1226:24, 1227:1, 1264:7, 1305:18 reactivity - 1202:5 Reactor- 1208:15, 1256:5, 1328:23 reactor - 1154:24 1155:12, 1168:23, 1168:25, 1169:2, 1171:24, 1172:17, 1186:10, 1186:23, 1201:3, 1201:6, 1201:7, 1201:11, 1201:14, 1201:21, 1201:23, 1202:2, 1202:3, 1202:4, 1202:14, 1202:23, 1203:2, 1203:5, 1203:10, 1204:3, 1205:19, 1208:13, 1209:14, 1211:18, 1225:11, 1225:12, 1227:23, 1229:18, 1267:6, 1273:8, 1285:22, 1288:14, 1310:10, 1313:5, 1313:25, 1324:4, 1344:23, 1353:13, 1353:15 reactors - 1202:1, 1212:1 read - 1154:19, 1166:9, 1169:17, 1170:7, 1170:9, 1170:10, 1170:24, 1170:25, 1172:19, 1180:9, 1180:12, 1182:1, 1182:13, 1182:14, 1183:11, 1183:12, 1190:25, 1208:13, 1208:14, 1221:19, 1227:17, 1236:20, 1252:14, 1253:6, 1265:1, 1271:23, 1272:2. 1283:18. 1285:18. 1301:10, 1304:24, 1338:9, 1339:1, 1341:1, 1341:5, 1341:6, 1341:8, 1343:3, 1343:4, 1343:10, 1349:16, 1351:1, 1351:6, 1352:8, 1352:23, 1353:25, 1354:16, 1371:18, 1371:23, 1372:2, 1372:7, 1372:14, 1381:7, 1381:9, 1385:9, 1390:25, 1394:19 readable - 1380:5 readiness - 1272:20 reading - 1166:11, 1166:18, 1181:15, 1205:23, 1341:22, 1351:7, 1364:14, 1364:23, 1369:1, 1369:16, 1369:20, 1369:21, 1372:17, 1373:13 reads - 1154:18, 1157:9, 1185:21, 1193:17, 1291:4, 1343:16, 1345:11, 1351:25, 1354:10 ready - 1187:22, 1200:15, 1200:20, 1200:22, 1219:13 real - 1238:22, 1249:2, 1284:18, 1284:20 reality - 1208:1 realize - 1293:6, 1357:21 realized - 1227:3 really - 1174:24, 1200:23, 1204:2, 1216:16, 1230:5, 1230:22, 1231:25, 1233:1, 1233:3, 1238:14, 1259:3, 1261:20, 1299:20, 1301:7, 1316:23, 1343:10, 1371:4, 1375:16

reason - 1174:2, 1193:13

1210:13, 1223:3, 1235:10, 1247:2, 1248:23, 1268:23, 1301:11, 1306:2, 1350:1 reasonable - 1236:19 reasonably - 1382:12 reasons - 1155:8, 1164:25, 1306:3, 1373:7 recalled - 1325:7 recalling - 1382:16 receive - 1312:18 received - 1158:22 1159:16, 1190:4, 1260:2, 1326:10, 1326:12, 1334:1, 1346:22, 1349:3, 1359:14, 1381:1, 1381:7, 1381:9, 1390:19, 1393:11 receiving - 1362:2 recent - 1350:15 recently - 1267:10, 1267:14 reception - 1302:3 Recess- 1195:4, 1327:2 recess - 1265:9 recipients - 1184:16 recognize - 1165:19 1166:12, 1173:9, 1270:10, 1270:11, 1319:22, 1364:2 recollection - 1212:19, 1216:22, 1219:12, 1220:7, 1227:17, 1252:24, 1271:13, 1279:22, 1282:22, 1284:25, 1301:14, 1301:17, 1321:11, 1321:16, 1321:17, 1325:5, 1326:14, 1327:15 1336:14, 1377:15 recollections - 1267:4 recommendation -1171:13, 1173:12 recommendations -1191.10 recommended - 1352:11, 1352:21, 1353:3 recommending - 1271:10 record - 1189:22, 1193:2, 1194:2, 1194:3, 1204:20, 1208:10, 1245:1, 1264:18, 1318:13, 1321:13, 1370:8, 1371:16, 1372:18, 1379:19, 1386:19, 1395:8 recorded - 1150:9, 1321:11 recording - 1257:14 recordings - 1236:22 1251:3, 1291:6, 1325:20, 1325:21 records - 1251:13 Recross- 1393:6, 1397:1 Recross-examination-1393:6, 1397:1 recruiter - 1196:13 Redirect- 1185:6, 1185:9, 1306:21, 1306:24, 1389:6, 1389:9, 1396:8, 1396:15, 1396:23 redirect - 1187:13 1187.16, 1189:17, 1193:11, 1194:7, 1264:24 reduce - 1337:1 reduced - 1334:24 refer - 1363:22 reference - 1167:14. 1323:12, 1349:5, 1353:9, 1353:21, 1354:2, 1364:5, 1375:5, 1385:2, 1392:2 referenced - 1346:15, 1349:5, 1357:12 references - 1167:6 referred - 1187:11 1246:15, 1349:11, 1353:14 referring - 1186:21, 1211:22, 1216:2, 1217:14

1231:12, 1255:16, 1282:5, 1282:7, 1351:10, 1355:19, 1372:4, 1372:6, 1372:13, 1386:15, 1387:25 refers - 1387:24 refined - 1159:21 reflect - 1320:21, 1322:22 reflected - 1237:18 refrain - 1152:20 refresh - 1321:16, 1325:5 refreshed - 1227:18, 1321:17, 1323:1 refuel - 1225:17 refuel - 1220.17 refueling - 1180:5, 1199:12, 1199:14, 1200:24, 1220:23, 1221:6, 1225:16, 1225:22, 1237:16, 1250:13, 1259:7, 1272:16, 1323:21, 1323:24, 1324:1, 1324:7 1323:24, 1324:1, 1324:7, 1350:9, 1350:12, 1350:15 refuse - 1301:23 Reg- 1235:3, 1240:18 reg - 1312:4 regard - 1179:13, 1180:24, 1242:12, 1278:2, 1365:2, 1365:10, 1365:11, 1378:21, 1380:21, 1381:12, 1382:20, 1387:9, 1393:8 **regarding** - 1162:11, 1187:1, 1243:3, 1256:15, 1313:13, 1326:2, 1348:18, 1353:7, 1382:13 regimented - 1356:12 regional - 1329:2, 1329:4 regular - 1219:9 regulation - 1393:22, 1394:10 Regulation- 1328:23 regulations - 1219:21 regulator - 1213:25, 1274:11 Regulatory- 1177:12 1199:23, 1199:24, 1200:4, 1216:17, 1217:8, 1219:20, 1216:17, 1217/8, 1219:20, 1233:19, 1276:6, 1319:11, 1328:13, 1328:14, 1328:17, 1330:18, 1355:2, 1360:16, 1363:16, 1364:20, 1364:21, 1365:2, 1365:17, 1365:18, 1367:20, 1390:9, 1390:18, 1390:22, 1393:10, 1393:14 1390:23, 1393:10, 1393:14 regulatory - 1219:20, 1318:20, 1354:25 reinforced - 1277:5 relate - 1193:18, 1205:17, 1348:24, 1386:25, 1392:13 related - 1175:18, 1201:1, 1202:16, 1202:20, 1204:2, 1205:18, 1211:17, 1212:14, 1213:14, 1213:18, 1221:22, 1226:23, 1227:24, 1229:10, 1229:11, 1231:7, 1231:10 1229:11, 1231:7, 1231:19, 1232:20, 1235:5, 1237:1, 1239:15, 1239:23, 1244:23, 1244:25, 1257:6, 1258:5, 1281:21, 1285:10, 1318:25, 1319:8, 1321:21, 1324:7 1330:19, 1337:10, 1343:18, 1386:18 Related- 1319:5 relates - 1194:13, 1386:22 relating - 1186:9 relationship - 1293:24 relatively - 1171:22, 1264:13 relax - 1394:25 relayed - 1331:21 relevant - 1226:2, 1235:21, 1255:23, 1277:12, 1283:11, 1320:11, 1320:14,

1334:19 reliable - 1373:4 relied - 1266:3 relieved - 1262:6 reluctant - 1285:1, 1309:5 rely - 1308:25 relying - 1309:25, 1384:13 remainder - 1321:3 remaining - 1353:1 remark - 1343:18 remarks - 1375:4 remember - 1160:18, 1160:24, 1162:13, 1163:14, 1175:10, 1177:17, 1178:13, 1184:24, 1186:8, 1186:12, 1187:2, 1187:4, 1194:24, 1196:1, 1196:3, 1198:7, 1202:24, 1204:1, 1204:3, 1207:8, 1207:9, 1207:11, 1208:24, 1212:7, 1212:17, 1212:18, 1213:23, 1213:24, 1214:9, 1214:10, 1215:9, 1216:8, 1216:15, 1216:16, 1216:18, 1216:23, 1221:2 1221:16, 1221:23, 1222:12, 1222:19, 1223:23, 1225:10, 1226:8, 1228:1, 1232:23, 1233:2, 1234:3, 1236:4, 1242:2, 1242:14, 1242:20, 1243:20, 1244:3, 1244:15, 1244:19, 1245:6, 1247:11, 1248:4, 1249:8, 1249:10, 1251:7, 1251:17, 1252:25, 1254:1, 1257:17, 1252:25, 1254:1, 1254:3, 1254:15, 1254:19, 1257:13, 1257:15, 1257:24, 1258:22, 1259:2, 1261:8, 1262:6, 1263:20, 1264:2, 1264:16, 1264:25, 1266:25, 1267:2, 1269:16, 1272:25, 1274:3, 1278:13, 1280:25, 1281:2, 1281:9, 1281:12, 1282:20, 1284:1, 1284:6, 1291:9, 1291:14, 1293:4, 1296:9, 1297:22, 1298:14, 1296:9, 1297:22, 1298:14, 1298:18, 1300:3, 1300:4, 1300:17, 1300:18, 1302:4, 1303:15, 1303:18, 1303:19, 1303:24, 1309:17, 1311:2, 1311:14, 1311:19, 1326:22, 1336:13, 1394:18 remind - 1385:18 reminds - 1201:9 removal - 1172:16, 1343:24 remove - 1171:24, 1172:4, 1173:17, 1344:24 removed - 1157:12 1168:22, 1168:24, 1208:20, 1354.7 renewed - 1211:11, 1329:14 renewing - 1334:14 repairing - 1207:17 repairs - 1208:16 repeat - 1163:8, 1169:23, 1292:24, 1315:10, 1362:1 repeating - 1390:24 rephrase - 1173:1 replacements - 1158:11 replied - 1369:11 replet - 1215:7, 1382:13 Report- 1153:7, 1169:5, 1170:3, 1205:12, 1205:17, 1206:3, 1206:7, 1345:17 report - 1156:14, 1221:19, 1221:20, 1271:16, 1345:18, 1345:21, 1345:22 reportable - 1206:16 reported - 1206:16, 1272:7 Reporter- 1150:5

reporter - 1195:16, 1327:16 reporting - 1319:19, 1377:19 Reports- 1155:10, 1206:18, 1212:3 reports - 1380:22 represent - 1160:16 representations -1264:12, 1295:9 representative - 1212:16, 1214:5, 1238:10 represented - 1248:24, 1261:24, 1298:23, 1317:5 representing - 1258:8, 1283:7, 1376:12 represents - 1370:11 request - 1183:19, 1220:8, 1299:19, 1300:1, 1300:8, 1337:9, 1338:25, 1340:20, 1344:7, 1346:4, 13450:20 1344:7, 1346:1, 1350:22, 1350:23, 1350:25, 1353:9, 1381:5, 1388:6, 1391:15 requested - 1185:22, 1254:6 requesting - 1191:21 requests - 1154:8, 1254:16 required - 1152:8. 1172:16, 1174:4, 1177:12, 1224:3, 1225:17, 1230:5, 1348:12, 1364:17, 1364:22, 1375:17, 1377:3 requirement - 1172:20, 1173:5, 1173:12, 1173:19, 1174:3, 1247:14, 1342:17, 1354:25, 1384:24, 1391:4 requirements - 1180:15, 1185:24, 1239:20, 1303:12, 1341:17, 1342:10, 1348:16, 1349:23, 1354:23, 1385:13 requires - 1165:13, 1365:23, 1393:22, 1394:10, 1394:11 requiring - 1351:14, 1387.2 rereview - 1281:8, 1281:15 reroute - 1390:23 resigned - 1267:24, 1268:12 resist - 1301:23 resistant - 1300:9 resolution - 1177:11 1263:18, 1335:8, 1348:19, 1386:6, 1390:22 resolutions - 1289:4 resolve - 1155:1, 1155:6, 1155:11, 1177:5, 1177:8, 1227:13, 1390:19, 1391:3, 1391:5, 1393:11 resolved - 1175:24 1206:7, 1207:13, 1207:15, 1207:17, 1207:19, 1207:21, 1208:9, 1208:10, 1362:19, 1362:20, 1362:22, 1390:20, 1362:200; 1360 1393:20 resolving - 1313:6, 1332:22, 1375:7 resource - 1319:10 resources - 1220:22, 1309.5 respect - 1152:16, 1175:5, 1189:9, 1190:2, 1190:22, 1192:23, 1202:13, 1208:3, 1210:24, 1211:11, 1215:20, 1223:14, 1225:9, 1241:16, 1242:16, 1243:18, 1245:19, 1261:5, 1263:17, 1307:23, 1308:12, 1319:9, 1330:9, 1330:15, 1333:6, 1333:25

