

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

4TH QUARTER COMMUNITY ENGAGEMENT PANEL  
(REGULAR MEETING)

REPORTER'S TRANSCRIPT OF PROCEEDINGS  
Oceanside, California  
Thursday, November 29, 2018

Reported by:  
Heidi Hummel-Grant  
CSR No. 12556  
JOB No. 3108008  
  
PAGES 1 - 161

1 4TH QUARTER COMMUNITY ENGAGEMENT PANEL

2 (REGULAR MEETING)

3

4

5

6

7

8

9

10 Transcript of Proceedings, taken at 1938  
11 Avenida Del Oro, Board Room, Oceanside, California,  
12 beginning at 5:27 p.m. and ending at 8:55 p.m., on  
13 Thursday, November 29, 2018, before Heidi Hummel-Grant,  
14 Certified Shorthand Reporter No. 12556.

15

16

17

18

19

20

21

22

23

24

25

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

Oceanside, California

Thursday, November 29, 2018, 5:27 p.m. - 8:55 p.m.

\*\*\*

DR. VICTOR: We're going to get started here. 05:27

MR. HEADRICK: Before the meeting starts, I just want to make an explanation about these pretty little cards on your chair. We're providing these to you so that rather than applaud or say something out loud to disrupt the meeting, this is you're positive (indicating), you're for what's being said. This is you're against what's being said (indicating). And hopefully that will facilitate and express our public concerns without being disruptive. 05:28

Thanks. 05:28

THE REPORTER: Who was that?

MR. HEADRICK: San Clemente --

DR. VICTOR: San --

THE REPORTER: Seth --

DR. VICTOR: Gary Headrick from San Clemente Green. 05:28

Thank you very much, everyone, for coming here. My name's David Victor. I'm chairman of the Community Engagement Panel.

This is difficult meeting. We have a very big agenda, very important issues in front of us. So I ask 05:28

1 everyone to bear with us and us with you as people ask 05:28  
2 questions and get answers. This a very, very important  
3 topic. And also that we maintain a degree of civility  
4 that is fitting of a public event and a public meeting  
5 like this. 05:28

6 In case there's an incident and you need to  
7 evacuate the building, you can evacuate by going back  
8 out through either of those two doors that says exit.  
9 There are also exits behind the curtain here.

10 I want to thank the Oceanside Police Department 05:29  
11 for sending two of their officers here tonight to help  
12 us with safety.

13 I want to thank Jerry Kern, a member of the  
14 panel, councilmember from Oceanside, and the people of  
15 Oceanside for once again welcoming us back to this 05:29  
16 facility.

17 I want to thank Noah and his ark for the  
18 weather. It's truly extraordinary. So please do --  
19 I'll remind you again -- please when you go home, drive  
20 safely. The weather is truly biblical. 05:29

21 I also want to welcome -- we have -- in addition  
22 to Tom Palmisano, who's going to talk about the issues  
23 with respect to Southern California Edison, I want to  
24 welcome Scott Morris from the Nuclear Regulatory  
25 Commission. Scott is the regional administrator of 05:29

1 Region IV from the Nuclear Regulatory Commission. That 05:29  
2 is the region that is responsible for California, among  
3 many other parts of the country. The team that was here  
4 from the NRC inspecting the plant and is overseeing the  
5 restart and the processes going forward is a team that 05:30  
6 reports to Scott and to the regional administratives.  
7 So I really -- Dan and Jerry and I put an invitation out  
8 to the Nuclear Regulatory Commission a few weeks ago to  
9 ask them to come.

10 And Scott, I want to thank you for coming out to 05:30  
11 join us.

12 Scott, I will also say, is a native of Leucadia.  
13 So welcome home. And I'm glad we could bring --

14 MR. MORRIS: San Dieguito High School 1981.

15 DR. VICTOR: As you saw coming in, there are 05:30  
16 information booths available from the members of the  
17 community and from Edison a variety of important  
18 topics.

19 This panel was set up by Edison to create a  
20 two-way conduit to the community affected by the 05:30  
21 decommissioning process and the owners represented by  
22 Edison. And I think we've demonstrated over the last  
23 four years that the information in the conduit really  
24 flows both directions. This is not a formal  
25 decision-making body. There are lots of other formal 05:31

1 decision-making oversight bodies that are involved in 05:31  
2 this material and in these subjects.

3 The meeting materials, particularly the slide  
4 deck, were shared with the CEP yesterday and also posted  
5 on SONGScommunity.com. There's a variety of other 05:31  
6 resources on the website. There are some new  
7 decommissioning updates that are on everybody's chair.  
8 So if you go under the red flag and the green flag,  
9 you'll find a white non-flag that has material that will  
10 be presented later. 05:31

11 The meeting, as is the norm, is being live  
12 streamed to the world via the website right now.

13 Let me just remind the panel members that as you  
14 have questions during the presentation to state your  
15 name for those watching, millions of viewers watching 05:31  
16 our live stream, and also for the benefit of our court  
17 reporter, who makes a terrific transcript of these  
18 meetings. If you want the floor, please tilt your  
19 nameplate up and to the side, and I'll make sure that  
20 everybody gets a chance to speak and ask questions and 05:32  
21 discuss the issues in front us.

22 I'm going to call out various action items, as  
23 will Dan and Jerry, so that they are part of the public  
24 record. As is the norm, we identify a lot of topics and  
25 questions for follow-up, and then make sure that there 05:32

1 is follow-up. 05:32

2 The agenda will come up on the screen. This is  
3 a pretty big agenda. We're going to have a few updates,  
4 general updates, we're going to keep that very brief.

5 There's a number of very important things happening 05:32  
6 right now. The names, actually, have no relationship to  
7 the subjects that people are providing the CEP general  
8 updates on, but we will get to that in just a moment.

9 Then we're going to get to the main topic  
10 tonight, which is the canister downloading incident, the 05:32  
11 Nuclear Regulatory Commission's oversight of that, and  
12 the road ahead.

13 And we're going to be doing some new things with  
14 regard to public questions and comments that you'll  
15 learn more about in just a moment. 05:33

16 I just want to draw your attention to the fact  
17 that there will be a public -- there will be questions  
18 from the public in two segments tonight: First is  
19 directly related to the canister downloading incident.

20 And we've asked already by email people to send in 05:33  
21 questions in advance -- you'll learn more about those  
22 questions in a little bit -- I think we had  
23 60 questions, not all of them are directly on topic, but  
24 we're keeping track of those very carefully, and we'll  
25 make sure that those get answered. 05:33

1           If you tonight would like to ask a question that           05:33  
2           is about the canister downloading incident, please fill  
3           it out on a blue card. And the blue cards are magically  
4           available -- where are the blue cards?

5           UNKNOWN SPEAKER: Way out in front.                           05:33

6           DR. VICTOR: They're way out in front.

7           You know what? We're going to get some blue  
8           cards brought in here. So if you want a blue card, just  
9           go to the back of the room and in a minute or two there  
10          will be a pile of blue cards there.                           05:33

11          By the way, Dan and Jerry have organized the  
12          questions, and we have a more efficient back and forth.  
13          So we have a handful of questions asked, have them  
14          answered on the spot, and have more back and forth.

15          Then if you want to ask a general question                 05:34  
16          during the normal public comment period, fill out a  
17          yellow card -- those yellow cards are numbered -- and  
18          then we'll got those in the normal public comment  
19          period. Dan Stetson and Jerry Kern will keep track of  
20          the questions and facilitate those segments of the           05:34  
21          meeting.

22          I want to go to the next slide now. If you  
23          have -- just back up for just a moment -- if you have a  
24          comment or question and you don't want you to take the  
25          floor but you want to make sure it becomes part of the       05:34



1 public record and that it gets answered, please send it 05:34  
2 to that email and we'll make sure -- I think within  
3 three to five business days we'll make sure it's part of  
4 the public record and also gets answered.

5 Let's go to the next slide. We want to make a 05:34  
6 few quick and general updates since things have happened  
7 since August. First one is Dan Stetson will talk about a  
8 Decommissioning Conference that he went to on the  
9 East Coast few months ago.

10 MR. STETSON: Thank you, David. 05:34

11 In October I attended the Fifth National  
12 Decommissioning & Used Fuel Summit back in Charlotte,  
13 North Carolina. Over four hundred industry  
14 representatives attended, Holtec, AREVA, all of the big  
15 companies from not only the United States but all over 05:35  
16 the world were there. I sat on a panel, and joining me  
17 on the panel was Christopher Recchia, he's the former  
18 commissioner for the Vermont Department of Public  
19 Service, and Anthony Roisman, who is the current  
20 chairman of the Vermont Public Utility Commission. 05:35

21 So I'd really like to share two parts, really  
22 what I said to the individuals that were there that were  
23 thinking of setting up different panels like this, and  
24 then also an important takeaway that I came away from  
25 the meeting. 05:35

1 I talked about the structure of this CEP, how it 05:35  
2 works, and really I tried to share with them that it's a  
3 work in progress and shared some thoughts from  
4 Tom Isaac, who's actually the chair of the experts  
5 committee that we have there. And that's really that in 05:35  
6 order to make these type of operations work, you really  
7 want to establish a trusting relationship with the CEP,  
8 with the community. And first of all, the utility must  
9 exhibit competence in their area of operations and the  
10 community must feel that they're making decisions that 05:36  
11 are in the best interest of the community. Thirdly, the  
12 utility really must engage in open dialogue with the  
13 community, as we're trying to do this evening. They  
14 must for sure be prepared for the unexpected and be  
15 prepared to relate to the unexpected in realtime. 05:36  
16 So then what I took away from this was really  
17 interesting at a macro level. Currently there's  
18 99 nuclear power plants operating in United States.  
19 They provide 20 percent of the electricity, which all of  
20 us enjoy every day, but they also supply 60 percent of 05:36  
21 the carbon-free energy which this country depends on.  
22 Unfortunately, of those 99 power plants, 67 percent of  
23 them are operating at loss, they're losing money. And  
24 so with this we're going to be expecting that quite a  
25 number of them are going to be decommissioned in the 05:37

1 next few years. So as a country, we really have a 05:37  
2 couple of challenges. Challenge Number 1, nationally  
3 what are we going to do with all of the spent fuel? And  
4 equally important, what are we going to do to replace  
5 this carbon-free energy source with renewable that 05:37  
6 doesn't put us back on the road to coal-based fuel?

7 Thank you.

8 DR. VICTOR: Thank you very much, Dan.

9 I want to just on that last point mention that  
10 many -- most of the members of the panel that's being 05:37  
11 set up at Diablo Canyon are with us tonight, observing  
12 our meeting. I went up to San Luis Obispo and testified  
13 in a related panel in late October, and we had a chance  
14 to meet with them briefly tonight. And we look forward  
15 to supporting them with any insights we have on how our 05:37  
16 process is unfolding and vice versa as the process gets  
17 underway.

18 One of the things that we underscored with them  
19 is that all the plants that are being decommissioned are  
20 in a similar position and needing change of federal law 05:38  
21 and, in particular, needing a focus on how we get the  
22 spent fuel out of the decommissioned sites first by both  
23 the -- according to the viable transportation routes.  
24 And that's a very, very important thing and requires  
25 political energy, and we're not fully joined up, even in 05:38

1 California, on that question. 05:38

2 The next slide, please? We've had some  
3 discussions after our last meeting about how to do a  
4 better job of communication -- and that's a work in  
5 progress and will be forever. I want to ask Jerry Kern 05:38  
6 to say a little bit about some of our thoughts from  
7 that, some of which you will see already tonight.

8 MR. KERN: Yeah, and I'm going to be brief. David  
9 touched on it.

10 So we're going to try to do two rounds of 05:38  
11 questions. The first question just pertains to the  
12 agenda item on the canisters, the offloading and the  
13 mishap on August 3rd. Right? In the back, get the blue  
14 card, just write the question so either Dan or I can  
15 read that question, and we'll get to as many as 05:39

16 possible. Also we have a list of questions that were  
17 sent to us. And we -- a lot -- some of them will be  
18 answered by Tom Palmisano during his presentation. So  
19 we're not going to reask those, and some of those did  
20 not pertain particularly to the downloading of the 05:39

21 canister. But those -- those portions will be answered,  
22 and that will be put on the website. But there's like  
23 about a half a dozen or seven or so that are -- that  
24 actually pertain to what we're talking about that did  
25 not get answered internally through Tom's presentation 05:39

1 or through other means. So we will be asking those, 05:39  
2 along with the questions that you sent up to us. So  
3 like I said, these are just questions pertaining to the  
4 agenda item.