1336:9, 1349:12, 1352:18, 1359:10, 1359:25, 1360:12, 1392:3 respectfully - 1192:9 Respecting- 1189:4 respecting - 1192:18 respond - 1215:9, 1219:3, 1222:10, 1287:5, 1332:4, 1334:21, 1385:11, 1392:12 responded - 1368:19, 1368.20 responding - 1216:7, 1216:13, 1217:1 response - 1154:12 1154:18, 1156:3, 1162:12, 1171:11, 1177:24, 1179:15, 1182:4, 1182:15, 1184:3, 1186:9, 1186:17, 1188:22 1189:12, 1190:20, 1193:9, 1215:6, 1216:2, 1216:5, 1216:25, 1217:15, 1220:4 1220:12, 1229:8, 1235:20, 1241:16, 1241:23, 1255:11, 1275:23, 1276:16, 1276:24, 1277:14, 1279:6, 1308:12, 1323:19, 1329:22, 1331:11, 1331:14, 1331:15, 1332:8, 1332:15, 1333:15, 1332:0, 1332:15, 1333:7, 1333:10, 1339:9, 1339:23, 1339:24, 1340:21, 1341:4, 1341:18, 1341:20, 1341:21, 1341:22, 1342:1, 1342:16, 1342:19, 1342:1, 1342:16, 1342:19, 1345:25, 1350:20, 1352:5, 1359:15, 1365:11, 1366:7, 1366:16, 1366:17, 1370:22, 1373:9, 1373:18, 1383:8, 1383:11, 1384:1, 1387:11 responses - 1319:5, 1325:10, 1325:12, 1333:19, 1337:11, 1360:13, 1362:13, 1363:13, 1365:22, 1366:2, 1370:25, 1384:25 responsibilities - 1210:9 responsibility - 1215:20, 1215:23, 1263:12, 1263:13, 1315:6, 1331:20, 1331:23, 1332:7, 1333:6, 1365:16 responsible - 1200:14, 1217:4, 1307:1, 1307:6, 1364:15, 1392:15, 1392:22 responsive - 1370:25 responsiveness - 1391:14 rest - 1189:18, 1301:6, 1355:7 restart - 1169:2, 1272:20 restarted - 1168:25 restate - 1170:24 restraint - 1169:6, 1169:8, 1170:5, 1208:20, 1208:22 result - 1202:18, 1240:1, 1263:6, 1294:19, 1306:9, 1314:6, 1314:9 resultant - 1155:2, 1155:6 results - 1284:19, 1284:21, 1324:23, 1352:1 1354:11, 1354:16, 1390:22 resume - 1264:25 retain - 1333:5 retire - 1394:24 retrospect - 1228:17 return - 1240:8 returned - 1208:1 1208:13, 1210:4, 1240:10, 1240:11, 1257:22, 1258:20, 1330:12, 1355:17 Review- 1153:7, 1160:18, 1160:21, 1160:25 review - 1164:12, 1168:19, 1205:15, 1212:2, 1217:10, 1244:21, 1245:9, 1251:3,

1253:8, 1274:22, 1274:23, 1275:7, 1275:8, 1277:11, 1294:19, 1298:18, 1299:13, 1306:8, 1313:9, 1321:15, 1325:21, 1326:2, 1332:19, 1333:13, 1333:17, 1338:8, 1338:23, 1339:6, 1339:7, 1339:9, 1341:2, 1345:7, 1346:7, 1347:18, 1347:22, 1351:4, 1354:10, 1356:1, 1356:3, 1356:23, 1357:10, 1357:13, 1357:15, 1357:16, 1358:21, 1358:23, 1359:2, 1360:5, 1362:15, 1365:3, 1366:23, 1371:3, 1374:1, 1374:2, 1374:9, 1374:18. 1377:25, 1379:2, 1379:5, 1383:5, 1387:15, 1387:16, 1390:10, 1391:10 reviewed - 1169:18 1244:19, 1245:8, 1245:12, 1275:7, 1297:25, 1321:24, 1326.6, 1339:15, 1347:23, 1355:18, 1356:24, 1357:2, 1362:14, 1374:15, 1379:4, 1384:4 reviewer - 1374:19 reviewing - 1247:16, 1280:25, 1295:24, 1310:17, 1240:42, 1346:40, 1370:23 1343:13, 1346:10, 1370:23 reviews - 1209:13, 1225:4, 1289:11, 1307:4, 1339:18 revision - 1240:24 Revision- 1167:15 Rfo- 1154:20, 1173:24 1175:11, 1185:1, 1191:20 1236:23, 1246:18, 1268:20, 1271:10, 1291:6, 1291:11 1291:13, 1291:23, 1291:24, 1292:8, 1324:5, 1324:22, 1325:20, 1325:21, 1348:14, 1350:14, 1380:22, 1381:17, 1385:22, 1394:9 rhvthm - 1210:13 Richard- 1149:13, 1149:21 right-hand - 1156:21, 1156:23, 1205:8, 1342:25 1351:10, 1352:14, 1387:2 risk - 1193:12, 1323:9, 1323:13, 1382:16 Rmr- 1150:5, 1395:11 robust - 1204:14, 1254:18 Rockville- 1232:9 1232:22, 1232:25, 1300:23 **Rod**- 1164:5, 1332:9, 1332:10, 1332:11, 1332:13, 1332:16, 1337:4, 1338:10, 1339:12, 1339:13, 1344:13, 1344:20, 1345:3, 1346:5, 1348:10, 1349:5, 1351:20, 1351:21, 1353:14, 1354:20, 1355:8, 1355:16, 1357:2, 1362:25, 1363:10, 1365:21, 1371:2, 1372:24, 1385:10, 1385:11, 1385:17 **rod -** 1205:19, 1211:12, 1211:18, 1314:7, 1329:15, 1329-19 Rod's- 1337:16, 1371:4, 1374:20 rods - 1202:3, 1202:9 Roger- 1318:14, 1329:18 Rogers- 1200:5 role - 1223:13, 1234:22, 1248:19, 1259:19, 1267:15, 1268:12, 1276:5, 1277:21, 1283:8, 1322:19, 1363:15, 1370:22, 1371:3, 1371:5 roles - 1200:24 rolled - 1299:6

room - 1197:2, 1206:9, 1210:14, 1232:5, 1233:25, 1337:14, 1360:19, 1361:7, 1361:9, 1394:24 root, 1204:25, 1205 root - 1304:25, 1345:22, 1345:23 rose - 1207:4 rough - 1179:22 roughly - 1215:14, 1326:21 routing - 1217:6 Rpv- 1155:12, 1180:14, 1180:20, 1182:6, 1182:16, 1182:17, 1186:14, 1246:18, 1245:11, 1256:12, 1250:25, 1345:17, 130:14, 1240:16, 1345:11, 1351:3, 1352:25, 1353:20, 1354:1, 1382:9 rudimentary - 1251:15 rules - 1349:23, 1349:25, 1350:1 run - 1226:12, 1345:19 running - 1210:5, 1213:17, 1224:5 rushed - 1228:16, 1249:15 rushing - 1231:1 S sad - 1240:12 safe - 1239:21, 1249:11 1256:15, 1314:10, 1314:13, 1316:20 Safeguards - 1256:5 safely - 1219:21, 1310:9 safety - 1210:24, 1211:2, 1239:15, 1239:16, 1280:14, 1314:6, 1318:21 Safety - 1239:7, 1328:2 sales - 1197:16 sandbagged - 1335:18 sanity - 1370:23 sat - 1297:7 satisfaction - 1378:25 satisfy - 1220:19, 1307:9, 1307:15 Saunders - 1220:14 1220:16, 1222:22, 1222:24, 1278:19. 1359:13. 1359:18 **saw** - 1220:3, 1224:22, 1236:17, 1238:20, 1240:22, 1247:6, 1253:12, 1255:20, 1263:23, 1264:10, 1264:13, 1268:19, 1268:21, 1269:2, 1269:13, 1299:2, 1304:18, 1304:22, 1305:2, 1305:17, 1304:22, 1305:9, 1305:17, 1305:18, 1306:2, 1313:1, 1316:24, 1317:6, 1351:21, 1374:14, 1380:8 scanned - 1357:1 scanning - 1357:8 scattered - 1352:4, 1352:9 schedule - 1185:25, 1280:11, 1356:13 scheduled - 1208:17, 1224:1, 1324:5 scheme - 1178:20 school - 1290:25 science - 1328:4 scope - 1180:15, 1185:24, 1341:16, 1342:10 Scott - 1249:3, 1313:24 scrape - 1179:25 screen - 1152:9, 1152:10, 1157:5, 1158:3, 1164:15, 1164:17, 1181:15, 1181:17, 1187:8, 1187:14, 1234:17, 1235:25, 1252:12, 1271:4, 1232:42, 1275:24, 1275:2 1272:13, 1275:24, 1276:2, 1338:18, 1342:4, 1342:5, 1358:4, 1363:20, 1368:10

scrubbed - 1344:21

sea - 1185:18 season - 1214:14, 1226:7 second - 1156:9, 1159:20, 1163:15, 1167:7, 1182:15, 1191:16, 1196:5, 1199:6, 1199:18, 1200:12, 1200:23, 1215:14, 1215:18, 1252:12, 1252:14, 1252:18, 1287:23, 1296:24, 1342:21, 1344:1, 1346:10, 1346:16, 1349:19, 1361:7, 1371:14 secondary - 1201:18 secondhand - 1220:16 secondnand - 1220.16 secretary - 1337:1 Section - 1177:24, 1178:6, 1180:4, 1185:12, 1185:19, 1186:9, 1364:6, 1376:24, 1377:16 1377:21 1377:16, 1377:19, 1377:21, 1377:23, 1378:21, 1384:16, 1384:20, 1386:18 section - 1180:6, 1243:23, 1281:7, 1324:16, 1350:25, 1351:25, 1385:14 sections - 1210:9, 1287:4, 1377:24 secure - 1337:6 security - 1196:3, 1279:17, 1280:2 See - 1185:17, 1348:10 See - 1165.17, 1153:19, 1154:2, 1155:15, 1156:15, 1156:17, 1156:20, 1156:22, 1157:5, 1157:15, 1158:2, 1163:19, 1164:15, 1164:17, 1165:15, 1166:23, 1167:2, 1170:18, 1171:3, 1172:23, 1175:17, 1176:1, 1176:2, 1176:18, 1177:8, 1179:17, 1179:21, 1179:23, 1180:1, 1180:6, 1181:16, 1183:6, 1183:18, 1184:7, 1184:9, 1185:19, 1186:15, 1187:9, 1190:11, 1192:5, 1192:6, 1192:7, 1193:17, 1202:2, 1205:16, 1217:18, 1217:22, 1222:11, 1229:20, 1237:20, 1244:3, 1244:5, 1244:6, 1246:11, 1248:10, 1265:8, 1284:5, 1293:13, 1298:21, 1299:20, 1300:6, 1311:20, 1320:15, 1340:24, 1341:25, 1342:25, 1353:9, 1358:4, 1364:9, 1370:4, 1379:6, 1379:23, 1380:15, 1388:6, 1395:1 seed - 1240:5 seeing - 1203:8, 1224:5, 1243:3, 1289:15, 1305:4, 1305:10, 1306:13, 1307:18, 1357:8, 1380:19 seek - 1269:3 seeking - 1152:20 seem - 1249:13, 1253:10, 1255:5, 1291:18, 1304:4 sees - 1277:6 self - 1224:25 self-critically - 1224:25 Senator - 1218:22, 1331:23, 1339:16, 1347:20, 1348:3, 1355:11 send - 1160:7, 1163:20 **sending** - 1159:17, 1159:23, 1162:22, 1177:2, 1234:24, 1375:10 senior - 1213:25, 1220:15, 1221:12, 1232:3, 1256:7, 1256:11 sense - 1212:8, 1214:6, 1225:1, 1228:16, 1231:1, 1233:1, 1238:25, 1240:5,

1242:23, 1244:23, 1245:15, 1245:17, 1249:9, 1253:8, 1256:8, 1256:15, 1263:19, 1283:23, 1292:13, 1294:3, 1294:14, 1294:18, 1298:22, 1302:22, 1307:20, 1309:7, 1309:8, 1339:6 sent - 1152:16, 1159:24, 1163:14, 1163:16, 1163:19, 1184:6, 1184:9, 1191:7, 1192:1, 1288:7, 1299:21, 1360:8, 1367:3, 1380:17, 1382:20 sentence - 1154:8, 1155:9, 1168:2, 1168:10, 1169:24, 1170:14, 1170:15, 1170:16, 1171:1, 1180:9, 1180:18, 1181:19, 1182:4, 1182:15, 1236:25, 1237:18, 1250:14, 1291:4, 1334:24, 1344:2, 1351:5, 1352:4, 1353:20, 1353:22, 1353:25, 1354:8, 1354:17, 1382:9, 1382:10 separating - 1314:17 September - 1197:10, 1197:13, 1217:16, 1219:1, 1219:14, 1220:12, 1220:13, 1220:20, 1221:24, 1275:3, 1275:12, 1275:15, 1275:25, 1276:3, 1278:17, 1279:17, 1280:19, 1359:1, 1359:12, 1359:13, 1383:11, 1383:19 sequentially - 1210:17 sergeant - 1267:3
1293:23, 1292:13, 1294:3, 1294:14, 1294:18, 1298:22, 1302:22, 1307:20, 1309:7, 1309:8, 1339:6 sent - 1152:16, 1159:24, 1163:14, 1163:16, 1163:19, 1184:6, 1184:9, 1191:7, 1192:1, 1288:7, 1299:21, 1360:8, 1367:3, 1380:17, 1382:20 sentence - 1154:8, 1155:9, 1168:2, 1168:10, 1169:24, 1170:14, 1170:15, 1170:16, 1171:1, 1180:9, 1180:18, 1181:19, 1182:4, 1182:15, 1236:25, 1237:18, 1250:14, 1291:4, 1334:24, 1344:2, 1351:5, 1352:4, 1353:20, 1353:22, 1353:25, 1354:8, 1354:17, 1382:9, 1382:10 separating - 1314:17 September - 1197:10, 1197:13, 1217:16, 1219:1, 1219:14, 1220:12, 1220:13, 1220:20, 1221:24, 1275:3, 1275:12, 1275:15, 1275:25, 1276:3, 1278:17, 1279:17, 1280:19, 1359:1, 1359:12, 1359:13, 1383:11, 1383:19 sequence - 1254:19 sequentially - 1210:17
1293:23, 1292:13, 1294:3, 1294:14, 1294:18, 1298:22, 1302:22, 1307:20, 1309:7, 1309:8, 1339:6 sent - 1152:16, 1159:24, 1163:14, 1163:16, 1163:19, 1184:6, 1184:9, 1191:7, 1192:1, 1288:7, 1299:21, 1360:8, 1367:3, 1380:17, 1382:20 sentence - 1154:8, 1155:9, 1168:2, 1168:10, 1169:24, 1170:14, 1170:15, 1170:16, 1171:1, 1180:9, 1180:18, 1181:19, 1182:4, 1182:15, 1236:25, 1237:18, 1250:14, 1291:4, 1334:24, 1344:2, 1351:5, 1352:4, 1353:20, 1353:22, 1353:25, 1354:8, 1354:17, 1382:9, 1382:10 separating - 1314:17 September - 1197:10, 1197:13, 1217:16, 1219:1, 1219:14, 1220:12, 1220:13, 1220:20, 1221:24, 1275:3, 1275:12, 1275:15, 1275:25, 1276:3, 1278:17, 1279:17, 1280:19, 1359:1, 1359:12, 1359:13, 1383:11, 1383:19 sequence - 1254:19 sequentially - 1210:17
1293:23, 1292:13, 1294:3, 1294:14, 1294:18, 1298:22, 1302:22, 1307:20, 1309:7, 1309:8, 1339:6 sent - 1152:16, 1159:24, 1163:14, 1163:16, 1163:19, 1184:6, 1184:9, 1191:7, 1192:1, 1288:7, 1299:21, 1360:8, 1367:3, 1380:17, 1382:20 sentence - 1154:8, 1155:9, 1168:2, 1168:10, 1169:24, 1170:14, 1170:15, 1170:16, 1171:1, 1180:9, 1180:18, 1181:19, 1182:4, 1182:15, 1236:25, 1237:18, 1250:14, 1291:4, 1334:24, 1344:2, 1351:5, 1352:4, 1353:20, 1353:22, 1353:25, 1354:8, 1354:17, 1382:9, 1382:10 separating - 1314:17 September - 1197:10, 1197:13, 1217:16, 1219:1, 1219:14, 1220:12, 1220:13, 1220:20, 1221:24, 1275:3, 1275:12, 1275:15, 1275:25, 1276:3, 1278:17, 1279:17, 1280:19, 1359:1, 1359:12, 1359:13, 1383:11, 1383:19 sequence - 1254:19 sequentially - 1210:17
1294:14, 1294:18, 1298:22, 1302:22, 1307:20, 1309:7, 1309:8, 1339:6 sent - 1152:16, 1159:24, 1163:14, 1163:16, 1163:19, 1184:6, 1184:9, 1191:7, 1192:1, 1288:7, 1299:21, 1360:8, 1367:3, 1380:17, 1382:20 sentence - 1154:8, 1155:9, 1168:2, 1168:10, 1169:24, 1170:14, 1170:15, 1170:16, 1171:1, 1180:9, 1180:18, 1181:19, 1182:4, 1182:15, 1236:25, 1237:18, 1250:14, 1291:4, 1334:24, 1344:2, 1351:5, 1352:4, 1353:20, 1353:22, 1353:25, 1354:8, 1354:17, 1382:9, 1382:10 separating - 1314:17 September - 1197:10, 1197:13, 1217:16, 1219:1, 1219:14, 1220:12, 1220:13, 1220:20, 1221:24, 1275:3, 1275:12, 1275:15, 1275:25, 1276:3, 1278:17, 1279:17, 1280:19, 1359:1, 1359:12, 1359:13, 1383:11, 1383:19 sequence - 1254:19 sequentially - 1210:17
1309:8, 1339:6 sent - 1152:16, 1159:24, 1163:14, 1163:16, 1163:19, 1184:6, 1184:9, 1191:7, 1192:1, 1288:7, 1299:21, 1360:8, 1367:3, 1380:17, 1382:20 sentence - 1154:8, 1155:9, 1168:2, 1168:10, 1169:24, 1170:14, 1170:15, 1170:16, 1171:1, 1180:9, 1180:18, 1181:19, 1182:4, 1182:15, 1236:25, 1237:18, 1250:14, 1291:4, 1334:24, 1344:2, 1351:5, 1352:4, 1353:20, 1353:22, 1353:25, 1354:8, 1354:17, 1382:9, 1382:10 separating - 1314:17 September - 1197:10, 1197:13, 1217:16, 1219:1, 129:14, 1220:12, 1220:13, 120:20, 1221:24, 1275:3, 1275:12, 1275:15, 1275:25, 1276:3, 1278:17, 1279:17, 1280:19, 1359:1, 1359:12, 1359:13, 1383:11, 1383:19 sequence - 1254:19 sequentially - 1210:17
1309:8, 1339:6 sent - 1152:16, 1159:24, 1163:14, 1163:16, 1163:19, 1184:6, 1184:9, 1191:7, 1192:1, 1288:7, 1299:21, 1360:8, 1367:3, 1380:17, 1382:20 sentence - 1154:8, 1155:9, 1168:2, 1168:10, 1169:24, 1170:14, 1170:15, 1170:16, 1171:1, 1180:9, 1180:18, 1181:19, 1182:4, 1182:15, 1236:25, 1237:18, 1250:14, 1291:4, 1334:24, 1344:2, 1351:5, 1352:4, 1353:20, 1353:22, 1353:25, 1354:8, 1354:17, 1382:9, 1382:10 separating - 1314:17 September - 1197:10, 1197:13, 1217:16, 1219:1, 129:14, 1220:12, 1220:13, 120:20, 1221:24, 1275:3, 1275:12, 1275:15, 1275:25, 1276:3, 1278:17, 1279:17, 1280:19, 1359:1, 1359:12, 1359:13, 1383:11, 1383:19 sequence - 1254:19 sequentially - 1210:17
1309:8, 1339:6 sent - 1152:16, 1159:24, 1163:14, 1163:16, 1163:19, 1184:6, 1184:9, 1191:7, 1192:1, 1288:7, 1299:21, 1360:8, 1367:3, 1380:17, 1382:20 sentence - 1154:8, 1155:9, 1168:2, 1168:10, 1169:24, 1170:14, 1170:15, 1170:16, 1171:1, 1180:9, 1180:18, 1181:19, 1182:4, 1182:15, 1236:25, 1237:18, 1250:14, 1291:4, 1334:24, 1344:2, 1351:5, 1352:4, 1353:20, 1353:22, 1353:25, 1354:8, 1354:17, 1382:9, 1382:10 separating - 1314:17 September - 1197:10, 1197:13, 1217:16, 1219:1, 129:14, 1220:12, 1220:13, 120:20, 1221:24, 1275:3, 1275:12, 1275:15, 1275:25, 1276:3, 1278:17, 1279:17, 1280:19, 1359:1, 1359:12, 1359:13, 1383:11, 1383:19 sequence - 1254:19 sequentially - 1210:17
sent - 1152:16, 1159:24, 1163:14, 1163:16, 1163:19, 1184:6, 1184:9, 1191:7, 1192:1, 1288:7, 1299:21, 1360:8, 1367:3, 1380:17, 1382:20 sentence - 1154:8, 1155:9, 1168:2, 1168:10, 1169:24, 1170:14, 1170:15, 1170:16, 1171:1, 1180:9, 1180:18, 1181:19, 1182:4, 1182:15, 1236:25, 1237:18, 1250:14, 1291:4, 1334:24, 1344:2, 1351:5, 1352:4, 1353:20, 1353:22, 1353:25, 1354:8, 1354:17, 1382:9, 1382:10 separating - 1314:17 September - 1197:10, 1197:13, 1217:16, 1219:1, 1219:14, 1220:12, 1220:13, 1220:20, 1221:24, 1275:3, 1275:12, 1275:15, 1275:25, 1276:3, 1278:17, 1279:17, 1280:19, 1359:1, 1359:12, 1359:13, 1383:11, 1383:19 sequence - 1254:19 sequentially - 1210:17
1163:14, 1163:16, 1163:19, 1184:6, 1184:9, 1191:7, 1192:1, 1288:7, 1299:21, 1360:8, 1367:3, 1380:17, 1382:20 sentence - 1154:8, 1155:9, 1168:2, 1168:10, 1169:24, 1170:14, 1170:15, 1170:16, 1171:1, 1180:9, 1180:18, 1181:19, 1182:4, 1182:15, 1236:25, 1237:18, 1250:14, 1291:4, 1334:24, 1344:2, 1351:5, 1352:4, 1353:20, 1353:22, 1353:25, 1354:8, 1354:17, 1382:9, 1382:10 separating - 1314:17 September - 1197:10, 1197:13, 1217:16, 1219:1, 1219:14, 1220:12, 1220:13, 1220:20, 1221:24, 1275:3, 1275:12, 1275:15, 1275:25, 1276:3, 1278:17, 1279:17, 1280:19, 1359:1, 1359:12, 1359:13, 1383:11, 1383:19 sequence - 1254:19 sequentially - 1210:17
1184:6, 1184:9, 1191:7, 1192:1, 1288:7, 1299:21, 1360:8, 1367:3, 1380:17, 1382:20 sentence - 1154:8, 1155:9, 1168:2, 1168:10, 1169:24, 1170:14, 1170:15, 1170:16, 1171:1, 1180:9, 1180:18, 1181:19, 1182:4, 1182:15, 1236:25, 1237:18, 1250:14, 1291:4, 1334:24, 1344:2, 1351:5, 1352:4, 1353:20, 1353:22, 1353:25, 1354:8, 1354:17, 1382:9, 1382:10 separating - 1314:17 September - 1197:10, 1197:13, 1217:16, 1219:1, 1219:14, 1220:12, 1220:13, 1220:20, 1221:24, 1275:3, 1275:12, 1275:15, 1275:25, 1276:3, 1278:17, 1279:17, 1280:19, 1359:1, 1359:12, 1359:13, 1383:11, 1383:19 sequence - 1254:19 sequentially - 1210:17
1192:1, 1288:7, 1299:21, 1360:8, 1367:3, 1380:17, 1382:20 sentence - 1154:8, 1155:9, 1168:2, 1168:10, 1169:24, 1170:14, 1170:15, 1170:16, 1171:1, 1180:9, 1180:18, 1181:19, 1182:4, 1182:15, 1236:25, 1237:18, 1250:14, 1291:4, 1334:24, 1344:2, 1351:5, 1352:4, 1353:20, 1353:22, 1353:25, 1354:8, 1354:17, 1382:9, 1382:10 separating - 1314:17 September - 1197:10, 1197:13, 1217:16, 1219:1, 129:14, 1220:12, 1220:13, 1220:20, 1221:24, 1275:3, 1275:12, 1275:15, 1275:25, 1276:3, 1278:17, 1279:17, 1280:19, 1359:1, 1359:12, 1359:13, 1383:11, 1383:19 sequence - 1254:19 sequentially - 1210:17
1382:20 sentence - 1154:8, 1155:9, 1168:2, 1168:10, 1169:24, 1170:14, 1170:15, 1170:16, 1171:1, 1180:9, 1180:18, 1181:19, 1182:4, 1182:15, 1236:25, 1237:18, 1250:14, 1291:4, 1334:24, 1344:2, 1351:5, 1352:4, 1353:20, 1353:22, 1353:25, 1354:8, 1354:17, 1382:9, 1382:10 separating - 1314:17 September - 1197:10, 1197:13, 1217:16, 1219:1, 1219:14, 1220:12, 1220:13, 1220:20, 1221:24, 1275:3, 1275:12, 1275:15, 1275:25, 1276:3, 1278:17, 1279:17, 1280:19, 1359:1, 1359:12, 1359:13, 1383:11, 1383:19 sequence - 1254:19 sequentially - 1210:17
1382:20 sentence - 1154:8, 1155:9, 1168:2, 1168:10, 1169:24, 1170:14, 1170:15, 1170:16, 1171:1, 1180:9, 1180:18, 1181:19, 1182:4, 1182:15, 1236:25, 1237:18, 1250:14, 1291:4, 1334:24, 1344:2, 1351:5, 1352:4, 1353:20, 1353:22, 1353:25, 1354:8, 1354:17, 1382:9, 1382:10 separating - 1314:17 September - 1197:10, 1197:13, 1217:16, 1219:1, 1219:14, 1220:12, 1220:13, 1220:20, 1221:24, 1275:3, 1275:12, 1275:15, 1275:25, 1276:3, 1278:17, 1279:17, 1280:19, 1359:1, 1359:12, 1359:13, 1383:11, 1383:19 sequence - 1254:19 sequentially - 1210:17
1382:20 sentence - 1154:8, 1155:9, 1168:2, 1168:10, 1169:24, 1170:14, 1170:15, 1170:16, 1171:1, 1180:9, 1180:18, 1181:19, 1182:4, 1182:15, 1236:25, 1237:18, 1250:14, 1291:4, 1334:24, 1344:2, 1351:5, 1352:4, 1353:20, 1353:22, 1353:25, 1354:8, 1354:17, 1382:9, 1382:10 separating - 1314:17 September - 1197:10, 1197:13, 1217:16, 1219:1, 1219:14, 1220:12, 1220:13, 1220:20, 1221:24, 1275:3, 1275:12, 1275:15, 1275:25, 1276:3, 1278:17, 1279:17, 1280:19, 1359:1, 1359:12, 1359:13, 1383:11, 1383:19 sequence - 1254:19 sequentially - 1210:17
sentence - 1154:8, 1155:9, 1168:2, 1168:10, 1169:24, 1170:14, 1170:15, 1170:16, 1171:1, 1180:9, 1180:18, 1181:19, 1182:4, 1182:15, 1236:25, 1237:18, 1250:14, 1291:4, 1334:24, 1344:2, 1351:5, 1352:4, 1353:20, 1353:22, 1353:25, 1354:8, 1354:17, 1382:9, 1382:10 separating - 1314:17 September - 1197:10, 1197:13, 1217:16, 1219:1, 1219:14, 1220:12, 1220:13, 1220:20, 1221:24, 1275:3, 1275:12, 1275:15, 1275:25, 1276:3, 1278:17, 1279:17, 1280:19, 1359:1, 1359:12, 1359:13, 1383:11, 1383:19 sequence - 1254:19 sequentially - 1210:17
1168:2, 1168:10, 1169:24, 1170:14, 1170:15, 1170:16, 1171:1, 1180:9, 1180:18, 1181:19, 1182:4, 1182:15, 1236:25, 1237:18, 1250:14, 1291:4, 1334:24, 1344:2, 1351:5, 1352:4, 1353:20, 1353:22, 1353:25, 1354:8, 1354:17, 1382:9, 1382:10 separating - 1314:17 September - 1197:10, 1197:13, 1217:16, 1219:1, 1219:14, 1220:12, 1220:13, 1220:20, 1221:24, 1275:3, 1275:12, 1275:15, 1275:25, 1276:3, 1278:17, 1279:17, 1280:19, 1359:1, 1359:12, 1359:13, 1383:11, 1383:19 sequence - 1254:19 sequentially - 1210:17
1181:19, 1182:4, 1182:15, 1236:25, 1237:18, 1250:14, 1291:4, 1334:24, 1344:2, 1351:5, 1352:4, 1353:20, 1353:22, 1353:25, 1354:8, 1354:17, 1382:9, 1382:10 separating - 1314:17 September - 1197:10, 1197:13, 1217:16, 1219:1, 1219:14, 1220:12, 1220:13, 1220:20, 1221:24, 1275:3, 1275:12, 1275:15, 1275:25, 1276:3, 1278:17, 1279:17, 1280:19, 1359:1, 1359:12, 1359:13, 1383:11, 1383:19 sequence - 1254:19 sequentially - 1210:17
1181:19, 1182:4, 1182:15, 1236:25, 1237:18, 1250:14, 1291:4, 1334:24, 1344:2, 1351:5, 1352:4, 1353:20, 1353:22, 1353:25, 1354:8, 1354:17, 1382:9, 1382:10 separating - 1314:17 September - 1197:10, 1197:13, 1217:16, 1219:1, 1219:14, 1220:12, 1220:13, 1220:20, 1221:24, 1275:3, 1275:12, 1275:15, 1275:25, 1276:3, 1278:17, 1279:17, 1280:19, 1359:1, 1359:12, 1359:13, 1383:11, 1383:19 sequence - 1254:19 sequentially - 1210:17
1181:19, 1182:4, 1182:15, 1236:25, 1237:18, 1250:14, 1291:4, 1334:24, 1344:2, 1351:5, 1352:4, 1353:20, 1353:22, 1353:25, 1354:8, 1354:17, 1382:9, 1382:10 separating - 1314:17 September - 1197:10, 1197:13, 1217:16, 1219:1, 1219:14, 1220:12, 1220:13, 1220:20, 1221:24, 1275:3, 1275:12, 1275:15, 1275:25, 1276:3, 1278:17, 1279:17, 1280:19, 1359:1, 1359:12, 1359:13, 1383:11, 1383:19 sequence - 1254:19 sequentially - 1210:17
1181:19, 1182:4, 1182:15, 1236:25, 1237:18, 1250:14, 1291:4, 1334:24, 1344:2, 1351:5, 1352:4, 1353:20, 1353:22, 1353:25, 1354:8, 1354:17, 1382:9, 1382:10 separating - 1314:17 September - 1197:10, 1197:13, 1217:16, 1219:1, 1219:14, 1220:12, 1220:13, 1220:20, 1221:24, 1275:3, 1275:12, 1275:15, 1275:25, 1276:3, 1278:17, 1279:17, 1280:19, 1359:1, 1359:12, 1359:13, 1383:11, 1383:19 sequence - 1254:19 sequentially - 1210:17
1291:4, 1334:24, 1344:2, 1351:5, 1352:4, 1353:20, 1353:22, 1353:25, 1354:8, 1354:17, 1382:9, 1382:10 separating - 1314:17 September - 1197:10, 1197:13, 1217:16, 1219:1, 1219:14, 1220:12, 1220:13, 1220:20, 1221:24, 1275:3, 1275:12, 1275:15, 1275:25, 1276:3, 1278:17, 1279:17, 1280:19, 1359:1, 1359:12, 1359:13, 1383:11, 1383:19 sequence - 1254:19 sequentially - 1210:17
1291:4, 1334:24, 1344:2, 1351:5, 1352:4, 1353:20, 1353:22, 1353:25, 1354:8, 1354:17, 1382:9, 1382:10 separating - 1314:17 September - 1197:10, 1197:13, 1217:16, 1219:1, 1219:14, 1220:12, 1220:13, 1220:20, 1221:24, 1275:3, 1275:12, 1275:15, 1275:25, 1276:3, 1278:17, 1279:17, 1280:19, 1359:1, 1359:12, 1359:13, 1383:11, 1383:19 sequence - 1254:19 sequentially - 1210:17
1353:22, 1353:25, 1354:8, 1354:17, 1382:9, 1382:10 separating - 1314:17 September - 1197:10, 1197:13, 1217:16, 1219:1, 1219:14, 1220:12, 1220:13, 1220:20, 1221:24, 1275:3, 1275:12, 1275:15, 1275:25, 1276:3, 1278:17, 1279:17, 1280:19, 1359:1, 1359:12, 1359:13, 1383:11, 1383:19 sequence - 1254:19 sequentially - 1210:17
1353:22, 1353:25, 1354:8, 1354:17, 1382:9, 1382:10 separating - 1314:17 September - 1197:10, 1197:13, 1217:16, 1219:1, 1219:14, 1220:12, 1220:13, 1220:20, 1221:24, 1275:3, 1275:12, 1275:15, 1275:25, 1276:3, 1278:17, 1279:17, 1280:19, 1359:1, 1359:12, 1359:13, 1383:11, 1383:19 sequence - 1254:19 sequentially - 1210:17
1353:22, 1353:25, 1354:8, 1354:17, 1382:9, 1382:10 separating - 1314:17 September - 1197:10, 1197:13, 1217:16, 1219:1, 1219:14, 1220:12, 1220:13, 1220:20, 1221:24, 1275:3, 1275:12, 1275:15, 1275:25, 1276:3, 1278:17, 1279:17, 1280:19, 1359:1, 1359:12, 1359:13, 1383:11, 1383:19 sequence - 1254:19 sequentially - 1210:17
separating - 1314:17 September - 1197:10, 1197:13, 1217:16, 1219:1, 1219:14, 1220:12, 1220:13, 1220:20, 1221:24, 1275:3, 1275:12, 1275:15, 1275:25, 1276:3, 1278:17, 1279:17, 1280:19, 1359:1, 1359:12, 1359:13, 1383:11, 1383:19 sequence - 1254:19 sequentially - 1210:17
separating - 1314:17 September - 1197:10, 1197:13, 1217:16, 1219:1, 1219:14, 1220:12, 1220:13, 1220:20, 1221:24, 1275:3, 1275:12, 1275:15, 1275:25, 1276:3, 1278:17, 1279:17, 1280:19, 1359:1, 1359:12, 1359:13, 1383:11, 1383:19 sequence - 1254:19 sequentially - 1210:17
September - 1197:10, 1197:13, 1217:16, 1219:1, 1219:14, 1220:12, 1220:13, 1220:20, 1221:24, 1275:3, 1275:12, 1275:15, 1275:25, 1276:3, 1278:17, 1279:17, 1280:19, 1359:1, 1359:12, 1359:13, 1383:11, 1383:19 sequence - 1254:19 sequentially - 1210:17
1197:13, 1217:16, 1219:1, 1219:14, 1220:12, 1220:13, 1220:20, 1221:24, 1275:3, 1275:12, 1275:15, 1275:25, 1276:3, 1278:17, 1279:17, 1280:19, 1359:1, 1359:12, 1359:13, 1383:11, 1383:19 sequence - 1254:19 sequentially - 1210:17
1220:20, 1221:24, 1275:3, 1275:12, 1275:15, 1275:25, 1276:3, 1278:17, 1279:17, 1280:19, 1359:1, 1359:12, 1359:13, 1383:11, 1383:19 sequence - 1254:19 sequentially - 1210:17
1220:20, 1221:24, 1275:3, 1275:12, 1275:15, 1275:25, 1276:3, 1278:17, 1279:17, 1280:19, 1359:1, 1359:12, 1359:13, 1383:11, 1383:19 sequence - 1254:19 sequentially - 1210:17
1220:20, 1221:24, 1275:3, 1275:12, 1275:15, 1275:25, 1276:3, 1278:17, 1279:17, 1280:19, 1359:1, 1359:12, 1359:13, 1383:11, 1383:19 sequence - 1254:19 sequentially - 1210:17
1276:3, 1278:17, 1279:17, 1280:19, 1359:1, 1359:12, 1359:13, 1383:11, 1383:19 sequence - 1254:19 sequentially - 1210:17
1276:3, 1278:17, 1279:17, 1280:19, 1359:1, 1359:12, 1359:13, 1383:11, 1383:19 sequence - 1254:19 sequentially - 1210:17
sequence - 1254:19 sequentially - 1210:17
sequence - 1254:19 sequentially - 1210:17
sequence - 1254:19 sequentially - 1210:17
sequence - 1254:19 sequentially - 1210:17
sequentially - 1210:17
sergeant - 1267:3
Serueant * 1207.3
Serial - 1175:5, 1241:25,
1293:12, 1312:18, 1336:6,
1336:13, 1337:10, 1338:1,
1338.9 1355.20 1357.20
1358.25 1360.12 1303.1
1000.20, 1000.12, 1000.1
1293:12, 1312:18, 1336:6, 1336:13, 1337:10, 1338:1, 1338:9, 1355:20, 1357:20, 1358:25, 1369:12, 1393:1 serial - 1153:7, 1154:15, 1156:3, 1157:7, 1162:11, 1162:10, 1206:19, 1360:6
1156:3, 1157:7, 1162:11,
1102.19, 1290.10, 1309.0,
1369:21
series - 1379:24
serve - 1360:10
Serve - 1300.10
served - 1251:4, 1325:22 serves - 1206:8, 1210:1, 1282:1, 1299:22, 1300:24,
serves - 1206:8, 1210:1,
1282:1, 1299:22, 1300:24,
1301:3
service - 1183:19,
1191:22, 1196:19, 1208:1,
1272:24
services - 1195:23,
1196:2, 1199:19
Services - 1199:20,
1199:21, 1218:9, 1235:1,
1267:12
sonving 1310-10
serving - 1319:10
session - 1275:6, 1356:21
set - 1201:20, 1201:21,
set - 1201:20, 1201:21, 1227:7, 1237:8, 1243:14,
1248:10, 1255:16, 1274:4
1248:10, 1255:16, 1274:4, 1283:21, 1300:15, 1300:17, 1300:20, 1300:23, 1319:24, 1323:18, 1337:7, 1359:22, 1360:10, 1360:22, 1375:25,
1300.20 1300.22 1310.24
1000.20, 1000.20, 1019.24,
1323:18, 1337:7, 1359:22,
1360:10, 1360:22, 1375:25,
1376:22, 1377:12, 1377:13,
1387:25
setting - 1248:2, 1290:6
seven - 1199:3, 1328:1,
1331:25
seventh - 1248:10
seventh - 1248:10 several - 1155:9, 1229:12, 1301:3, 1315:5, 1334:22, 1336:17, 1337:3
seventh - 1248:10 several - 1155:9, 1229:12, 1301:3, 1315:5, 1334:22, 1336:17, 1337:3 severe - 1224:20
seventh - 1248:10 several - 1155:9, 1229:12, 1301:3, 1315:5, 1334:22, 1336:17, 1337:3 severe - 1224:20 Shall - 1173:19
seventh - 1248:10 several - 1155:9, 1229:12, 1301:3, 1315:5, 1334:22, 1336:17, 1337:3 severe - 1224:20 Shall - 1173:19 shall - 1166:14, 1173:8.
seventh - 1248:10 several - 1155:9, 1229:12, 1301:3, 1315:5, 1334:22, 1336:17, 1337:3 severe - 1224:20