5 And then at the end you will still have your two 05:39  
6 minutes to actually talk about off-agenda items. So  
7 that's -- this is new for us. I'm not going to promise  
8 it will go smoothly, but we're going to give it a try --  
9 to do that.

10 DR. VICTOR: Dan, did you want to say something? 05:40

11 MR. STETSON: Just so everybody knows, there were  
12 60 questions that were submitted in advance. 26 of  
13 those questions are unique, and they're going to be  
14 addressed during the presentation. There are  
15 23 questions that were unrelated, and we're going to 05:40  
16 try to address those at a later date on the web. So  
17 we're trying to address every single question.

18 DR. VICTOR: Let me also -- let me also say that you  
19 will see us cluster a few questions and then get some  
20 answers so we don't hold all the questions to the end. 05:40  
21 We're trying to make this a more efficient process  
22 whereby questions get answers. And I welcome -- we  
23 welcome your advice on what's working and what's not  
24 working as this unfolds.

25 Next slide, please? Last brief update. 05:40

1 Changing national landscape. We just had an election, 05:40  
2 you may have noticed. I want to say three things about  
3 the results of that election. The first is that we are  
4 now in the lame duck session in Congress, during which  
5 time there were a lot of visions of big compromise, 05:41  
6 appropriations and funding actions that might restart  
7 the efforts around changes in law and spent fuel and  
8 storage. My guess is that's not going to happen. But  
9 it -- we probably will get some funding that includes  
10 Yucca Mountain funding. My own view is that Yucca 05:41  
11 Mountain is not the way go. But the politics of this  
12 country require connecting Yucca Mountain into the thing  
13 the care we really care about, interim storage. Those  
14 politics have not changed. And folks on the Hill are  
15 increasingly aware of that. We'll know more over the 05:41  
16 next week or ten days as to whether the lame duck  
17 session actually produces the needed funding.

18 Big issues are in the Senate. We're in very  
19 close contact with Senator Feinstein's office in  
20 particular; they've been very helpful. When we learn 05:41  
21 more, I'll share more information with this panel and,  
22 of course, I'll immediately also make it a matter of  
23 public record.

24 Second of the three things I want to say about  
25 new post-election reality is we have a new Congress and 05:42

1 a new Senate. Most people believe that next year is the 05:42  
2 year to try and get a change in federal law. I don't  
3 know if it's going to happen. After a year or so -- and  
4 maybe earlier -- it will be impossible to get anything  
5 done in Washington because we'll be in -- full into the 05:42  
6 next electoral season, which will be the presidential  
7 campaign.

8 We are going to be working very hard -- we  
9 welcome other people who want to work on this as well --  
10 to brief new members of Congress, to brief new staffs. 05:42  
11 In particular we're reaching out to all of the electives  
12 in Southern California, reaching out to both senators  
13 and to help build a coalition in this area.

14 The House, it looks like the politics are still  
15 lined up to be able to do a bill in the House, hopefully 05:42  
16 different from the bill that's -- Member Shimkus put  
17 together last time, but a bill that moves the ball  
18 forward.

19 The problem remains in the Senate. And people  
20 have, in my view, overreacted to the names of the 05:42  
21 particular people from Nevada in the Senate. Last year  
22 we couldn't do anything because Senator Heller from  
23 Nevada was up for reelection. He ran, he lost. But the  
24 politics in Nevada have not changed. And so the problem  
25 remains: How do you put the Senate together? Probably 05:43

1 is a little bit easier with the new Senate, but we're 05:43  
2 going to be working hard on that issue.

3 The third thing I want to say very briefly is at  
4 the state level we have, as you know, two interim  
5 storage facilities what are moving along, one in Nevada, 05:43

6 one in Texas -- they're very close to each physically;  
7 they are on different planets politically. I think the  
8 situation politically inside Nevada is getting harder,  
9 and that project will have some difficulties that they  
10 didn't have before. So we need to pay attention to the 05:43

11 reason why the whole strategy we've been following is to  
12 try and push as many interim storage sites as possible,  
13 as many transportation routes as possible, because we do  
14 not benefit from a monopoly; we benefit from having as  
15 many options as possible. So that's the strategy. Part 05:43

16 of that includes focusing on transportation. We've had  
17 some back and forth with the California Energy  
18 Commission about this, and we're trying to get the  
19 Western States a little bit better organized and focus  
20 on what really is needed for the California plants that 05:44

21 are going into decommissioning, which is new rules  
22 around which fuel gets sent first and a better  
23 transportation planning process that gets ready so that  
24 when interim storage actually becomes a reality, we're  
25 ready to go. 05:44



1           That's the last of my updates in the national           05:44  
2           landscape. I want to pause for a moment before we go to  
3           the main meeting to see if anybody else has any comments  
4           they'd like to make, update comments for the panel.

5           Okay. Thank you very much.           05:44

6           So can we go to the next slide, please? I want  
7           to just say what we're going to be doing here.

8           Tom Palmisano is going to talk briefly about what  
9           happened in August and some other related incidents.

10          Then we're going to ask Scott -- Scott from the Nuclear           05:44  
11          Regulatory Commission to talk about what the NRC has  
12          done and where they sit in their process. The NRC  
13          released it's report on this subject matter a couple of  
14          days ago, it's made available on SONGScommunity.com.

15          And then Tom is going to talk about the road forward.           05:45

16          Members of the panel should interrupt with  
17          clarifying questions, and if the clarify -- if the  
18          concept of clarifying gets out of control, we'll try and  
19          tamp that down so we can at least get through the  
20          presentations. Then we'll have comments and questions           05:45  
21          from the panel and then structured comments that you  
22          sent in advance or on blue cards from members of the  
23          public.

24          Tom, the floor is yours.

25          MR. PALMISANO: Okay. Thank you very much. Thank           05:45

1 you to the panel and to members of the public for 05:45

2 turning out on this rainy night.

3 This is an important discussion. I'm going to  
4 discuss an event that was very disappointing, where we  
5 failed to provide proper control and oversight of an 05:45

6 activity. And we take responsibility for that. I'm  
7 going to give you a candid discussion about what  
8 occurred, what we've learned about it, what we're doing  
9 differently as we prepare to go forward. So this is a  
10 very important discussion and I look forward to 05:45  
11 answering as many questions during the presentation and  
12 afterwards as I can.

13 So what I'm going talk about in both halves of  
14 the presentation, the first part I'm going to take you  
15 through what happened on August 3rd, what happened on 05:46

16 July 22nd, which had some similar elements of what  
17 happened on August 3rd. The NRC is going to talk about  
18 their findings. Then I'm going to pick up again and  
19 talk more deeply about what we've done to understand the  
20 causes, what the causes are, what we have done to 05:46

21 correct the causes and as we prepare to go forward.  
22 Again, it's a very important discussion.

23 Again, let me make it absolutely clear: This  
24 event was unacceptable. We have put a lot of effort  
25 into preparing for and executing the offloading of spent 05:46

1 fuel. And clearly with respect to the downloading 05:46  
2 evolution, we failed to provide the proper oversight and  
3 the proper detail, and the contractor failed as well.  
4 We own this, and Holtec owns this, and they have taken  
5 their responsibility seriously. 05:46

6 So with that, first let me talk about canister  
7 downloading. So in loading a spent fuel canister it's  
8 about a seven-day process. It starts in the spent fuel  
9 pool with an empty canister, and underwater we've put  
10 37 fuel assemblies in the past. Then inside of the fuel 05:47  
11 building, we take that canister out, still filled with  
12 water, and lower the level a little bit, the lid is put  
13 on, the lid is welded. And then we have two to three  
14 days of draining and drying the canister so it is  
15 completely dry. Then we complete the final welding. 05:47  
16 All that is done inside the spent fuel building. At  
17 that point the canister is moved out to the independent  
18 spent fuel storage installation or dry cask storage  
19 structure, and it is then downloaded into the storage  
20 vault. We're talking today about the downloading 05:47  
21 activity, which is where the event occurred.

22 So I've got a little schematic here to see a  
23 picture in a few minutes that shows you the top of the  
24 dry fuel storage assembly for the UMAX vertical storage  
25 system. You see what's called a vertical cask 05:48

1 transporter. This is a mobile crane -- and you'll see a 05:48  
2 picture of it in a minute. You see here what is called  
3 a transfer cask. This is a shielded cask that protects  
4 the canister and shields the radiation inside the  
5 canister so it's safe for the workers to be around it, 05:48  
6 protects it physically, it's seismically restrained and  
7 shielded. So as we move it in the building and out of  
8 the building it's in this transfer cask.

9 That transfer cask is set on top of a storage  
10 location and bolted down to a mating device. And then 05:48  
11 eventually we connect the slings -- I've got the top on  
12 it so you'll see a picture in a minute -- and we lower  
13 the canister down through this transfer cask down  
14 approximately 25 feet to set it in the bottom of the  
15 storage compartment. That is what downloading talks 05:48  
16 about. So when I use that term, that's what we were  
17 doing on August 3rd. We had done it 28 times before  
18 with the previous canisters.

19 So I'm going to review in the first part what  
20 happened. In the second part I'll talk about what we 05:49  
21 learned, why it happened, what we're doing differently.

22 So what happened on August 3rd? This was  
23 Friday, August 3rd, we were downloading Canister 29. It  
24 became wedged on what's called a shield ring -- this is  
25 an internal ring inside the storage compartment -- 05:49

1 you'll see some graphics in a minute -- it's designed to 05:49  
2 prevent excessive radiation streaming coming up the  
3 sides of the canister. The canister was wedged -- and  
4 the key thing, it was initially not recognized by  
5 crew -- so the canister wedged -- it's a tight 05:49  
6 clearance -- the canister wedged. The crew didn't  
7 recognize it and proceeded to the lower the crane  
8 another 18 feet, thinking the canister was lowering. So  
9 the crew failed to watch their load monitoring properly,  
10 and the person who was supposed to visibly watch the top 05:49  
11 of the canister had moved out of the position where he  
12 couldn't see the top. So the canister's wedged, the  
13 crane is lowered, we wound up with a canister wedged and  
14 unsupported for 45 minutes to an hour. Okay? That is  
15 unacceptable. Okay. 05:50  
16 The crew then recognized it, taken radiation  
17 readings, recognized the canister wasn't fully lowered,  
18 raised the crane back up, took control of the canister  
19 and successfully downloaded it. So the canister was  
20 then successfully placed in a storage compartment. We 05:50  
21 complete the evolution. The canister never dropped.  
22 The canister was wedged and, hypothetically, could have  
23 dropped, say, had a seismic event occurred. So that's  
24 the seriousness and safety significance of it. And I'm  
25 going to talk more about had the canister dropped what 05:50

1 would have happened, but that's what physically 05:50

2 happened.

3 The canister has been analyzed for drop,  
4 actually, up to 25 feet. The canister, had it dropped  
5 18 feet where it was wedged, would have remained intact. 05:50

6 So the confinement boundary would not have breached.

7 And I'll talk more about that. There would have been  
8 some fuel damage to the fuel assemblies. And I'll talk  
9 more about that.

10 Once we completed this, reviewed this, 05:51

11 recognized what happened, we immediately halted work to  
12 conduct an investigation. We notified the NRC

13 informally on Monday morning, August 6th, and we

14 committed to not resume fuel handling until we had done  
15 sufficient root cause analysis to truly understand the 05:51

16 event, put in place the corrective actions and now

17 proceed. And as of today we have not resumed fuel

18 handling. This is very important. This is very

19 serious. We're in no rush to restart this until we

20 truly can prevent this problem from occurring. 05:51

21 And again, because the canister would not have

22 breached, a drop would have been acceptable but there

23 would not have been a risk to public health and safety

24 or employee health and safety.

25 This is a picture of what I showed you in the 05:51

1 graphic a minute ago. So you're looking at this 05:51  
2 vertical cask transporter, it's in a raised position,  
3 and this is the transfer cask. This houses and protects  
4 the canister. At the bottom is a mating device, and as  
5 you see it there -- and I think you have the handout -- 05:52  
6 that's actually a door that slides open. So when we're  
7 all ready and we've rigged the canister, we lift the  
8 canister up inside the transfer cask, we open the door,  
9 then we lower it down 25 feet. That's what the  
10 downloading evolution entails. So you're seeing an 05:52  
11 actual picture of the equipment. You're seeing the  
12 slings that they go up and over, and they're actually  
13 down inside that button -- that conical lid is taken --  
14 is -- slings go through that lid and are actually  
15 connected to the canister. So we're prepared to do the 05:52  
16 download at this point. So that's physically what it  
17 looks like.

18 So this graph -- so again, in terms of what  
19 happened, this shows you a schematic of the transfer  
20 cask here with the storage module here. And this is the 05:52  
21 shield ring -- it's in orange here -- and the yellow is  
22 intend to show the bottom of canister as it's being  
23 lowered. Okay? And it's a tight fit by design.  
24 There's a quarter inch of clearance between the outside  
25 diameter of the canister and the inner diameter of that 05:53

1 shield ring. 05:53

2 This gives you a different view. So this kind  
3 of gives you a picture of the whole thing. This storage  
4 module is about 25 foot deep in total. The canister  
5 itself is just under 17 foot tall. So it sits down 05:53  
6 under that ring when it's fully inserted. This is the  
7 point in the process of being lowered -- it's lowered  
8 about three to four feet -- when it has to pass through  
9 that ring with the tight clearance. That's where it  
10 became hung up. The alignment is very critical -- and 05:53  
11 this is what you would call a blind lift. In other  
12 words, the people lowering this down can't see the  
13 bottom of the canister. So they align it properly with  
14 the mating device; they align it with the mobile crane;  
15 then they start lowering it down. And if they run into 05:53  
16 an interference, the right thing, you lift it back up,  
17 you recenter, you lower down. Once it clears the ring,  
18 it proceeds done fairly smoothly.

19 This is a closeup to show you the canister came  
20 to rest on the ring, and the top of the canister was 05:54  
21 wedged against the top of the transfer cask here. So  
22 slightly cocked, if you will, wedged at the bottom,  
23 tightly wedged at the top, tightly. That was the  
24 condition the canister was in when it was not properly  
25 restrained by the crane for that 45- to 60-minute time 05:54



1 frame. 05:54

2 So before I turn it over to the NRC, let me talk

3 about a July event.

4 So one of the things that we found in our

5 investigation -- and the NRC found in their inspection 05:54

6 activities -- we had similar problems in July; we did

7 not have an event where the canister was unsupported.

8 The crew learned on a July evolution one of the earlier

9 canisters, had trouble centering it and getting it

10 through the ring, it contacted the ring several times. 05:54

11 Okay? So they never wound up in an unsupported

12 condition; they always knew where the canister was and

13 what the load on the slings were. So they controlled it

14 properly. It took about an hour and a half to complete

15 the download, instead of, say, nominally 30 minutes. So 05:55

16 the real problem with July 22nd was not what the crew

17 did and recognized; the real problem was we really

18 failed to learn from that. The crew didn't report the

19 significant challenge they had with the alignment and

20 downloading. As a result, we failed to really recognize 05:55

21 that, teach the other crews how to avoid that and

22 recognize that. And that set up, if you will, that crew

23 on August 3rd to not have benefited from that

24 experience. That's the significance of what occurred in

25 July. Okay. 05:55

1           So immediate actions we took. We immediately           05:55  
2           stopped when we completed Canister 29. We stopped all  
3           fuel transfer activities. We began a series of safety  
4           standdowns with all the Holtec crews, the fuel handling  
5           and downloading crews. We informally briefed the NRC on           05:56  
6           the first business day. The NRC then commenced a  
7           special inspection, which Scott Morris will talk about.

8           I should mention at this point -- I'll mention  
9           it later -- Canister Number 30, we -- we were working in  
10          both units. So we had just completed welding and drying           05:56  
11          Canister Number 30. So Canister Number 30 was in its  
12          transfer cask, properly secured, seismically restrained  
13          in the Unit 3 fuel building. We decided at that point  
14          that it was not appropriate to move it out and download  
15          it. We needed to understand what happened on           05:56  
16          August 3rd. So I put a hold on that. That canister  
17          today remains inside the fuel building in the transfer  
18          cask. And I'm going to talk more about that. So I  
19          wanted to make sure you understand where we stopped on  
20          August 3rd. Okay.           05:56

21                 And with that, I'm going to turn it over to  
22          Mr. Morris.

23                 DR. VICTOR: Let me just pause for a second.

24                 Clarifying questions?

25                 MR. QUINN: Yeah, this technically is for you,           05:57

1 Tom -- hopefully this works. 05:57

2 THE REPORTER: I'm sorry, who is that?

3 DR. VICTOR: Ted Quinn.

4 MR. QUINN: Okay.

5 Tom, in this incident there's the issues of the 05:57

6 corrective actions that are occurring and are the focus

7 of this meeting. I wanted to ask you to confirm once

8 again what was the impact on the public from this

9 specific activity on August 3rd from radiation exposure

10 if -- in the case where it did not drop, or if it did 05:57

11 drop, what was the impact on the public?

12 MR. PALMISANO: I'm going to talk more about that.

13 But to give you a short answer, first, it did not drop,

14 it was safely lowered into position so there was no

15 threat to public health and safety. 05:57

16 Had it dropped, our analyses showed -- and the

17 NRC's reviewing that -- that the canister would not have

18 breached. There would have been damage to the fuel

19 assemblies inside; the canister would not have breached;

20 and there would not have been release of radioactivity. 05:57

21 MR. QUINN: So I'll ask the same question to the

22 NRC -- and I appreciate your answering that on the

23 record.

24 DR. VICTOR: Donna Boston and then Dan Stetson.

25 MS. BOSTON: Donna Boston with the Orange County 05:58

1 Works Department. 05:58

2 Tom, can you answer -- two questions: What time

3 of day did the situation occur? And then second

4 question: Did the NRC have an inspector on-site?

5 MR. PALMISANO: Sure. Second question, no, the NRC 05:58

6 did not have an inspector on-site. We do not have

7 resident inspectors anymore. They inspect periodically

8 based on a quarterly schedule or as activities dictate.

9 This occurred, I want to say, about

10 1:00 o'clock -- I don't have the specific time -- but 05:58

11 during the day shift, I think early afternoon, on that

12 Friday.

13 DR. VICTOR: Dan Stetson?

14 MR. STETSON: Tom, you mentioned that a radiation

15 reading was one of the indicators that wasn't right. 05:58

16 Could amplify us on that?

17 MR. PALMISANO: Sure.

18 MR. STETSON: Is there a radiation reading that's

19 supposed to go down and that's what indicated what

20 happened? 05:58

21 MR. PALMISANO: Let me see if I can back this up.

22 My clicker's not working, guys, if I can --

23 DR. VICTOR: I think your clicker is like a shark,

24 it only goes forward.

25 MR. PALMISANO: Okay. Here we go. I don't know if 05:59

1 I'm doing that or if -- okay. So let me work off this 05:59  
2 graphic. Okay.

3 Again -- I'll go back, want to give you a good  
4 answer. This is the transfer cask and the storage  
5 module is below that. 05:59

6 MR. STETSON: Okay.

7 MR. PALMISANO: So what I want to point out, this is  
8 called the mating device here. This is where that  
9 sliding door is located. This mating device bolts to  
10 the storage module. The transfer cask holds this. 05:59

11 This is heavily shielded. Okay? There is not as much  
12 shielding in this vicinity by design because the  
13 canister passes through it fairly short period of time,  
14 the workers are at an appropriate distance so they're  
15 not exposed to excessive radiation. 05:59

16 So what happened when the canister wedged and  
17 hung up only about four foot inserted, the bulk of  
18 the -- the bulk of the canister's still in here. Some  
19 of the canister's in the vicinity of this mating device  
20 without its heavy shielding. So when we're completely 06:00  
21 downloaded with the canister sitting from here down  
22 below, we expect to see very low radiation levels. And  
23 that's what our rad tech was confirming. He saw higher  
24 than expected radiation levels in this vicinity. Again,  
25 the workers were always controlled and protected. But 06:00

1 it obviously indicated the canister was not fully 06:00  
2 inserted. That's what initially told us the canister  
3 had not completed its download. Then checking the other  
4 indications we realized where the canister was.

5 MR. STETSON: Thank you. 06:00

6 DR. VICTOR: Question, Steve Swartz?

7 MR. SWARTZ: Yeah. I was just curious since the --  
8 basically it got hung up inside the transfer cask --

9 MR. PALMISANO: Part -- partway inside.

10 MR. SWARTZ: Right. In the inside. So I would 06:00  
11 assume there would be some scraping and damage inside  
12 that. Now, are you still -- still reusing that same  
13 transfer cask, or did that go back to Holtec for  
14 analysis? Or what's going on?

15 MR. PALMISANO: Yeah, the transfer cask is not an 06:01  
16 issue for scraping. We are continuing to use or will  
17 use that transfer cask.

18 Again, where the canister was, it had come down  
19 about four feet, the bottom of the canister was in the  
20 storage module hung up on the ring. The top of the 06:01  
21 canister was wedged. So it's -- it's not moving. So at  
22 the point they realized it, they lifted it back up,  
23 lifted it, centered it, and lowered it down. So not  
24 significant scraping inside the transfer cask.

25 DR. VICTOR: I wanted to say that on the issue of 06:01

1       scraping and on the issue of what would have happened       06:01  
2       if it had fallen, we've asked for a fairly detailed  
3       discussion of that --  
4       MR. PALMISANO: That's coming up.  
5       DR. VICTOR: -- later on. So we're going to come       06:01  
6       back to both of these issues are very important. So,  
7       Captain, very briefly? And then I do want to discuss  
8       this?  
9       CAPTAIN VERNON: Tom, how many more casks do we have  
10      to move it to dry facilities?       06:01  
11      MR. PALMISANO: 44. We -- total of 73. 29 are  
12      inserted. 30 is ready to go. So 30 is part of  
13      that 44. There are 44 more canisters to be loaded and  
14      moved.  
15      CAPTAIN VERNON: 44 more times that this event could       06:02  
16      happen?  
17      MR. PALMISANO: Yeah, of this downloading process,  
18      correct.  
19      CAPTAIN VERNON: Right. Then the next question I  
20      would have is the technology that we're using an older       06:02  
21      technology, or is there a more advanced safety --  
22      MR. PALMISANO: The technology is -- you know, with  
23      the vertical cask transporter, that's fairly current  
24      technology. I will talk about enhanced technology and  
25      better load monitoring, a camera to visually follow the       06:02

1 canister down. So I'll talk about that in the second 06:02  
2 part.

3 DR. VICTOR: Thank you very much.

4 So now I want to give the floor to Scott Morris  
5 from NRC Region IV. Also want to draw your attention to 06:02  
6 the fact that dated yesterday the NRC released their  
7 letter and report of special inspection. That will be  
8 part of what Scott's going to talk about.

9 Scott, the floor is yours.

10 MR. MORRIS: Can you hear me okay? All right good. 06:02

11 Well, first, thank you for inviting me, David,  
12 and appreciate the opportunity to be with the panel.

13 We -- and I wish I could remember your name --  
14 but I was just up in San Luis Obispo in August and met  
15 with the public up there as well. I've not been to a 06:03  
16 Community Engagement Panel before. So I'm happy to be  
17 here and help explain what the NRC does, why we do what  
18 we do, what happened in this -- with our inspection  
19 team, and where we're headed next. So I hope to cover  
20 all that. Maybe not in my short presentation, but 06:03  
21 through the question and answer comment period.

22 Little bit about who I am. So I am the deputy  
23 regional administrator in the NRC's Region IV office.  
24 We're out of Arlington, Texas, and we essentially have  
25 regulatory oversight and responsibility for the western 06:03



1 half of the United States. In our region -- somebody 06:03  
2 mentioned there's 99 operating reactors. 18 of those  
3 operating reactors fall within the Region IV of  
4 geographic territory. Out territory actually reaches  
5 the all way out to Hawaii, Guam and southern Pan up 06:04  
6 through Alaska, out in the Gulf of Mexico. And, of  
7 course, we regulate more than just nuclear power plants,  
8 but uranium mills, materials licensees, irradiators,  
9 well loggers, et cetera. There's quite a bit of  
10 applications for nuclear and radioactive -- radiation 06:04  
11 sources.