1365:3, 1390:19, 1390:21, 1390:23, 1393:11 shared - 1267:22, 1319:10 Sharon - 1220:14. 1220:15, 1220:18, 1222:23, 1278:18 sheet - 1217:6, 1348:4, 1348:5 sheets - 1309:21 shift - 1197:2, 1197:22 1203:25, 1269:15, 1279:24 shifting - 1175:6 ship - 1196:18, 1210:16 shocked - 1264:9, 1317:4 short - 1197:4 Shortly - 1240:11 shorty - 1240.11 shots - 1252:22 show - 1159:22, 1160:6, 1190:10, 1192:3, 1193:24, 1220:8, 1234:16, 1243:2, 1259:45, 1290:44, 1201:20 1258:12, 1290:14, 1291:20, 1294:25, 1301:22, 1313:23, 1319:21, 1363:18, 1372:16, 1377:1, 1383:2 showed - 1151:6, 1203:3, 1216:25, 1230:1, 1243:24, 1245:22, 1245:23, 1263:25, 1264:1, 1277:3, 1290:15, 1296:5, 1296:11, 1300:12, 1305:6, 1305:14, 1324:10 showing - 1300:9 shown - 1162:10, 1207:1, 1213:18, 1271:5, 1377:9, 1386.10 shows - 1160:6, 1189:10 shut - 1181:7, 1183:8, 1188:13, 1209:6, 1226:1 1226:18, 1285:5, 1316:16 shutdown - 1224:3, 1279:20 shutting - 1224:14 Sia - 1159:2, 1159:16 sick - 1185:18 side - 1197:19, 1229:2, 1250:3, 1250:7, 1250:8, 1260:23, 1298:25, 1335:21, 1356:19, 1386:11 side-bar - 1260:23. 1335:21 sidebar - 1189:25, 1190:15, 1194:18 sides - 1245:24, 1254:2 Siemaszko - 1151:18, 1175:16, 1175:17, 1175:20, 1175:16, 1175:17, 1175:20, 1175:25, 1176:17, 1177:2, 1177:10, 1177:23, 1178:7, 1184:22, 1191:21, 1194:14, 1202:17, 1202:24, 1205:21, 1242:24, 1268:22, 1268:23, 1269:17, 1282:8, 1282:19, 1282:25, 1287:25, 1288:12, 1289:6, 1287:25, 1288:12, 1289:6, 1289:11, 1291:21, 1293:8, 1294:16, 1294:19, 1297:4, 1297:10, 1298:3, 1302:11, 1305:4, 1308:15, 1312:22, 1313:7, 1344:18, 1344:21, 1394:8 Siemaszko's - 1269:20 1288:20, 1296:8, 1298:12 sign - 1163:17, 1168:9, 1242:6, 1297:21, 1358:15 1367:11, 1369:5, 1369:13, 1370:1, 1370:2, 1370:3, 1392:19, 1392:25 signature - 1243:6 1357:19, 1357:21, 1358:9, 1365:19, 1368:17, 1370:11, 1372:3 signed - 1153:12, 1153:15, 1171:12, 1171:13, 1173:21