12 So a little bit about who I am. So again, I'm  
13 the deputy regional administrator. My boss is the  
14 regional administrator. The folks, as David pointed  
15 out, who conducted the inspection work in one of the 06:04  
16 four divisions that are in our regional office.  
17 Unfortunately, they -- none of those folks were able to  
18 be here. In fact, they're all out on the road doing  
19 other work and inspections at some other facilities so  
20 you're stuck with me tonight. 06:04

21 I am an executive; I'm not an inspector -- I  
22 once was -- I've been in the NRC since 1993. I've been  
23 an inspector of two different nuclear power plants.  
24 I've been to over 50 percent of the plants in the  
25 country and a variety of other facilities before that. 06:05

1 Oh, and I -- throughout my career I've worked in 06:05  
2 a variety of different organizations, including I was  
3 the branch chief in the Nuclear Security and Incident  
4 Response Organization and NRC headquarters. So I was  
5 responsible for issuing all the -- developing and 06:05  
6 issuing all the regulatory requirements for the  
7 post-9/11 and increased domestics threat environment.  
8 And so all the enhancements that occurred and security  
9 upgrades that happened at nuclear power plants  
10 throughout the country, those -- those new regulations 06:05  
11 and the licensing process came out of my shop.

12 Later I -- also I was in charge of our nuclear  
13 emergency preparedness and incident response and had our  
14 operations center, again, back in Rockville, Maryland.  
15 I happened to be -- spent nine weeks on watch in our 06:05  
16 operating center during the Fukushima event.

17 And then later on I became the director of the  
18 NRC's inspection and regional support organization. So  
19 we did -- we developed all the inspection protocols and  
20 resourced the regions to go do the inspections as well 06:06  
21 as the license -- licensing individual operators in the  
22 control room.

23 And then in 2016 I came to NRC's Region IV  
24 office in Arlington. And I already told you what I do  
25 there. 06:06

1           Before that, though, I was seven years on active           06:06  
2           duty in the United States Navy as a commissioned  
3           submarine officer. I did 13 more years as a reservist.  
4           So retired after 20 years of Navy nuclear service in  
5           2006. So that's who I am.   06:06

6           You mentioned I grew up in Leucadia, California.  
7           I spent ten of my formative of years and graduated from  
8           San Dieguito High School. So this is little bit of a  
9           homecoming for me. None of this was here when I lived  
10          here. So it's grown quite a bit.   06:07

11          So just a little bit about what we do. What  
12          does the NRC do? So the NRC is an independent federal  
13          Nuclear Regulatory Agency. We're not part of the  
14          Department of Energy; we're not part of the  
15          administration; we're not part of the Legislative Branch           06:07  
16          or the Judicial Branch or any part of the Executive  
17          Branch. We're an independent agency set up by Congress.  
18          Most recently in 1975 through the Energy Reorganization  
19          Act. Prior to that there was Atomic Energy Commission  
20          in 1954. That got split up because the AEC was both           06:07  
21          promotional and regulatory. Congress split that up and  
22          made the NRC in 1975, which is a small -- relatively  
23          small agency; we're about 3,000 people now nationwide.  
24          So our mission. Our mission is public health  
25          and safety. That's what we do and -- and common defense           06:07

1 and security. So we're not beholden to the -- we're 06:08  
2 beholden to five presidentially appointed commissioners  
3 who serve staggered five-year terms. And we established  
4 the -- they established policy for the agency. And  
5 underneath all that is the development of our set of 06:08  
6 regulations for all the types of radioactive and nuclear  
7 materials that are used in -- by the civilian population  
8 in the United States. So there's regulations. There's  
9 licensing -- we do all the licensing work. And then  
10 once the licenses are issued and these facilities begin 06:08  
11 operation, then we do the inspections. When there are  
12 problems, then we do -- then we have enforcement. And,  
13 of course, we also do emergency preparedness and  
14 response.

15 Let's see. Public health and safety. I talked 06:08  
16 about that. How we do it, I talked about that.

17 So our principles -- we aspire to five basic  
18 regulatory principles. We want to be -- we aspire to be  
19 as independent as possible, as open as possible, as  
20 clear as possible, as reliable and consistent as 06:09  
21 possible, and as efficient as possible. So independent,  
22 clear, open, reliable, and efficient. Those are the  
23 principles that guide our day-to-day decisions and our  
24 strategic decisions as the agency moves forward.

25 We -- as part of that we want to be transparent. 06:09

1 We hold over a thousand public meetings every year -- 06:09  
2 sometimes more, sometimes less -- on average of three  
3 per day. This is not our meeting so we also go to other  
4 meetings that we're invited to to make presentations and  
5 answer questions such as this. So we're out there. 06:09  
6 We've got a very robust website; we're on social media,  
7 Facebook, Twitter, you name it -- don't even know them  
8 all, but we're on all of them. And there's lots of ways  
9 to interact with us. In fact, we had a -- and I'll  
10 mention in a minute -- we had a webinar a couple of 06:09  
11 weeks ago where we had a wonderful turnout, and all  
12 those documents that we shared during the webinar are  
13 available, except for the video of the webinar itself,  
14 because we're having some technical challenges that  
15 we're trying to wrestle with with the vendor, but we'll 06:10  
16 get that out soon so you'll be able to go back and watch  
17 that whole thing.  
18 So tonight -- one last point before I dig  
19 quickly into these slides. When it comes to inspection,  
20 we are, in particular, inspection, risk-informed and 06:10  
21 performance-based. What does that mean? That means in  
22 an agency with limited resources, we allocate those  
23 resources consistent with where the greatest risk is.  
24 Right? So somebody mentioned earlier resident  
25 inspectors. Well, operating power reactors have the 06:10

1 greatest risk profile. That's why we have inspectors at 06:10  
2 every single one of -- every single operating power  
3 reactor in the country. We used to have them here at  
4 SONGS. We maintained one here at SONGS for about a year  
5 after they shut down. But at some point the risk 06:10  
6 profile drops off and we use the -- again, our limited  
7 resources, and apply them to the most significant parts  
8 of our regulatory domain.

9 We also inspect using what's called a  
10 performance-based approach, meaning that we -- we 06:11  
11 observe performance and we assess performance. And it's  
12 when performance degrades -- and we -- should also say  
13 and we expect and require by regulation and by the  
14 facility license that the operators identify their own  
15 problems and fix their own problems without prompting. 06:11  
16 That is a key element of our regulatory structure. And  
17 we also assess that.

18 So when I talk about performance-based, we do  
19 routine inspections and we observe performance. For  
20 example, we observe the dry runs on the loading. And 06:11  
21 what we observed, consistent with our inspection program  
22 and procedures, and the two or three inspectors we had  
23 during that event -- or during that dry run -- we did  
24 not observe problems -- or the problems we observed were  
25 quickly identified by the operator and corrected on 06:12

1 their own without prompting. That's what we want to 06:12  
2 see.

3 But then comes the August 3rd incident. Now I  
4 want to dig into this. So what am I going to do in the  
5 next ten minutes? I'm going to try to do in ten 06:12  
6 minutes? I'm going to explain to you what we did in  
7 response to the incident, why we did it the way we did  
8 it, and what are the next steps. So -- let's see if  
9 this works. All right.

10 So this is just a quick chronology: NRC became 06:12  
11 aware of this on Monday, August 6th. Informally, we got  
12 a call explaining what happened. That began -- that  
13 raised some concerns, as you might expect -- I -- I  
14 actually was part of that initial call -- and we elected  
15 to begin daily communications with the facility operator 06:13  
16 and internally to determine what next steps we needed to  
17 take to plan our enhanced oversight activities.

18 The next day in a subsequent phone call I had  
19 with Tom, Tom committed on behalf of Southern California  
20 Edison to cease all fuel loading operations or fuel 06:13  
21 handling until such time as the NRC had the opportunity  
22 to come out and inspect -- inspect and follow-up on the  
23 incident. So by the 17th we had gone through -- we had  
24 reviewed all the preliminary information that we have.  
25 We used our management directives, again, to identify 06:13

1 what the nature and scope of our inspection response 06:13  
2 should be. You might imagine we don't go all in on --  
3 you know, it's a graded approach. So depending on the  
4 issue, you know, we send -- we adjust how many resources  
5 we apply in an inspection space to the issue. So we 06:14  
6 followed our own process, which is available to the  
7 public, you can see the decision-making strategy that we  
8 use. And ultimately by the 17th we decided that the  
9 right answer, consistent with that management directive,  
10 was to conduct what we call a special inspection. There 06:14  
11 are other inspections as well, and I won't bore you with  
12 all of them, they're all available in our management  
13 directive.  
14 But the -- on the 10th through the 14th we  
15 had -- we'd planned the inspection for the 10th through 06:14  
16 the 14th. You might ask why? Well, that's because we  
17 wanted to make sure that, A, we had the right inspectors  
18 available to go with the right skills and abilities to  
19 go out there and do that. That's part of it. The other  
20 part is we needed to make sure the licensee, Edison, had 06:14  
21 enough -- had provided an adequate amount of correct  
22 information that we needed to adequately prepare for  
23 that inspection. So we ultimately -- and again, they  
24 weren't moving fuel and they committed not to move fuel  
25 at that point. 06:15



1           So we get on-site, we do our inspection, the           06:15  
2   on-site portion. It doesn't end with that. There's a  
3   lot of -- we collect a lot of information while we're  
4   on-site. And when we finish the on-site portion, we go  
5   back to the regional office, and there's a much more --       06:15  
6   a further dialogue with management and other inspectors.  
7   And there's frequently a lot more questions and  
8   information that we continue to ask the licensee during  
9   that time. But by November 1st we had all that, and we  
10  conducted what we call an exit meeting with the licensee       06:15  
11  management where we provide to them our preliminary  
12  inspection findings, subject to further management  
13  review. Right?

14           So at this point I haven't even seen the -- you  
15  know, at the senior level of the region, I have not seen       06:15  
16  the -- you know, a final product from the inspection  
17  team.

18           Now, they -- once they exit, then they go into  
19  the business of documenting everything formally for the  
20  public record. So typically we give ourselves 45 days       06:15  
21  to issue that report. We accelerated that in order that  
22  we could get this thing -- the report issued, you know,  
23  in part to support this meeting tonight. So we -- we  
24  accelerated that and got that out as -- in fact,  
25  yesterday it was posted on our website, and it's           06:16

1 available for all to see. Okay? 06:16

2 Last thing I'll mention is that the -- I'll just  
3 emphasize -- and it's highlighted in yellow -- the NRC  
4 will perform additional inspections, and the licensee  
5 will not conduct additional fuel movements, any further 06:16  
6 fuel movements -- like they haven't done since August,  
7 they committed to on August the 7th -- until we are --  
8 or until we have completed our inspection and are  
9 confident in the adequacy of the corrective actions  
10 they've taken. All right? 06:16

11 So the inspection report, as I said, it's out,  
12 it's issued. There are two escalated findings in there,  
13 and there is -- I don't want to get too esoteric here,  
14 but the point I'm making is those are the most  
15 significant findings. In our regulatory lexicon we call 06:17  
16 those apparent violations because we're -- we invite the  
17 licensee, in this case Edison, to come in and give us  
18 additional -- any additional information that they think  
19 is pertinent before we make our final regulatory  
20 decision because these are significant actions. 06:17

21 There are also three what we call Severity  
22 Level 4 violations, which are of lesser significance,  
23 and we just -- in the report you'll see we issued them;  
24 we didn't ask for any additional information. They're  
25 out there. Those violations are now documented. And 06:17

1 Edison is required to formally document and explain to 06:17  
2 us in writing what they intend to do to address those  
3 issues formally. And again, that will be public  
4 information. Okay?

5 There were also a number of other observations 06:17  
6 and weaknesses we noted from -- primarily with respect  
7 to management oversight.

8 The root causes of the event -- and again, this  
9 is the conclusions of our special inspection -- the  
10 San Onofre management failed to provide adequate 06:18

11 procedures to control the evolution; they failed to  
12 provide adequate training to support -- support the --  
13 you know, the -- about the procedures that they had  
14 written -- that's a little garbled, I apologize -- and  
15 finally, they failed to provide adequate oversight not 06:18

16 only to the contractor but the entire evolution. And I  
17 think Tom mentioned that.

18 Corrective actions. And I know Tom has spent a  
19 good deal of time here when I go back and sit, but he's  
20 going -- the corrective actions that we have already 06:18

21 seen include upgrading training requirements, making  
22 changes to their procedures, some equipment  
23 enhancements -- Tom alluded to those already -- cameras  
24 and load monitoring, et cetera, and clearly oversight,  
25 management oversight improvements, including the 06:19

1 contractor. 06:19

2 The safety significance of the event. As we

3 have -- as we have now come to fully understand it,

4 obviously there was no actual drop of the canister. So

5 there was no actual failure of fuel, and there was no -- 06:19

6 there was no radiological release.

7 There is -- and I know that there's some

8 questions out there for us on the load drop analysis.

9 And I'll -- I can answer those later when we get into

10 that -- that section of the meeting. 06:19

11 So what are our next steps as an agency? Well,

12 once the licensee, Edison, provides us formally their

13 causal analyses and their -- more importantly, their

14 corrective actions, we will do another formal

15 inspection. Once they say they're ready, we're not -- 06:19

16 and I don't know exactly when that is yet so I can't

17 commit to a specific date -- but we will inspect -- when

18 we come out, we will respect in detail their causal

19 analyses and their corrective actions. And -- and

20 ideally we'll be able to make a final regulatory 06:20

21 conclusion that would support the licensee being able to

22 continue what it -- what it intends per their timeline.

23 But I'm not making any commitment here tonight until I

24 have an affirmation from the licensee, Edison, that

25 they're ready to support our inspection. And I don't 06:20

1 know what we're going find during the inspection. It's 06:20  
2 my expectation that we'll find that they've done a  
3 thorough causal analysis and they've taken comprehensive  
4 corrective actions to preclude recurrence. But I'm not  
5 going to predict that tonight. I'm just telling you 06:20  
6 that we will do those inspections. And until we --  
7 we've done them, I can't commit to when the licensee  
8 will be released to perform additional fuel moves.  
9 Okay?

10 Now, let's just briefly talk about the 06:21  
11 enforcement piece. I mentioned the violations. I said  
12 two of them were apparent violations or what -- in  
13 our -- what we call escalated enforcement or significant  
14 findings. We invite -- and you'll see in the letter  
15 that we published, the inspection report, yesterday, 06:21  
16 you'll see in there specific mention of the process that  
17 will take place next to address those significant  
18 enforcement items. Specifically, we give -- we give  
19 Edison the opportunity to come to Arlington, Texas, meet  
20 with senior management, myself included, and have what 06:21  
21 we call a pre-decisional enforcement conference. This  
22 is a publically -- a public meeting that -- I mean,  
23 obviously can be observed by the public -- whereby the  
24 licensee can come in and provide their overall  
25 perspectives and plans before we make our final 06:22

1 enforcement decision. It's kind of a last stop in the 06:22  
2 process, so to speak.

3 UNKNOWN SPEAKER: So why don't you have the meeting  
4 here in California?

5 DR. VICTOR: Please, can we just let him finish? 06:22

6 MR. MORRIS: The other opportunity --

7 UNKNOWN SPEAKER: We would like the meeting in  
8 California so we who are affected --

9 DR. VICTOR: Can we let him finish and --

10 UNKNOWN SPEAKER: Yeah, well, he can finish if he 06:22  
11 addresses my question.

12 MR. MORRIS: So we have done that in the past. It's  
13 not necessarily off the table. What I'm saying is the  
14 typical process is that we will invite the licensee to  
15 our regional office in order to meet with the 06:22  
16 management there to have this --

17 UNKNOWN SPEAKER: That's very transparent for all of  
18 us here.

19 DR. VICTOR: Let him finish.

20 MR. MORRIS: It's a public -- it's a public meeting. 06:22

21 DR. VICTOR: We'll have plenty of opportunity --

22 MR. MORRIS: The other opportunity -- the other  
23 opportunity that you'll see in the letter -- or in the  
24 inspection report -- is the opportunity for what's  
25 called alternative dispute resolution. And this is a 06:23

1 third party mediated approach whereby the licensee -- 06:23  
2 and this would not be public. Okay? Just to be clear,  
3 this would not be public if the licensee so chooses  
4 this approach --

5 UNKNOWN SPEAKER: Real transparent. 06:23

6 MR. MORRIS: -- to come in and have a third party  
7 mediation on what -- on what actions or what --  
8 ultimately what enforcement actions we would take and  
9 what corrective actions they would take.

10 I will tell you, having been part of numerous -- 06:23  
11 numerous -- several ADR sessions, that we, as an  
12 agency -- that while it's not public, I will say that at  
13 the end of the process there is a confirmatory order  
14 issued that outlines all the specific actions that the  
15 licensee must take -- that comes in the form of a 06:23

16 regulatory order or a confirmatory order. So you don't  
17 see the process being made, but you do see the result.

18 If at any point during the ADR session the NRC  
19 feels like we are not -- it's not going in a direction  
20 that's going to sufficiently address our concerns, we 06:24  
21 can terminate it. And that's happened as well. All  
22 right?

23 Southern California has -- Edison has to make a  
24 decision which approach they're going to take by  
25 December the 8th. If they elect the pre-decisional 06:24

1 enforcement conference, it has to be conducted within 06:24  
2 30 days. If they seek ADR, it has to be conducted  
3 within 45 days. This is our process. And I think --  
4 DR. VICTOR: I want to just make sure there's time  
5 for us to -- 06:24  
6 MR. MORRIS: I'm just pushing -- that's it.  
7 UNKNOWN SPEAKER: Why don't you have your public  
8 meeting here in California?  
9 DR. VICTOR: Excuse me, Gene. Gene, just -- I want  
10 to open it up for clarifying questions. I want to 06:24  
11 just, for the record, ask you as the NRC and Edison to  
12 make sure that this panel and the public are informed  
13 about the key steps on the road to December 8th. And  
14 if it's done with ADR, then make that process  
15 sufficiently transparent. I also understand that there 06:25  
16 are concerns about having the meeting here, and that's  
17 something that I'm sure other people are going to raise  
18 as well. It's an important discussion for us to have.  
19 Please also could you keep us -- both Edison and  
20 NRC, keep this panel informed about when the inspections 06:25  
21 will be about the new loading procedures and what the  
22 time table is. It's very important for the public to  
23 know.  
24 Steve Swartz and then Ted Quinn.  
25 MR. SWARTZ: All right. So I understand the thought 06:25



1 process when you realign your inspector staffing to 06:25  
2 reassert is they're to go where you think there's the  
3 most exposure based upon operating versus non-operating  
4 facility.

5 In this situation, what we have is a 06:26  
6 non-operating facility, which you're going through a  
7 transition where the communities surrounding it are  
8 being forced to have, effectively, a semipermanent  
9 interim dry storage. And we have another at -- at a

10 minimum of seven days for each cask to be transferred 06:26  
11 over once they start operating again, we have close to a  
12 year. You know, 44 casks to move, one week per cask,

13 that's 44 casks, I assume there might be a break in  
14 between. So we have at least a year to go regarding the  
15 transfer. Wouldn't it seem -- since we have that dry 06:26

16 storage facility sitting on top of a cliff over --  
17 located in Pacific Ocean -- that it might be a good idea  
18 for that year to maybe possibly assign an inspector to  
19 govern and watch and see things are going well during

20 that year of transfer so that at the end there's no 06:27  
21 surprises?

22 MR. MORRIS: Yeah. So thanks for the question.

23 Good question.

24 And again -- not again, but let me just say  
25 because there is no high level waste repository in this 06:27

1 country, utilities and nuclear power plant owners are -- 06:27  
2 are using dry storage facilities. Okay? So it's -- I  
3 don't know the numbers, but think -- I think the vast  
4 majority of operating power plants have dry -- and  
5 there's active loading campaigns going on all the time. 06:27  
6 Right? And so we have, again, limited -- a limited  
7 number of inspectors to conduct those activities. We  
8 are here on a regular basis; we are here when there are  
9 unique evolutions being performed. But at this point we  
10 simply can't commit to that. That's not -- that doesn't 06:28  
11 mean it couldn't happen, but currently our -- the way --  
12 you know, if you look at the volume of work that we --  
13 inspection work that we have on our plate and the risk  
14 profiles of the facilities and activities that we  
15 inspect, right now, as much as -- as much as you might 06:28  
16 like it, one, I think it's appropriate at the -- at the  
17 end of the day there is a resource decision that needs  
18 to be made. And we think we're applying the appropriate  
19 amount of --  
20 UNKNOWN SPEAKER: Hire more people. 06:28  
21 UNKNOWN SPEAKER: We used to have --  
22 DR. VICTOR: My hunch is that people especially are  
23 going to want to see more oversight when the fuel  
24 campaign reassumes, not just the -- but that's  
25 something we need to have further discussion. 06:28

1 Ted Quinn? 06:28

2 MR. MORRIS: I respect that. Thanks for the  
3 question.

4 MR. QUINN: Scott, I want to ask you about the  
5 things -- the part that affects the public the most to 06:29  
6 me is the boundary qualification criteria of this  
7 canister. And I want to ask it -- it is a future  
8 question that you received in writing -- but what is  
9 the NRC oversight review of the qualification of the  
10 cask that relates to dropping? 06:29

11 MR. MORRIS: So there was no load -- okay, let's be  
12 clear. Thank you for the question.

13 Let's be clear. For the MPC-37 model, 37 --  
14 37 model -- MPC's multipurpose canisters that are being  
15 employed at the Holtec UMAX at San Onofre. Those casks 06:29  
16 as employed by Edison were not required to be -- they  
17 were not required to submit a load drop analysis for  
18 that. Why? Because the licensee, in their application,  
19 assured us that they met single failure criteria for the  
20 design. Okay? That's why. Agree with it or not, 06:29  
21 that's the logic. So there was no requirement for a  
22 load drop analysis.

23 That being said, Holtec has done a load drop  
24 analysis with a more robust -- more robust canister  
25 [sic] and dropped it 25 feet. And the results of that 06:30

1 analysis did not yield or -- 06:30

2 DR. VICTOR: Can we just let him talk? Because the  
3 information's actually quite valuable. So interrupting  
4 him is not helpful.

5 MR. MORRIS: So -- thank you, David. So -- 06:30

6 UNKNOWN SPEAKER: Yeah, they're not working, David,  
7 because we don't like the BS.

8 DR. VICTOR: Okay. Can we let him, as an official  
9 from the Nuclear Regulatory Commission whose office did  
10 the inspection, at least tell us what they have found? 06:30

11 MR. MORRIS: Yeah. So I want to just be specific.  
12 So the analysis that Holtec did for the alternate  
13 canister that's less robust [sic] and dropped from a  
14 further distance, the results of that analysis were  
15 that the canister itself would not breach. So we feel 06:30  
16 that that's a founding analysis. Now, again, it wasn't  
17 required in this case because of the single failure  
18 proof.

19 DR. VICTOR: Okay. We're going to come back to this  
20 issue. We have asked that that analysis -- that the 06:31  
21 summary of that analysis and the independent review of  
22 that analysis be made public. And we're going to come  
23 to that in just a moment. But I want to see if there  
24 are any other -- Donna Boston.

25 MS. BOSTON: Thank you. 06:31

1 Donna Boston, Orange County Sheriff's 06:31  
2 Department.  
3 So my questions are kind of stemming towards  
4 that emergency intersection.  
5 MR. MORRIS: Okay. 06:31  
6 MS. BOSTON: I agree that the NRC does need to  
7 review the posture in the decommissioning environment  
8 for on-site inspection. I think that that's key. I  
9 think there will be more nuclear plants in the nation  
10 going through the decommissioning process and this 06:31  
11 should be a lesson learned. But I do have a couple of  
12 question.  
13 MR. MORRIS: Let me just -- can I just answer? So  
14 we're -- we are a learning organization. And I will  
15 commit to taking that back, we'll talk about it 06:31  
16 internally with the division that's responsible for  
17 allocating the resources.  
18 MS. BOSTON: Thank you.  
19 You did mention that you observed the dry runs  
20 at San Onofre. And my hope is that you do have an 06:32  
21 inspector out there periodically to observe active  
22 loading campaigns. That is my hope. I -- I would be  
23 trusting that the NRC is doing that.  
24 The other thing I want to mention is that you  
25 speak about emergency preparedness. But you're 06:32

1 really -- you're talking -- you mentioned it on that 06:32  
2 kind of global perspective, but you're really talking  
3 about emergency preparedness for the plants. Right?  
4 That is the -- the oversight for the NRC and that that  
5 is the category that you provide exemptions for some 06:32  
6 nuclear plants.