1174:2, 1174:10, 1175:24, 1176:3, 1176:12, 1188:11, 1208:11, 1218:11, 1261:9, 1261:10, 1277:8, 1277:11, 1312:11, 1348:16, 1358:23, 1370:18, 1372:1, 1372:9 significance - 1206.12 1206:15, 1242:8, 1377:24 significant - 1171:19, 1201:9, 1224:5, 1266:19, 1268:15, 1275:4, 1275:5, 1278:14, 1390:22 significantly - 1192:14 signing - 1163:18, 1177:7. 1218:13, 1242:3, 1246:23, 1277:19, 1392:16 signs - 1309:21, 1309:22 signs - 1177:9 signup - 1177:9 silently - 1323:5 similar - 1213:15, 1241:23, 1242:21, 1249:20, 1255:18, 1255:20, 1255:25, 1296:17, 1310:1, 1316:1 similarly - 1202:5, 1249:12 Similarly - 1262:18 simply - 1340:21 single - 1244:22, 1308:7, 1310:14, 1310:21 sit - 1175:1, 1204:1 1212:17, 1229:15, 1231:3, 1233:2, 1259:4, 1281:9, 1283:25, 1313:3, 1320:23 site - 1198:23, 1203:13. 1209:16, 1219:13, 1219:25, 1221:9, 1222:4, 1226:14, 1242:7, 1328:11, 1331:12 sitting - 1176:10, 1204:21, 1232-5 situation - 1181:5, 1264:9, 1296:3, 1310:16, 1335:4, 1387:24 six - 1196:16, 1199:3, 1208:24, 1216:24 size - 1238:22, 1241:4, 1248:6 sized - 1316:11 sizes - 1224:11, 1227:25 skipped - 1324:18 skipped - 1324:18 slide - 1236:2, 1236:3, 1236:5, 1236:7, 1236:11, 1249:20, 1249:22, 1252:14, 1290:18, 1291:8, 1291:13, 1201:15, 1201:22, 2002:4 1291:15, 1291:23, 1292:4, 1311:16, 1311:21, 1324:2, 1324:18, 1324:19, 1374:8 Slide - 1323:8, 1323:10, 1323:14, 1325:14 slides - 1248:10, 1248:12, 1249:7, 1290:22, 1311:7, 1319:24, 1320:1, 1321:25, 1322:14, 1322:20, 1323:3, 1323:4, 1323:11, 1323:16, 1324:17, 1329:24, 1329:25 Slow - 1325:18 smaller - 1351:24 software - 1170:6 sole - 1193:15 solely - 1273:10 solid - 1352:11 solved - 1180:5 someone - 1203:21 1218:17, 1219:17, 1231:4 1233:8, 1243:20, 1247:12, 1273:16, 1274:1, 1290:2, 1292:6, 1292:8, 1298:16, 1310:19, 1312:5, 1313:4, 1330:2, 1388:14, 1388:21 Someone - 1266:3 something's - 1307:21 sometime - 1253:2

sometimes - 1222:7 somewhat - 1385:8 somewhere - 1178:6 soon - 1330:24 **sorry** - 1155:22, 1167:7, 1168:5, 1169:24, 1191:12, 1195:25, 1200:3, 1203:7, 1207:6, 1208:7, 1224:9, 1255:22, 1206:11, 1316:13 1255:23, 1306:11, 1316:13, 1349:14, 1372:12, 1378:17, 1379:25, 1387:7, 1388:10 Sorry - 1155:22, 1287:21, 1340:11 sort - 1198:14, 1199:9, 1213:8, 1219:6, 1231:5, 1233:12, 1234:4, 1237:15, 1239:9, 1260.18, 1340.11 sound - 1253:20 sounded - 1278:12 sounds - 1276:8 **source** - 1267:21, 1348:20, 1386:7 sources - 1281:18 southern - 1274:25 span - 1225:23 spare - 1310:6, 1363:23 **speaker** - 1360:23, 1361:4, 1361:5, 1361:6, 1361:7 **speaking** - 1165:21, 1187:18, 1219:17, 1228:13, 1265:15, 1269:16, 1283:23, 1303:22 speaks - 1180:10, 1182:11 Special - 1369:4, 1369:16, 1369:23, 1370:4 specific - 1193:15 1198:10, 1246:20, 1254:15, 1284:7, 1344:7, 1344:11, 1344:14, 1381:5 specifically - 1156:19, 1178:4, 1178:5, 1178:6, 1193:25, 1247:17, 1271:14, 1287:2, 1300:3, 1302:13, 1346:25, 1360:3, 1381:2, 1384:16 specifics - 1346:1 speculate - 1266:23 1269:1, 1311.22, 1312.20 speculating - 1311:22 speculation - 1233:1 speed - 1223:19, 1237:2 spell - 1195:15, 1318:13, 1327:16 spelled - 1327:17 spent - 1197:1 Spielbusch - 1150:5 spoken - 1279:5, 1283:1 sponsor - 1221:15 Spore - 1150:5, 1395:11 spot - 1233:24 spotted - 1384:4 Spring - 1156:14, 1156:18 spring - 1214:17 squiggles - 1341:15 stack - 1252:16 staff - 1193:8, 1230:19, 1240:13, 1249:25, 1253:23, 1283:13, 1300:23, 1325:10, 1328:9, 1331:10, 1337:2, 1337:3, 1337:7, 1361:16 staffers - 1302:5 stand - 1204:21, 1205:1, 1208:18, 1238:6, 1353:8 standard - 1340:21 standards - 1198:6, 1203:16, 1303:6, 1303:8, 1333.12 standby - 1310:12 standing - 1176:10, 1280:1, 1291:24

standpoint - 1157:14 stands - 1345:17 star - 1252:14, 1252:18 stars - 1252:17 start - 1164:25, 1165:21, 1165:24, 1167:18, 1169:7, 1198:21, 1237:12, 1238:18, 1264:21, 1272:8, 1315:23, 1331:14, 1347:14, 1363:11 started - 1166:3, 1177:15, 1183:6, 1194:8, 1196:23, 1198:4, 1198:17, 1198:20, 1199:25, 1241:2, 1305:25, 1314:12, 1316:3, 1356:13, 1356.14 starters - 1328:8 starting - 1239:1, 1239:22, 1241:2, 1241:5, 1250:23, 1251:1, 1256:23, 1295:7, 1314:3, 1316:7, 1316:10 Starting - 1205:4 starts - 1323:14 startup - 1209:7 State - 1196:20, 1381:18 state - 1195:15, 1213:13, 1318:12, 1327:15, 1352:10, 1352.11 statement - 1159:19, 1176:7, 1183:18, 1238:7, 1291:25, 1325:23, 1343:21, 1345:10, 1351:6, 1354:7, 1354:19 statements - 1279:11, 1371:20 states - 1209:1, 1272:10, 1341:12, 1343:5, 1344:6, 1348:10, 1352:8, 1358:11, 1394:1 States - 1149:1, 1149:4, 1149:11, 1195:7, 1262:15, 1262:16, 1327:4, 1336:9 stating - 1359:15 Station - 1195:20. 1197:12, 1209:18, 1319:1 station - 1289:15, 1359:16 status - 1262:2, 1262:4, 1313:4, 1334:9, 1334:11, 1335:9, 1335:20, 1335:24, 1335:25, 1336:10 stay - 1331:15 stayed - 1280:6, 1280:11, 1300:18, 1350:2 stead - 1277:19 steam - 1201:12, 1201:17, 1201:18, 1201:22 steel - 1154:23 **Steering** - 1214:3, 1214:8, 1272:24, 1273:2 steering - 1214:9 stenography - 1150:9 step - 1194:21, 1224:16, 1254:13, 1326:17, 1394:13 Stephen - 1249:4 steps - 1155:7, 1390:24 stepwise - 1263:9 **Steven -** 1195:7, 1195:11, 1195:17, 1195:18, 1248:16, 1265:12, 1306:24, 1396:10, 1396:12, 1396:15 1396:12, 1396.15 stick - 1179:20, 1251:16 Stickan - 1151:2, 1151:5, 1151:20, 1151:25, 1152:12, 1153:21, 1153:24, 1155:22, 1155:24, 1156:6, 1156:10, 1156:12, 1157:4, 1157:4 1156:12, 1157:1, 1157:4, 1159:8, 1159:14, 1160:11, 1163:1, 1170:22, 1172:24, 1178:23, 1185:7, 1185:10, 1187:17, 1187:21, 1188:2, 1188:5, 1188:18, 1189:7

1189:14, 1189:20, 1189:23, 1190:1, 1190:9, 1190:17, 1190:21, 1191:1, 1191:2, 1192:21, 1194:19, 1396:3, 1396.9 sticker - 1192:5, 1205:8 sticks - 1241:15, 1359:10 still - 1169:3, 1171:8 1213:23, 1222:19, 1241:1, 1241:3, 1247:1, 1247:12, 1252:22, 1269:1, 1288:23 1296:11, 1298:15, 1383:22, 1389:22, 1391:7, 1392:4 sting - 1260:13, 1334:18 stipulate - 1255 6 Stokes - 1304:23 stop - 1155:2, 1379:12 stops - 1263:14 straight - 1251:16 Street - 1149:22, 1150:3 strong - 1254:2 Structural - 1315:2 structural - 1239:18 Structure - 1159:1 structure - 1183:20, 1191:22 structured - 1234:5 struggling - 1196:1, 1295:4, 1297:13 study - 1317:4, 1356:20, 1356:22 stuff - 1245:8, 1255:19, 1281:1 style - 1268:11 subject - 1212:24, 1214:4, 1235:5, 1235:18, 1249:2, 1262:5, 1262:9, 1273:12, 1273:14, 1293:15, 1313:8, 1335:7 Subject - 1158:21, 1262:10 subjects - 1334:12 submission - 1370:6 submit - 1254:23 submittal - 1242:22 1364:22, 1365:5, 1386:9, 1390:20, 1390:23, 1390:24, 1393:11 submittals - 1152:16, 1360:4, 1370:5 submitted - 1307:2 1332:18, 1339:19, 1358:25, 1359:1 submitting - 1242:23 subpoena - 1260:19, 1337:15 Subsequent - 1345:11, 1354:10 subsequent - 1211:20, 1238:1, 1255:11, 1259:6, 1262:1, 1353:20, 1354:1 substance - 1188:8 successful - 1203:1 successfully - 1272:7 suggest - 1219:11, 1335:19 **suggested** - 1166:5, 1217:7, 1265:14, 1280:5, 1280:9, 1291:15, 1291:24, 1352:21 **suggesting -** 1189:15, 1260:11, 1292:14 suggestion - 1260:9, 1294:15, 1335:17 suggestions - 1374:24 Suite - 1149:21, 1150:2 Summary - 1348:8 summary - 1319:25, 1348:6, 1348:8 summer - 1214:17, 1214:23, 1336:15

supervise - 1199:21, 1328:9 supervised - 1333:10 supervising - 1366:4, 1373:21, 1373:23, 1373:24 supervision - 1219:6. 1373 19 supervisor - 1161:21, 1161:24, 1168:19, 1173:16, 1265:21, 1267:16, 1309:22, 1328:9, 1329:4, 1329:5, 1329:6, 1356:2, 1359:24 1363:16, 1366:11, 1371:3, 1373:21, 1374:20 Supervisor - 1327:23 1328:16, 1328:20, 1370:11 supervisors - 1162:4, 1198:18, 1198:19, 1199:2, 1199:3, 1271:22 supervisory - 1172:10 supply - 1310:11 **support** - 1152:5, 1203:1, 1203:21, 1204:12, 1208:19, 1230:12, 1268:8, 1269:3, 1276:6, 1305:15, 1332:4, 1385:11 supported - 1291:24 supporting - 1267:3 supposed - 1285:21 supposedly - 1186:9 surprise - 1271:12 1303:23, 1335:2 surrounding - 1333:18 susceptibility - 1185:21 1212:13, 1212:21, 1213:12, 1220.9 susceptible - 1181:6, 1213:14, 1213:19 suspect - 1212:20 sustain - 1194:16, 1314:15 sustained - 1321:14 swear - 1204:1, 1212:21, 1216:22, 1222:21, 1236:4, 1281:12, 1298:17, 1301:10 Swim - 1161:21, 1161:23, 1191:6. 1267:1 switch - 1246:13, 1277:6 sworn - 1195:9, 1318:1, 1327:6 symptomatic - 1155:1 System - 1199:23 system - 1288:14, 1288:16, 1288:18 Systems - 1267:16, 1281:24, 1281:25, 1282:2 Т Ta's- 1240:1 table - 1240.1 1243:9, 1243:10, 1252:9, 1258:8, 1286:14, 1286:24, 1288:2, 1289:10, 1292:22, 1293:3, 1293:9, 1293:11, 1294:24, 1296:2, 1297:18, 1298:4, 1298:21, 1313:2 tables - 1298:23, 1308:23 tabulated - 1242:24 tabulating - 1308:23 tabulation - 1253:12, 1313:16 tabulations - 1245:18 tailored - 1193:14, 1232:19 tailoring - 1233:9 take-away - 1254:10 talents - 1198:6 talks - 1181:18, 1182:4, 1222:2, 1246:9, 1357:15,

1380:21, 1382:9

tank - 1224:22 tape - 1203:3, 1203:8, 1247:4, 1264:1 tapes - 1229:25, 1230:2, 1230:5, 1230:8, 1236:15, 1237:7, 1237:16, 1242:21, 1244:12, 1245:12, 1245:17, 1247:16, 1258:17, 1283:20, 1308:17, 1308:19, 1308:22, 1354:18, 1354:19 target - 1259:16, 1259:21, 1259.23, 1260:2, 1260:10, 1260:14, 1262:6, 1334:1, 1334:9, 1335:8, 1335:12, 1335:24, 1335:25, 1336:1, 1383:21 Target- 1259:23 targets - 1334:12 Tas- 1236:14 task - 1287:12, 1288:4, 1289:6, 1313:9 Task- 1259:18 tasked - 1331:22 tasks - 1266:5, 1286:20, 1286:23 taste - 1286:5 team - 1205:15, 1206:13, 1210:10, 1210:22, 1212:6, 1212.8, 1214:5, 1219:10, 1219:14, 1219:15, 1219:10, 1219:14, 1219:15, 1219:25, 1222:4, 1222:5, 1225:2, 1278:23, 1283:8, 1283:11, 1284:18, 1285:3, 1286:21, 1300:22, 1301:6 tech - 1233:10, 1234:15, 1256:9, 1290:6 **technical** - 1195:24, 1196:5, 1203:19, 1215:22, 1230:18, 1231:6, 1231:13, 1231:18, 1231:20, 1232:18, 1233:17, 1235:14, 1235:16, 1242:10, 1256:10, 1279:25, 1295:4, 1290:22, 1200:4 1285:4, 1289:23, 1290:1, 1290:18, 1307:1, 1307:6, 1311:23, 1312:3, 1312:12, 1312:17, 1332:16, 1362:18, 1365:22 Technical- 1199:19, 1199:21, 1218:8, 1235:1 technically - 1235:5, 1258:2 technique - 1179:14 1179:16, 1179:18, 1179:19, 1184:4, 1245:14, 1269:17 techniques - 1180:1. 1342:13, 1342:20 technology - 1223:15 Ted- 1165:20, 1165:21 telecon - 1358:11 telephone - 1227:16. 1358:12, 1360:17, 1360:18, 1369-13 temperature - 1203:20, 1213:14, 1238:17, 1250:21, 1316:1, 1316:6 ten - 1199:4, 1353:1, 1356:15, 1357:7, 1364:21 ten-minute - 1356:15, 1357:7 term - 1200:1, 1231:22, 1240:24, 1241:11, 1232, 1302:25, 1303:5, 1303:16, 1310:3, 1310:4, 1352:3, 1354:22 terminology - 1303:8 terms - 1165:21, 1239:17, 1243:22, 1257:7, 1268:2, 1378:6 testified - 1155:15, 1157:20, 1158:5, 1161:17