7 MR. MORRIS: So what's the specific question? I  
8 think I know where you're going.

9 MS. BOSTON: So I'm pointing out that it is still  
10 back to the local government agencies to provide 06:32  
11 emergency preparedness response capability to the local  
12 community members --

13 MR. MORRIS: As part of the all --

14 MS. BOSTON: -- that still exists --

15 MR. MORRIS: Right. As part of the all hazards 06:32  
16 plan.

17 MS. BOSTON: As part of this situation, did you at  
18 any point notify your federal partner the Federal  
19 Emergency Management Agency?

20 MR. MORRIS: I actually don't know the answer to 06:33  
21 that. I don't think so. But I can take a lookup on  
22 that.

23 I think where -- you know, as you were talking,  
24 it -- it occurred to me to make -- perhaps to remind  
25 folks that it's not as if there are no emergency 06:33

1 preparedness requirements. It's that -- it's that in a 06:33  
2 risk-informed regulatory scheme, when the risk is  
3 reduced, then you -- you have an opportunity -- or the  
4 licensee, I should say, has the opportunity to seek  
5 relief from some of the requirements, whether they be 06:33  
6 emergency preparedness or otherwise to -- because, you  
7 know, argue this -- this particular regulation is no  
8 longer pertinent because the risk isn't there. So there  
9 is --

10 MS. BOSTON: Right. 06:34

11 MR. MORRIS: -- that's the approach --

12 MS. BOSTON: And in the same line -- in the same  
13 vein, you're right, you do risk -- risk modeling, and  
14 you -- out of that crunching of those numbers come out  
15 probability. Will this incident be engaged in those 06:34  
16 mathematical computations to inform the risk now?

17 MR. MORRIS: I'm not sure I'm following.

18 DR. VICTOR: Let me phrase the question. This is a  
19 very important question.

20 There is a set of assessments that's made about 06:34  
21 risk and lower levels of risk for decommissioning  
22 plants. Is the NRC thinking about changing those  
23 assessments as a result of now seeing that single  
24 failure assumptions weren't correct, that events like  
25 this could happen? 06:34

1 MR. MORRIS: So -- yeah, it's a great question. 06:34

2 Thank you.

3 So as I said, we are a learning organization,  
4 and every inspection where we identify issues that --  
5 where there is operating experience -- and clearly 06:34

6 there's operating experience here -- that we have an  
7 entire organization back in the headquarters that assess  
8 operational experience -- not just domestically, they  
9 take data on incidents all over the world, and they work  
10 with their partners in other countries as well -- and 06:35

11 they take that information, and that information is used  
12 to inform all the other licensees as well as to inform  
13 our own regulatory regimen and protocols such that if we  
14 need to modify them in some way to expand or reduce or  
15 change or otherwise. That -- that is an active part of 06:35  
16 our ongoing process. So that's a long answer to yes.

17 DR. VICTOR: I need to -- the yes I like. I need to  
18 push us along.

19 Dan, you have a question? Then I have one.  
20 Then we need to move on. 06:35

21 MR. STETSON: Yeah, two questions, actually.

22 One with the webinar that you had, it's our  
23 understanding that within ten minutes 500 people signed  
24 up and maxed out the reach of that. At your next  
25 webinar would you please be able to maximize that so -- 06:36



1 MR. MORRIS: Sure. Sure. It's -- thanks for the 06:36  
2 question.

3 So we -- obviously, we knew there was a lot of  
4 community interest in this -- and I don't want to go  
5 into the whys and wherefores right now about why we 06:36  
6 selected webinar, but ultimately it was so we could get  
7 the information out as broadly as we could as fast as we  
8 could. Right? That was the thinking.

9 We hadn't done that before. So we've had  
10 technological challenges. We actually invited the 06:36  
11 public to register for that webinar -- I think two weeks  
12 in advance -- and it kind of -- they were kind of  
13 trickling in. And we thought, "Oh, 500 will be fine."  
14 But then at the last minute we got slammed, and we hit  
15 the 500 limit. And so -- yeah. So again, lesson 06:36  
16 learned. We need to expand.

17 DR. VICTOR: Did you have a second question?

18 MR. STETSON: Sure. With reference to the training  
19 protocols, do you set those, or does SCE or Holtec  
20 establish the training protocols and then do you 06:36  
21 certify and approve those?

22 MR. MORRIS: So the training protocols are  
23 consistent with whatever technology and process the  
24 licensees -- whether it be Edison or otherwise --  
25 selects. We're looking for outcomes. We're looking 06:37

1 for safe -- are they doing it safely? Are they doing 06:37  
2 it -- and again, it's performance-based. We're not --  
3 we don't ask them to submit all their training  
4 procedures and we comb through them one by one. We  
5 look at how they're implementing the process and 06:37  
6 ultimately are they doing it safely. It's only when  
7 there is an incident, then we ask the licensee to  
8 self-identify and fix it. And if it's significant  
9 enough, then we get involved and do a much more deep  
10 dive. At that point we might do exactly what I said we 06:37  
11 didn't do at the outset, which is do the deep dive into  
12 the procedures.

13 UNKNOWN SPEAKER: The insight --

14 DR. VICTOR: I want to just make one comment, and  
15 then I want one last question, which is -- the comment 06:37  
16 is: In two weeks I'll be Washington at the American  
17 Geophysical Union annual meeting, and I've been asked  
18 to go to NRC headquarters and chair a panel that's  
19 about these issues, maybe the CEP, members of the  
20 public, I'm talking notes to help us identify a handful 06:37  
21 of things where we want to do follow-up. Then we can  
22 report that directly from this panel back to the  
23 Nuclear Regulatory Commission in Washington. That will  
24 be very helpful.

25 Question is: What happened here happened 06:38

1 partially in July and must have happened in other 06:38  
2 plants. What does the NRC know about what's going on at  
3 other plants with similar kinds of incidents? And why  
4 is the industry not learning across plants?

5 MR. MORRIS: So I -- I am personally not aware of 06:38  
6 this incident occurring at other plants. But to the  
7 extent they have been reported to us or we're otherwise  
8 aware of them, our operating experience, like I spoke  
9 to your earlier, would be actively processing and  
10 disseminating that information. 06:38

11 DR. VICTOR: Do some drilling in on that.

12 MR. MORRIS: As far as the July 22nd event, we, the  
13 NRC, didn't even learn about that till we got on-site  
14 on September the 10th.

15 DR. VICTOR: And we'll put that question -- 06:38

16 UNKNOWN SPEAKER: Not true.

17 DR. VICTOR: I want to thank you very much, Scott.

18 Tom, now the floor is yours about where the  
19 incident -- understanding the incident and, most  
20 importantly, what you guys are doing going forward. 06:39

21 We're quite far behind schedule, but the  
22 material is very important. So we're just going to  
23 soldier on.

24 MR. PALMISANO: Okay. Thank you very much.

25 So now I'm going to shift from having talked 06:39

1 about what occurred to what we've learned about why it 06:39  
2 occurred and eventually what we're doing about it. And  
3 I will talk a bit about scheduling as we look at it.

4 So first of all, starting with August 3rd, and  
5 step back and say, "What has occurred is just very 06:39  
6 unacceptable and it's our responsibility," as you heard  
7 me say, "We own this. Holtec owns this. It should not  
8 have happened." So we immediately commissioned a very  
9 in-depth and thorough review of what happened and why it  
10 happened, to understand it. I'll get to some causes in 06:39  
11 minute that, again, largely we agree with the NRC, that  
12 we're telling you I'm going to go just a little bit  
13 deeper in terms of why some of these things occurred.

14 But it's extremely Important before we restart  
15 and complete the offload process we fully understand, we 06:39  
16 fully correct it, we validate it's corrected, and the  
17 NRC has a chance to inspect and ensure they're  
18 satisfied. As part of that validation, we use a third  
19 party firm, NPR, a lot of nuclear and has the  
20 experiences to do a second review of all the critical 06:40  
21 analyses, whether it's drop analysis, scratch analysis,  
22 corrosion analysis. So we're not relying on just Holtec  
23 and Edison. We've also formed an independent readiness  
24 assessment team composed of industry utility people,  
25 people with direct experience with the Holtec UMAX 06:40

1 system from Callaway and other experienced people who 06:40  
2 will be on-site at least three weeks watching the  
3 training, watching the practice downloads, and making  
4 sure that we have, in fact, put in place effective  
5 corrective actions and people are properly trained. All 06:40  
6 that comes together before we're going to be satisfied.  
7 All right?

8 So a bit more. So you saw on the NRC's slides  
9 categories of training, procedures, technology and  
10 oversight. So, you know, in training, I'll combine both 06:41  
11 staffing, that we have the right people with the right  
12 experience trained properly in the right place during  
13 the evolution. In terms of procedures, I would put in  
14 that category were the procedures that, you know, govern  
15 the downloading process and other processes to 06:41  
16 efficiently detail that a trained person could do it  
17 effectively. Technology, that vertical cask transporter  
18 with mobile crane, did it have sufficient capability to  
19 show the crew what the load was if a canister was  
20 potentially hanging up and starting to unload the 06:41  
21 slings. Did -- why do we rely solely on a person to  
22 watch the top of the canister instead of technology  
23 today. Oversight. There's a couple of levels of  
24 oversight. We had direct oversight people on-station  
25 observing every step of the activity. And then the 06:41

1 broader management oversight. People like me and my 06:41  
2 staff who are responsible for ensuring all these things  
3 come together.

4 So why on Canister 29 did this wind up in a  
5 situation where we wedged a canister, did not recognize 06:42

6 it, and lowered the crane to where the canister was  
7 unsupported and in an unanalyzed condition? That's one  
8 of the two apparent violations. So we stepped back and  
9 we looked at the procedures we were using. These  
10 procedures provided typically by the vendor, Holtec in 06:42

11 this case, other vendors provide procedures subject to  
12 our review and approval, had been observed by the NRC  
13 during the dry runs of 2017, and we had been using them  
14 successfully, and other plants had used them  
15 successfully. Probably the fundamental thing that we 06:42

16 really didn't recognize the significance of was -- as  
17 Steve Swartz pointed out, this is a long campaign.

18 These are 73 canisters, initial schedule over about a  
19 10- to 12-month period. A typical campaign that we  
20 would run in the operating plant with our AREVA system, 06:43

21 we do six canisters maybe every other year. So you have  
22 a campaign, you put a crew together, you train them, you  
23 have basic procedures, and they could successfully do  
24 six canisters, because you had no turnover of people,  
25 you had a lot of continuity. Well, we didn't anticipate 06:43

1 and handle effectively -- and it's our responsibility 06:43  
2 and Holtec's -- we didn't prepare for the fact that over  
3 a course of say 10 or 12 months people would rotate in  
4 and out. So some of the heavily experienced crews up  
5 front that were doing this easily, successfully, 06:43  
6 recognizing issue, we wound up with less experienced  
7 people, and we didn't spot that.

8 UNKNOWN SPEAKER: Why did they have to rotate out,  
9 Tom?

10 MR. PALMISANO: Let me finish. And there will be a 06:43  
11 facilitated question. Yeah.

12 So we didn't spot that and prepare adequately  
13 for that. It's not that we didn't think about it, we  
14 had fatigue breaks scheduled, we had a lot of things to  
15 make sure people could perform well. What we didn't 06:43  
16 recognize is less experienced people came into the crews  
17 due to other commitments, the training and procedures  
18 weren't adequate to allow them to do it as successfully.  
19 That's essentially what's underneath all this when you  
20 really think about it. And that's a management issue. 06:44  
21 Okay?

22 I can tell you the crew failed to perform, and  
23 that's true, but at the end of the day it really comes  
24 down to management on the part of us and Holtec as to  
25 really what set this up. Okay? This is why we've taken 06:44

1 as long as we have and will continue to take as long we 06:44  
2 have until we're satisfied we've got the right things in  
3 place.

4 UNKNOWN SPEAKER: So tell us what you're doing --

5 DR. VICTOR: Please. 06:44

6 UNKNOWN SPEAKER: -- to adjust that.

7 DR. VICTOR: That's what he's doing. He's trying to  
8 do it.

9 MR. PALMISANO: So I'm going to talk further at the  
10 end of this in terms of -- 06:44

11 UNKNOWN SPEAKER: So normally management gets fired  
12 when they screw up. Are you going to offer your  
13 resignation?

14 DR. VICTOR: Can you please let him just talk about  
15 the -- 06:44

16 MR. PALMISANO: So I'm going to get to the actions  
17 in a minute. Thank you.

18 So there's some specific questions I've put in  
19 the deck that have been asked that I want to make sure  
20 as we go through this. First -- and this gets to what 06:44

21 the NRC was talking about -- have the Holtec UMAX  
22 canisters been analyzed for a postulated drop? As was  
23 pointed out, the certificate of compliance, the Holtec  
24 certificate for this system did not require a drop

25 analysis to be done. Okay? We wound up in a case where 06:45



1 we essentially bypassed the single failure proof 06:45  
2 capability and created a drop scenario. So we have done  
3 a drop analysis. We have had Holtec do it. We've  
4 reviewed it and NPR's reviewed it. It was done for the  
5 specific SONGS MP-37 canister in the UMAX structure. 06:45  
6 And is demonstrates that the canister can withstand a  
7 25-foot drop with no breach. Okay?

8 Now, there's some comment out there about a 2007  
9 New Reg 1864 analysis that predicts about a 29 percent  
10 chance of a canister breach. We've dissected that 06:45  
11 thoroughly with Holtec and NPR and the NRC. That was  
12 done on a different canister that is built differently,  
13 that responds differently to a drop. Our canister  
14 analysis, our canister is -- the internals are  
15 different; there's not a ridged welded structure; the 06:45  
16 closure welds of the lid are different; it absorbed more  
17 energy in the drop, meaning it is less likely to fail  
18 during a drop. That's the difference between the MPC-37  
19 and the MPC-68 that was the subject for that new reg.

20 So that explains that question that came up about what 06:46  
21 this new reg says this. Okay. As I said, the MPC-37  
22 can absorb more energy, less susceptible to damage.

23 We've provided all that analysis to the NRC,  
24 answered several rounds of questions, and they are  
25 completing the review as part of their ongoing 06:46

1 inspection activity. And then we'll post a 06:46  
2 non-proprietary summary of this analysis on the  
3 San Onofre website. This is the -- so that's the  
4 hypothetical drop.

5 Now, Canister 29 did not suffer a drop. So 06:46  
6 after adjusting the rigging, we lifted the canister,  
7 recentered it, lowered it, and there was no damage to  
8 the canister, the fuel assembly, the fuel pellets, no --  
9 no risk of release to the public. Not only was the  
10 canister not dropped, it would not have breached and 06:47  
11 would not have released radioactivity.

12 UNKNOWN SPEAKER: How did you inspect it, Tom, when  
13 you can't --

14 DR. VICTOR: Can you let him --

15 MR. PALMISANO: Next question -- 06:47

16 DR. VICTOR: -- finish his presentation? And those  
17 questions are part of the questions asked.

18 MR. PALMISANO: So what are the consequences had the  
19 canister dropped? Okay. So I've told you, you know,  
20 the canister didn't drop. Had the canister dropped, 06:47  
21 again, our analysis shows the canister would have not  
22 breached. That's important because the fuel assemblies  
23 inside would have suffered some extent of damage. The  
24 canister's confinement boundary would have stayed  
25 intact. We would have expected some damage to fuel, 06:47

1 fuel rods. Some of the pellets would have been 06:47  
2 released to the bottom of the canister. We've done  
3 that analysis. The confinement boundary would have  
4 been maintained. The fuel assemblies would have stayed  
5 in a coolable geometry, they would have been adequately 06:47  
6 cooled, continued to remove heat, and the assembly  
7 would have stayed subcritical. So had the canister  
8 dropped, it would have damaged fuel assemblies; it  
9 would not have breached and would not pose a hazard to  
10 the public. 06:48

11 UNKNOWN SPEAKER: Fuel assemblies?

12 UNKNOWN SPEAKER: You hope so.

13 DR. VICTOR: Please, please, let's just continue  
14 the --

15 MR. PALMISANO: Again, if the canister had dropped, 06:48  
16 we would have damaged fuel assemblies inside, but we  
17 would not have breached the canister so there be no  
18 release of radioactivity.

19 UNKNOWN SPEAKER: What percentage of confidence do  
20 you have in that prediction? 06:48

21 DR. VICTOR: Tom, can you please finish --

22 UNKNOWN SPEAKER: I'd like to know what percentage  
23 of confidence he has in these --

24 DR. VICTOR: These -- so now --

25 UNKNOWN SPEAKER: It's a reliability, it's a 06:48

1 mathematical prediction -- 06:48

2 DR. VICTOR: Ma'am, can you please.

3 UNKNOWN SPEAKER: -- a failure vote which affects

4 analysis --

5 DR. VICTOR: Can we -- 06:48

6 UNKNOWN SPEAKER: -- and there's a predict --

7 DR. VICTOR: Ma'am, can you please let him make his

8 presentation?

9 UNKNOWN SPEAKER: Well, he doesn't get up on

10 adequate presentation. So I want this information 06:48

11 disseminated.

12 DR. VICTOR: I'm sure there's a range of views about

13 that.

14 Tom, can you please continue your presentation?

15 MR. PALMISANO: So then next question, this 06:48

16 hypothetical drop, what would we do? Okay. At some

17 point, again with the canister intact, the fuel cooled

18 adequately and subcritical, we would have worked out a

19 method to license a special transport cask likely to

20 ship it off-site to a national lab to be opened and 06:49

21 unloaded off-site as opposed to on-site. There would

22 be no reason to do this quickly and no reason to feel

23 you've got to do this on-site. So that's the approach

24 we would take. Okay.

25 So Canister 30. I talked about this before. So 06:49

1 Canister 30 has completed most of its loading process. 06:49  
2 It has 37 fuel assemblies in; it has been sealed and  
3 welded, it has been dried and is filled with helium. It  
4 is currently in its transfer cask seismically restrained  
5 to the Unit 3 fuel building. Okay? We stopped and 06:49  
6 decided -- when we recognized the event, we decided we  
7 were not going to transport that to the UMAX and go  
8 through the downloading because we did not sufficiently  
9 understand the problems we were having at the time. So  
10 we have kept it in that condition. As I said, it's 06:49  
11 seismically restrained. The high track itself provides  
12 adequate cooling and shielding, it just dissipates heat  
13 through the transfer cask. And that's the position it  
14 remains in. It's in full compliance with its license  
15 requirements. The NRC is well aware of the status of 06:50  
16 this canister. So when we do resume fuel handling, this  
17 will be likely the first or second canister we move to  
18 actually download it to the UMAX since it's ready to go.  
19 So scratches to the canister exterior. Cause of  
20 concern for corrosion. We've talked a lot about 06:50  
21 chloride stress corrosion cracking. That is the  
22 long-term aging mechanism that we're going to worry  
23 about in any stainless steel canister. We do know that,  
24 you know, when a canister is downloaded into a vertical  
25 system, there is incidental contact with the structure 06:50

1 as it passes through. In our case that shield ring has 06:50  
2 a very tight clearance so we know it contacts that as it  
3 goes through. And then as it goes down the remainder of  
4 the 25 foot to the bottom of the canister, there's some  
5 incidental contact. That's typical of any vertical 06:50  
6 canister system. Tolerances may vary, but you typically  
7 have incidental contact. So we've looked at that  
8 specifically. Number 1, we've talked before, we've  
9 chosen the highest grade of stainless steel for  
10 corrosion resistance, given the environment that we've 06:51  
11 in. We have a thicker canister, five-eighths of an inch  
12 thick. There may be some scratches in the canister just  
13 from the normal handling, not -- nothing to do with  
14 being wedged, just from the normal download process.  
15 We've analyzed this, these -- these scratches are 06:51  
16 shallow, they do disturb initially -- there's an inert  
17 oxide layer, a chromium oxide layer, that's initially  
18 disturbed. But in our environment where you've got a  
19 hot canister with fuel in a generally dry enclosure like  
20 the cavity and enclosure container, the oxide layer 06:51  
21 reforms fairly quickly. It's almost in a self-healing  
22 sense. So when the oxide layer reforms fairly  
23 quickly -- and this does not give us any short-term  
24 concern for the condition of the canisters. The  
25 canisters themselves, we have aging management programs 06:51

1 that are going to come online for AREVA in 2022 and for 06:51  
2 Holtec a similar program in 2020 that addresses the  
3 long-term viability of these canisters at future  
4 inspection protocols, et cetera. And I see the Holtec  
5 UMAX inspection maintenance 2020, the AREVA new homes 06:52  
6 [sic] in 2023. So we've looked at this; we've provided  
7 the information to the NRC; we've had our third partner  
8 review it from a corrosion standpoint. We have no  
9 short-term concern with any scratches on the canister.

10 DR. VICTOR: I wanted to say we've put on the agenda 06:52  
11 for next year to have a fresh look at these aging  
12 management programs.

13 MR. PALMISANO: Right.

14 DR. VICTOR: Right.

15 MR. PALMISANO: So I'm going to shift over to the 06:52  
16 path forward. I'm going to talk more about the  
17 corrective actions now. This gets more into what are  
18 we doing about it.

19 So first of all, training. Better training  
20 programs, retraining crews. So let me broaden this, 06:52  
21 talk about people in general. So we've looked closely  
22 at the staff. And when we were doing the downloading,  
23 we only had two people at the crane, a spotter in the  
24 basket to watch the top of the canister and the crane  
25 operator. And, quite frankly, we had moved the rest of 06:53

1 crew farther away to minimize radiation exposure. We 06:53  
2 erred in that we moved too many people too far away, and  
3 there was nobody to be a second check, if you will, if  
4 somebody missed something, it went unrecognized. So  
5 under this tile, but first, we've improved our crew 06:53  
6 staffing, bringing on more experience. We've  
7 significantly rewritten the training program. So we've  
8 taken what might have been adequate training procedures  
9 for a shorter campaign, we've rewritten them to be  
10 significantly more detailed in terms of training. So 06:53  
11 the crews are trained properly. And as we need to bring  
12 new people into the job over the course of the time,  
13 they go through a more thorough training program so we  
14 don't wind up with somebody with less experience and --  
15 and minimal training or inadequate training to perform a 06:53  
16 download activity. Related to the staffing also is  
17 improved supervision for the actual activities.  
18 Let me shift next to procedures. So what's  
19 really important here is, again, procedures that were  
20 typically used in the industry for other downloads, we 06:54  
21 had used them, they gave basic guidance on how to  
22 conduct the activities. As we look at this, we need to  
23 match the people, the experience, the training and the  
24 procedures. So in addition to much more detailed  
25 training, we've written much more detailed procedures. 06:54



1 We've taken procedures and added a number of steps. Let 06:54  
2 me give you one example just in a procedure in the  
3 download, the download procedure -- and used very  
4 simply -- called for, you know, the canister to be  
5 lifted, the door to be opened, the canister to be 06:54  
6 lowered down, and just gave some basic precautions.  
7 Right? Now, the new procedure that we'll be practicing  
8 with and doing our dry runs with, that the NRC will get  
9 a chance to inspect and observe, will have us start the  
10 download, stop above the shield ring, a main 06:54  
11 interference point, check the load, proceed past it,  
12 confirm the load, make sure that the canister doesn't  
13 wedge, doesn't take the load off the slings. So we've  
14 put more detail in there based on what we've learned of  
15 the event that will help an adequately trained person 06:55  
16 perform the job successfully. Additionally, we've got  
17 more supervisory checks built into the procedures, more  
18 second checks to make sure if I'm the one watching the  
19 load monitoring, maybe David is a second check or  
20 required to confirm the load monitoring before 06:55  
21 proceeding. We didn't have that level of redundant  
22 checks built into the procedures originally. So that's  
23 an example.  
24 Let me shift over to equipment. So equipment --  
25 the mobile crane that we use has load monitoring 06:55

1 capability -- and it's used, it's on a computer 06:55  
2 screen -- the crane operator has to shift through a  
3 couple of computer screens to watch how the crane's  
4 running, what the indication's are, one screen shows in  
5 the load. He's got to shift to that screen 06:55  
6 periodically, and if he doesn't shift at the right time,  
7 he did miss, and he may miss, and he did in this case  
8 fact that the load came off the slings because it was  
9 resting and wedged in the structure.