1187:18, 1188:9, 1189:13, 1189:14, 1189:16, 1206:2, 1209:9, 1219:2, 1250:10, 1302:23, 1303:21, 1305:15, 1309:15, 1374:3 **testify** - 1212:12, 1212:18, 1226:23, 1257:20, 1311:19, 1321:16, 1335:5, 1335:6 testifying - 1163:2, 1206:21, 1298:7 testimony - 1152:7 1152:8, 1160:17, 1160:18, 1161:5, 1163:4, 1175:15, 1188:18, 1208:3, 1260:20, 1262:15, 1263:17, 1296:9, 1305:7, 1336:10, 1360:17, 1367:19, 1367:23, 1368:7, 1369:14, 1372:5, 1372:10, 1373:22, 1388:18, 1388:20, 1389:12 testing - 1197:3 themselves - 1238:6, 1258:13, 1287:2 Theo- 1161:21, 1161:23, 1191:5, 1267:1 Therefore - 1381:24 therefore - 1157:13, 1176:21, 1187:15, 1208:19, 1344.24 thinking - 1251:17, 1254:9, 1285:24 third - 1164:21, 1196:4, 1196:7, 1225:12, 1350:5, 1350:6, 1374:14, 1374:16 Thomas- 1149:16 thoroughly - 1366:14 thousand - 1243:21 threat - 1157:14 Three 1349:15 three - 1178:4, 1178:7, 1179:19, 1191:22, 1197:18, 1198:25, 1199:1, 1210:1, 1210:9, 1213:8, 1227:19, 1234:3, 1235:6, 1265:18, 1267:5, 1308:9, 1339:15, 1342:14, 1348:17, 1349:10, 1349:17, 1355:10, 1384:18, 1392.6 three-foot - 1179:19 threshold - 1205:15 threw - 1357:9 Throughout- 1267:8 throughout - 1219:14, 1267:7, 1271:19, 1275:14, 1288:16 tie - 1239:24 tied - 1263:20, 1354:23 ties - 1170:25, 1188:19 tightly - 1315:4, 1344:22 timely - 1268:4, 1268:5, 1276:7 timeout - 1230:25, 1231:8, 1248:2 tire - 1310:6 tired - 1222:13, 1227:2 title - 1195:22, 1196:1 titled - 1156:14 **today** - 1159:17, 1163:4, 1175:1, 1176:10, 1204:1, 1233:2, 1262:14, 1281:10, 1320:23, 1336:10 Today- 1328:7 Today's - 1235:7 **together** - 1205:22, 1206:1, 1213:1, 1213:4, 1221:14, 1226:16, 1233:23, 1234:1, 1236:16, 1236:18, 1237:11, 1237:23, 1298:19, 1329:24, 1331:11, 1331:13, 1378:6, 1393:19, 1394:8

Toledo- 1149:5, 1150:6 tomorrow - 1356:9 tone - 1302:3 **took** - 1176:11, 1198:13, 1201:11, 1223:3, 1232:1, 1238:15, 1245:12, 1262:20, 1280:16, 1300:25, 1311:9, 1312:4, 1315:15, 1317:8, 1320:10, 1347:21, 1356:14, 1360:21 tool - 1239:19 tools - 1179:24, 1239:21 top - 1157:10, 1179:23, 1192:8, 1198:21, 1202:3, 1203:5, 1203:10, 1205:19, 1208:21, 1218:1, 1246:8, 1248:15, 1295:13, 1295:18, 1295:24, 1340:3, 1348:13, 1353:7, 1369:1, 1377:20, 1378:22, 1380:7 **topic -** 1202:10, 1232:20, 1235:5, 1238:23, 1240:16, 1255:25, 1280:3, 1281:6, 1281:21, 1282:23, 1283:25, 1284:8, 1285:10, 1306:1 1306:4, 1310:25, 1312:19, 1339:1, 1343:18 topics - 1233:21, 1239:5, 1279:19, 1286:7, 1289:5, 1291:1, 1291:2 total - 1167:18 totally - 1207:20, 1394:3 touch - 1189:2, 1350:8 touched - 1194:6 touching - 1265:2, 1394:20 tour - 1300:20, 1355:13 toward - 1327:13 towards - 1354:10 town - 1379:22 track - 1217:7, 1221:21 tracked - 1207:11, 1217:4 trackings - 1208:21 tracks - 1285:19 Tracy- 1150:5, 1395:11 trailing - 1245:23 train - 1285:19 training - 1161:14, 1197:2, 1197:7, 1198:9, 1198:10, 1253:1, 1277:4, 1355:25, 1356:8, 1356:10, 1356:12 1356:19, 1356:21, 1375:12 Training- 1196:7 transcript - 1150:9, 1395:7 Transcript- 1149:10 transferred - 1197:11 1331:18, 1332:7, 1373:20 transferring - 1198:4 translation - 1302:15 transmission - 1226:20, 1310:12 transmittal - 1383:19 Transportation-1318:21 tree - 1181:10 trends - 1319:17 trial - 1206:24 Trial- 1149:6, 1149:10 trials - 1334:22 tried - 1276:25, 1316:21 trip - 1232:12, 1233:4 trooper - 1301:24 trouble - 1192:14, 1289:7, 1340.12 trucks - 1225:15 true - 1161:16, 1163:4, 1282:20, 1354:7, 1375:15, 1378:20 True- 1173:13, 1173:14 trusted - 1278:5

trustworthy - 1373:4

1392:16, 1392:22 truth - 1174:12 truthful - 1152:6, 1152:8 truthfully - 1152:24 try - 1172:23, 1185:16, 1198:5, 1227:11, 1296:20, 1297:16, 1361:7 trying - 1167:5, 1170:8, 1173:8, 1179:25, 1183:1 1184:5, 1184:19, 1184:21, 1189:6, 1189:7, 1189:10, 1193:23, 1194:4, 1196:3, 1198:7, 1202:20, 1203:21, 1232:23, 1233:3, 1235:15, 1235:16, 1251:7, 1251:25, 1257:13, 1269:22, 1283:19, 1293:1, 1294:3, 1294:14, 1342:11, 1376:18, 1384:3 tubes - 1201:22, 1201:24 Tuesday- 1339:14 tune - 1226:6 turbine - 1196:18, 1201:13 Turkey- 1209:18, 1209:23, 1218:23, 1272:15 turn - 1164:19, 1225:21, 1235:6, 1235:24, 1246:4, 1271:9, 1278:17, 1287:23, 1290:12, 1323:17, 1325:14, 1345:8, 1352:13, 1361:5, 1383:18 **turned** - 1268:9, 1334:15, 1347:10, 1377:10 turning - 1221:24 twice - 1261:8 two - 1155:23, 1160:17, 1182:18, 1195:23, 1195:25, 1198:1, 1199:12, 1199:18, 1199:22, 1200:10, 1202:15, 1202:19, 1204:17, 1205:23, 1205:25, 1207:8, 1207:15, 1210:1, 1212:25, 1217:25, 1225:25, 1226:12, 1234:3, 1236:17, 1239:17, 1245:24, 1248:20, 1261:19, 1265:21, 1266:20, 1266:22, 1270:19, 1272:4, 1274:9, 1275:9, 1281:1, 1283:23, 1284:6, 1285:24, 1286:23, 1289:13, 1305:21, 1310:6, 1310:10, 1310:13, 1314:2, 1315:6, 1316:8, 1342:14, 1361:2, 1374:11, 1393:20 Two- 1360:22 Type- 1342:10 type - 1180:15, 1181:9, 1185:24, 1186:14, 1215:6, 1216:12, 1216:24, 1220:8, 1223:17, 1232:16, 1233:6, 1233:24, 1236:22, 1237:9, 1239:18, 1245:6, 1248:2, 1255:19, 1256:10, 1258:6, 1264:9, 1268:13, 1276:21, 1291:5, 1305:1, 1325:17, 1341:16, 1391:22 types - 1210:25, 1257:8, 1270:19 Typically- 1339:22 1341:8, 1361:21, 1375:7, 1375:11 **typically** - 1199:3, 1272:20, 1309:19, 1338:24, 1341:2, 1356:14, 1360:6 typo - 1391:21 typos - 1356:5, 1356:6, 1356:23, 1357:3, 1357:8, 1387:16 U Ulie - 1315:2, 1368:22,

1369:4, 1369:11, 1369:16, 1369:23, 1370:4, 1370:9, 1370:10 ultimate - 1195:2, 1265:4, 1316:15, 1316:18, 1316:20, 1316:23, 1326:24, 1365:19, 1394.23 ultimately - 1239:6 1332:18, 1333:21, 1378:24, 1379:3 umbrella - 1265:7, 1328:12, 1328:17 unable - 1302:19 unacceptable - 1359:15 unaware 1385:23, 1385:24 uncommon - 1388:14 under - 1154:6, 1193:6, 1193:7, 1226:23, 1249:10, 1260:19, 1271:24, 1298:9, 1298:17, 1301:10, 1311:19, 1328:12, 1328:14, 1334:17, 1350:22, 1351:25, 1367:19, 1375:16, 1375:21, 1390:19 Under - 1198:25, 1248:16, 1375:19 underlined - 1341:15 underneath - 1154:12, 1157:9, 1202:4, 1339:23, 1341:24, 1353:2 underscore - 1334:25 understandings - 1232:19 understood - 1180:25, 1204:7, 1226:2, 1228:6, 1228:14, 1232:17, 1233:20, 1238:14, 1244:22, 1247:2, 1252:3, 1254:8, 1264:13, 1277:16, 1283:24, 1285:20, 1286:7, 1287:24, 1291:20, 1297:6, 1332:13, 1335:23, 1335:25, 1336:1, 1351:21, 1364:25, 1365:7, 1378:1 uneven - 1352:9 unfortunately - 1233:6 unhappy - 1302:2, 1302:3, 1302:8 United - 1149:1, 1149:4, 1149:11, 1195:7, 1262:15, 1262:16, 1327:4, 1336:9 unless - 1187:5, 1371:19 Unlike - 1256:9 unloaded - 1225:16 unnecessary - 1337:1 untruthful - 1174:15 unusual - 1218:15, 1231:24, 1231:25, 1301:18, 1301:20, 1309:19, 1392:19 Up - 1211 18 up - 1161:1, 1164:6 1164:17, 1165:15, 1181:15, 1186:18, 1187:14, 1189:9, 1189:12, 1193:10, 1195:1, 1196:4, 1196:11, 1198:3, 1201:20, 1201:21, 1204:18, 1204:20, 1204:23, 1206:1, 1207:10, 1207:13, 1208:8, 1210:13, 1210:19, 1217:17, 1217:18, 1217:23, 1218:25, 1220:1, 1223:19, 1226:16, 1227:7, 1231:11, 1232:5, 1234:17, 1237:2, 1238:15, 1234:9, 1246:13, 1247:21, 1248:2, 1251:18, 1252:6, 1255:1, 1256:20, 1264:24, 1265:4, 1271:4, 1275:11, 1275:19, 1278:21, 1283:14, 1290:2, 1294:3, 1294:19, 1295:24, 1300:15, 1300:17, 1300:20, 1302:21, 1304:1, 1307:13, 1309:2, 1324:1,

1326:24, 1328:25, 1330:17, 1333:15, 1336:21, 1340:10, 1340:18, 1347:2, 1356:17, 1357:6, 1357:7, 1359:22, 1360:10, 1360:22, 1361:1, 1363:20, 1376:10, 1376:12, 1389:21, 1389:22, 1392:4, 1394:15, 1394:22 upcoming - 1221:17, 1275:2, 1275:13 update - 1240:24, 1312:5,
1312:7, 1312:8, 1312:10, 1312:14 updated - 1204:4, 1250:25, 1294:25 upgrades - 1226:9 uphill - 1298:25 upper - 1299:3, 1341:11
upper - 1299:3, 1341:11 upset - 1292:19 upsetting - 1304:21, 1305:1 utilities - 1319:11 utilized - 1368:3
V
•
vacation - 1215:17, 1215:18, 1337:21, 1339:13 vacuum - 1179:25
vague - 1336:14, 1344:7,
vacuum - 1779.25 vague - 1336:14, 1344:7, 1344:10, 1381:5 valid - 1317:2
valued - 1278:7, 1293:24
valve - 1197:3 valvès - 1211:7
variety - 1266:5 various - 1153:12, 1190:4,
1276:11, 1355:13
vendor - 1159:18 verbal - 1247:3, 1387:11
verbally - 1366:21
verification - 1296:8 verified - 1157:13,
1236:21, 1238:4, 1291:5, 1291:25, 1292:7, 1309:10,
1325:17
verify - 1157:17, 1167:24, 1343:17, 1343:23, 1364:18,
1365:21, 1380:24 verifying - 1299:12
version - 1237:24, 1351:4
version - 1237:24, 1351:4 versus - 1202:6, 1225:6, 1225:25, 1240:14, 1248:3, 1250:2, 1258:6, 1295:21 vessel - 1155:13, 1170:17, 1170:20, 1171:2, 1171:6, 1171:24, 1172:17, 1201:11, 1208:13, 1209:14, 1229:18, 1267:7, 1313:5, 1324:4.
1250:2, 1258:6, 1295:21
1170:20, 1171:2, 1171:6,
1208:13, 1209:14, 1229:18,
1267:7, 1313:5, 1324:4, 1344:23
Vessel - 1208:15
Vhp - 1180:14 vibrant - 1196:15
vice - 1198:23, 1203:13, 1222:6, 1330:11
vice-president - 1198:23,
vicinity - 1157:11
Video - 1353:20 video - 1157:8, 1236:22,
1203:13, 1222:6, 1330:11 vicinity - 1157:11 Video - 1353:20 video - 1353:20 1245:1, 1246:19, 1251:12, 1252:22, 1291:6, 1291:24, 1297:8, 1304:16, 1304:18, 1305:4, 1305:6, 1305:9, 1305:17, 1305:18, 1316:24, 1317:2, 1317:10, 1325:20, 1345:11, 1345:14, 1354:1 videoed - 1354:3
1297:8, 1304:16, 1304:18,
1305:4, 1305:6, 1305:9, 1305:17, 1305:18, 1316:24,
1317:2, 1317:10, 1325:20, 1345:11, 1345:14, 1354:1
videoed - 1354:3 videos - 1238:9, 1263:23,
THEVE - 1200.0. 1200.20.

1264:4, 1264:7, 1291:20, 1292:15, 1300:5, 1300:6, 1300:9, 1300:13, 1300:25, 1301:8, 1301:15, 1301:22, 1317:10. 1317:19 videotape - 1268:19, 1268:21, 1269:6, 1269:10, 1269:13, 1306:9, 1306:13, 1354:11, 1354:15 videotapes - 1230:3 1244:10, 1245:16, 1258:13, 1258:14, 1268:24, 1281:8, 1281:15, 1284:23, 1286:18, 1296:15, 1299:10, 1299:20, 1300:1, 1326:2, 1326:6, 1326:7, 1326:9 view - 1173:7, 1203:18, 1246:20, 1272:21, 1303:15, 1304:2. 1334:7 viewed - 1203:12 1227:23, 1229:8, 1231:21, 1232:4, 1254:17, 1256:9, 1269:6, 1271:25, 1273:16, 1276:5, 1292:15, 1343:17, 1343:22, 1380:23, 1381:13 viewing - 1191:22 views - 1224:20 violate - 1173:18, 1174:19 violated - 1169:10. 1169:22, 1279:9 violation - 1169:3 Virginia - 1318:16 virtue - 1263:13 visible - 1175:7 visit - 1218:22, 1228:19, 1232:12, 1275:2, 1275:13, 1329:17, 1331:23, 1331:24, 1339:16, 1347:20, 1348:3, 1355:12 visited - 1213:3 visiting - 1328:11 visits - 1230:17 visual - 1154:9, 1155:12, 1180:20, 1180:21, 1181:2, 1181:6, 1181:7, 1181:23, 1182:6, 1182:18, 1250:22, 1251:3, 1256:25, 1257:2, 1257:5, 1257:12, 1303:1, 1303:3, 1303:16, 1324:4, 1324:22, 1325:21, 1342:13, 1351:3 void - 1202:8, 1246:19 Voinovich's - 1218:22 1331:23, 1339:16, 1347:20, 1348:3, 1355:12 Volume - 1149:9 volumetric - 1191:18 **vouch** - 1244:20, 1245:4, 1245:11, 1310:2, 1311:1, 1311:3, 1311:4 vouched - 1317:11 1317:12, 1317:17, 1317:18 **Vt2 -** 1303:4, 1303:10, 1348:21, 1380:13, 1386:7 Vt3 - 1380:13 W W-entp-11q-306 - 1159:18 W-entp-11q-308 - 1159:20 wait - 1220:25, 1371:14 waiting - 1169:25, 1170:1 walk - 1297:12 walked - 1308:17 Walter - 1317:25, 1318:3, 1396:17 wants - 1263:8, 1264:22,

1272:13

washed - 1340:12

Washington - 1149:15

1149:18, 1149:22, 1150:3, 1232:9, 1232:10, 1232:22, 1240:2, 1255:21, 1257:22, 1283:4, 1300:22, 1301:5, 1301:15, 1302:11, 1302:21, 1308:8, 1319:10, 1319:19, 1328:24, 1329:18 Washington-based -1329:18 watch - 1198:18, 1255:24, 1265:1, 1288:7, 1394:19 watched - 1269:6, 1269:9 water - 1201:3, 1201:6, 1201:7, 1201:11, 1201:12, 1201:14, 1202:2, 1204:9, 1210:6, 1211:25, 1225:16, 1269:17, 1382:10 ways - 1207:16, 1210:21, 1228:15, 1285:24 weakened - 1292:4. 1292.5 web - 1319:14 week - 1215:17, 1215:18, 1236:14, 1339:12 week's - 1337:21 weekend - 1345:7, 1347:23 weeks - 1210:2, 1228:20 weep - 1252:6 weigh - 1201:23, 1347:12 weld - 1212:9. 1212:25 Western - 1149:2 wet - 1157:13 whatsoever - 1382:6. 1386.3 Whereas - 1202:8 whereas - 1303:10 whirlwind - 1300:20 white - 1340:9 whiz - 1386:20 whole - 1175:17, 1176:2, 1176:18, 1178:15, 1179:7, 1179:11, 1179:17, 1180:12, 1187:8, 1187:9, 1222:13, 1372:15, 1376:18 Whole - 1176:3 wide - 1269:25 widely - 1271:25, 1272:2 Wilcox - 1273:9 William - 1318:14 wires - 1310:12 wise - 1204:11, 1221:12 Wise - 1149:20, 1193:1, 1193:12, 1193:22, 1255:6, 1260:4, 1260:7, 1264:21 1265:10, 1265:13, 1270:21, 1271:1, 1271:3, 1272:12, 1272:14, 1290:11, 1290:13, 1292:11, 1292:12, 1297:14, 1298:6, 1298:11, 1301:13, 1306:18, 1311:7, 1313:18, 1315:8, 1315:12, 1317:9, 1317:13, 1317:15, 1317:22, 1321:5, 1321:8, 1322:23, 1326:15, 1334:3, 1334:6, 1335:3, 1335:16, 1338:14, 1363:5, 1396:13 wish - 1228:17, 1316:3 withdraw - 1239:13 Withdrawn - 1171:9 witness - 1157:2, 1172:24, 1187:16, 1187:18, 1188:9, 1190:7, 1193:10, 1195:6, 1195:9, 1317:25, 1318:1, 1326:18, 1327:3, 1327:6, 1334:8, 1335:6, 1363:22, 1379.21 Witness - 1174:25 1178:18, 1317:14, 1321:18 witnesses - 1334:23

Wo-1389:19 Wolf - 1151:19, 1233:14, 1249:11, 1249:12 word - 1166:13, 1166:14, 1168:15, 1172:20, 1173:2, 1173:4, 1174:21, 1174:22, 1205:24, 1209:2, 1247:5, 1285:24, 1288:1, 1310:7 1311:16, 1334:25, 1339:3, 1344:3, 1344:10, 1352:3, 1352:4 word-by-word - 1339:3 wordage - 1344:5 worded - 1238:3, 1292:6, 1315.11 wording - 1276:23, 1352:21 words - 1238:17, 1238:18, 1238:25, 1243:21, 1252:10, 1257:9, 1266:20, 1276:8, 1276:9, 1281:10, 1284:1, 1303:10, 1311:15, 1311:19, 1313:2, 1344:25, 1352:12, 1380:11 wordsmithing - 1276:16, 1276:19 world - 1226:20, 1239:17 Worley - 1216:15, 1242:6, 1246:23, 1297:21 Worley's - 1243:6 worm - 1251:22, 1308:20 worry - 1260:8 wound - 1302:21 wrapping - 1278:21 wrath - 1193:13 wrenches - 1268:9 write - 1345:20, 1345:21 writing - 1164:14, 1166:3, 1170:2, 1170:12, 1188:22, 1189:4, 1387:22 written - 1154:10 1162:16, 1163:11, 1165:1, 1169:15, 1172:5, 1175:18, 1187:14, 1193:4, 1206:25, 1339:3, 1345:25, 1356:17, 1363:12 wrongdoing - 1152:14, 1262:12 wrote - 1161:11, 1166:2, 1168:21, 1169:9, 1169:16, 1171:11, 1172:15, 1173:18, 1179:4, 1341:22, 1344:4, 1381:15 Wuokko - 1191:6, 1327:5, 1327:8, 1327:10, 1327:15, 1327:17, 1327:18, 1329:13, 1334:8, 1335:4, 1335:23, 1336:12, 1350:18, 1361:10, 1363:3, 1363:7, 1363:9, 1364:12, 1367:23, 1370:21, 1372:24, 1389:9, 1389:19, 1389:20, 1392:15, 1393:6, 1393:8, 1396:19, 1396:21, 1396:23, 1397:1 year - 1161:4, 1161:8, 1161:11, 1162:11, 1197:11, 1206:9, 1214:14, 1224:1, 1224:2, 1224:6 vear's - 1220:19 years - 1180:17, 1182:3, 1182:5, 1183:7, 1186:6, 1196:16, 1196:23, 1197:1, 1197:5, 1216:10, 1224:21, 1252:11, 1265:19, 1265:21, 1268:3. 1275:9. 1281:1. 1283:18, 1295:25, 1328:1,

1372:24, 1373:2

yellow - 1352:14 yesterday - 1155:15, 1219:17, 1252:19 York - 1149:14 yourself - 1153:15, 1177:24, 1259:19, 1307:15, 1336:9 yourselyes - 1194:25 yourselves - 1194:25, 1265:3, 1326:23, 1394:21 Yvonne - 1221:16 Ζ zoom - 1187:8, 1358:3

.

-