10 UNKNOWN SPEAKER: Did you model -- 06:56  
11 DR. VICTOR: Please let him finish.  
12 MR. PALMISANO: So anyway --

13 UNKNOWN SPEAKER: Why didn't you have more monitors?  
14 DR. VICTOR: Let him finish his presentation.

15 MR. PALMISANO: What we're fixing now is in the 06:56  
16 independent redundant load monitoring that's going to  
17 have multiple displays, so multiple people can monitor  
18 the load, with alarm functions so we don't set an  
19 operator up to where we're relying on a single person  
20 looking at the load monitor. We're going to have 06:56  
21 multiple independent load monitoring.

22 Additionally, the spotter in the basket watching  
23 the top of the canister moved himself back out of the  
24 way, thinking he's minimizing his radiation exposure,  
25 but lost visual contact with top of the canister. So 06:56

1 we're going to mount a camera there, again, that will 06:56  
2 display on multiple locations so multiple people can  
3 follow the top of the canister down. And we're going to  
4 add alarm functions on the load monitor so it's clear  
5 as -- as this is a 50-ton cask or canister, as it's 06:57  
6 lowered if there's a significant decrease in load an  
7 alarm goes off and we stop so we don't wind up in an  
8 unsupported position.

9 I want to shift over to oversight. So this is  
10 not the crew and the crew supervision, this is really 06:57  
11 the oversight we provide. We have oversight on the job.  
12 We didn't position it in the right place for this  
13 activity. As we look at their experience and guidance,  
14 we had experienced fuel people but not necessarily as  
15 experienced for downloading operations for Holtec 06:57  
16 equipment. So we're going to add and have added more  
17 additional oversight people with more detailed  
18 instructions and more detailed training that will allow  
19 them to function more effectively. Then there's a  
20 management oversight piece, those of us who oversee the 06:57  
21 overall operation, ensuring that are more intrusively  
22 engaged.

23 I do want to mention when you look at the  
24 seven-day process we've took a step back and looked hard  
25 at what happened here. And part of our learning is we 06:58

1 put a lot of oversight and time into the activities of 06:58  
2 handling fuel assemblies, putting the canisters, welding  
3 the canisters, drying the canisters. We judged that was  
4 the riskiest part of the evolution. We didn't put the  
5 same oversight into the back end download, an error on 06:58  
6 our part, something we've learned. So we balance our  
7 management oversight more effectively across the entire  
8 cycle.

9 We move to corrective action program. So  
10 remember when I talked about the July event, although 06:58  
11 the canister did not get wedged and rested unsupported,  
12 it did have many of the precursors, the difficulty in  
13 aligning the canister, you know, bumping the shield ring  
14 a couple of times where they had lift up and realign it.  
15 Had we recognized that and understood that sufficiently, 06:58  
16 we would have fixed that before the August 3rd event.  
17 So that's use of that corrective action system.

18 UNKNOWN SPEAKER: That's your defective design --

19 DR. VICTOR: Please just continue.

20 UNKNOWN SPEAKER: That's not -- 06:59

21 DR. VICTOR: Please, please let him continue.

22 UNKNOWN SPEAKER: That's an engineering problem.

23 DR. VICTOR: Please let him --

24 MR. PALMISANO: That's use of the corrective action  
25 system by multiple disciplines. 06:59

1 UNKNOWN SPEAKER: He's not addressing the issues. 06:59  
2 He's not --  
3 DR. VICTOR: Tom, would you please -- can you let  
4 him finish?  
5 How is the public interest -- 06:59  
6 UNKNOWN SPEAKER: Shame on you, David.  
7 UNKNOWN SPEAKER: How is the public interest  
8 served --  
9 UNKNOWN SPEAKER: Yeah, you're just trying to neuter  
10 the public. You don't want us speaking, David. Shame 06:59  
11 on you.  
12 DR. VICTOR: You know, I'm asking him for his part  
13 of the agenda to make his presentation. And then we  
14 have comments and questions, and there are lots of  
15 opportunities for other people to ask questions. 06:59  
16 Could we allow --  
17 UNKNOWN SPEAKER: We just had a nuclear disaster,  
18 and we're getting a dog and pony show.  
19 DR. VICTOR: Tom, can you please --  
20 UNKNOWN SPEAKER: David, you can do better. You're 06:59  
21 smarter than this. Come on, David.  
22 MR. PALMISANO: So specific actions. Okay? This is  
23 somewhere where I'm already narrowed it. More  
24 detail -- more specific training, more detailed  
25 procedures revised downloading alignment and multiple 06:59

1 observers. Getting the initial alignment set for the 06:59  
2 mating device to bolt it down and the hydreactors [sic]  
3 bolted to it when the crane is initially positioned.  
4 The better that initial alignment is, the easier the  
5 download goes, the less chance of interference. 07:00

6 I talked about the independent redundant load  
7 monitoring feature. We're adding camera indications and  
8 alarms on the load monitor, additional staff with more  
9 specific Holtec downloading experience and more specific  
10 training for our oversight people. 07:00

11 New procedures in load monitor and retraining.  
12 So we're going to train all the crews on the new  
13 procedures and new load monitoring, more detailed  
14 training, we're going to take them all through dry runs  
15 of the activities to ensure that their training is 07:00  
16 sufficient and their procedures are sufficient so they  
17 can recognize the conditions and perform the job  
18 successfully.

19 Our independent assessment team will be back on  
20 site in December to assess both training and observe the 07:00  
21 dry runs, check the adequacy of the procedures, and  
22 provide feedback to us. When I say dry runs, those are  
23 practice runs, same terminology. We're going to  
24 validate the training, the procedures, the load  
25 monitoring, we'll have that independently assessed. And 07:01

1 finally, NRC inspection activities will have an 07:01  
2 opportunity to observe these final practice runs,  
3 because it's important that we get this right and we're  
4 satisfied and make sure the NRC has an opportunity to  
5 complete their inspection and conclude whether our 07:01  
6 actions were effective.

7 UNKNOWN SPEAKER: You're asking workers to  
8 compensate for defective engineering and design.

9 DR. VICTOR: Tom, can you continue --

10 MR. PALMISANO: So in terms of timeline. Let me 07:01  
11 talk in terms of timeline. Okay?

12 So as we sit here at the start of December, we  
13 are completing the training over the next week and a  
14 half. We're going to perform a set of practice runs  
15 around December 11. We'll perform another set around 07:01  
16 December 17. I show NRC inspection that's tentative,  
17 we've communicated the schedule to the inspection team,  
18 they have not finalized their plans. We will obviously  
19 make sure we run practice runs when their team is  
20 available. We'll take a break over the holiday. As we 07:01  
21 regroup, then, in January, we'll ensure people are  
22 staffed, people are trained, practice runs are effective  
23 before we, Edison, get final approval to restart. So  
24 right now I would forecast restarting sometime in the  
25 latter part of January. 07:02

1 DR. VICTOR: Thank you very much. 07:02

2 I want to have a chance for detailed specific  
3 questions of Tom. Then we're going to open it up for  
4 questions for both Tom and Scott.

5 But first I have a message from a higher 07:02

6 authority, which is that if you're parked next to the  
7 church -- higher authority -- you need to move your car  
8 right now. So if you're parked next to the church,

9 please, apparently that was not the right spot to park  
10 so please move your car or the higher authority will 07:02

11 move it for you.

12 Specific question -- what?

13 UNKNOWN SPEAKER: There's insufficient parking here  
14 by the way.

15 DR. VICTOR: I agree. There are a lot of things 07:02

16 hard in life, and parking is one of them. And we've  
17 got to do a better job of parking.

18 Specific question for Tom. Paul?

19 Paul Wyatt.

20 MR. WYATT: I have two things I'd like to follow up 07:03

21 on. One, I'm -- I won't disagree that training is  
22 helpful. I am concerned, though, it's the -- it's the  
23 fact that it's an ongoing long period task that's  
24 really at issue. As the operators become familiar with

25 it and repeatedly do it, they become less conscious 07:03



1 about every action taken. So when you're only moving a 07:03  
2 few canisters a year, it doesn't happen often so you're  
3 very cautious. When you start to move now 30, 29, and  
4 with 44 more to go, no matter what training, they will  
5 become familiar and people operating it will expect 07:03  
6 what happens to happen normally and won't pay enough  
7 attention. With the sophistication and that money  
8 spent here alarming an instrument and your -- you had  
9 to lower that canister 22 feet, more or less, from top  
10 to bottom, and you wouldn't relieve the load until it 07:04  
11 was, you know, a given distance and you would know how  
12 far down you would have to be. So, you know, visual  
13 and audio alarms that said if your load changes before  
14 that amount of transit is made is a fairly  
15 straightforward implementation that I would suggest in 07:04  
16 terms of instrumentation to look into. That's one  
17 corrective action.

18 MR. PALMISANO: I appreciate that. And I touched on  
19 it but probably didn't get into detail.

20 In the procedure our techs, where it's going to 07:04  
21 stop and monitor the load, where the known interference  
22 point is, and we have limits now on the load that will  
23 continuously monitor. Again, we should not see it  
24 offload until it's seated fully. So we've got checks to  
25 make sure if there's any significant change in load, we 07:05

1 stop, we understand it, and then -- 07:05

2 MR. WYATT: Because it will stop -- I mean, they

3 will see what they expect to see without looking

4 carefully over time, if you repeat a job. I don't

5 think it's -- it's turnover of staff as much. In fact, 07:05

6 a new operator may be more conscientious in some way

7 than one who's done it 20 times. So I think you need

8 to really give them the tools so that they can't

9 miss --

10 MR. PALMISANO: I agree. We agree, and we have done 07:05

11 that, yeah.

12 MR. WYATT: The second issue: Had the drop occurred

13 you said you didn't think it would breach the canister;

14 however, you would damage the fuel, possibly releasing

15 pellets and stuff. There's stand off in the bottom of 07:05

16 canister required for air circulation, five or

17 six inches or so.

18 MR. PALMISANO: Yeah, they sit on spacers.

19 MR. WYATT: Yeah, sit on spacers.

20 Would it be possible that enough pellets dropped 07:05

21 to -- to basically remove that space or fill that space

22 so that air couldn't circulate? We would want to know

23 if that were possible.

24 MR. PALMISANO: So earlier in the year when Holtec

25 had this generic shim pin issue design we analyzed the 07:06

1 canister for no circulation. Most of the heat removal 07:06  
2 is just basically helium, which conducts heat very  
3 well. Heat is just conducted from the fuel assemblies  
4 through the structure through the canister walls.  
5 Recirculation assists in that, but calculationaly it's 07:06  
6 not much of a factor. Our canisters are loaded with a  
7 low enough heat load, even if I had no helium  
8 recirculation, the canisters stay -- the fuel stays  
9 within the temperature limits. That's an analysis we  
10 discussed back in June. 07:06  
11 UNKNOWN SPEAKER: So the hottest canisters ever  
12 loaded --  
13 DR. VICTOR: So I want to just say I've got four  
14 very quick questions. Then we're going to go to the  
15 questions for both you and Scott. 07:06  
16 First one: When will the drop analysis be made  
17 public? I understand there's some proprietary  
18 information of Holtec's analysis, that you had an  
19 independent group MSR do this analysis. I've asked to  
20 see this. We really need to make the drop analysis -- 07:07  
21 MR. PALMISANO: The proprietary summary is virtually  
22 in final review and ready to go. We should have that  
23 posted next week.  
24 DR. VICTOR: Okay. Thank you.  
25 Second, what is being done across the industry? 07:07

1 You talked about improving confidence inside the 07:07  
2 company, but the industry is using the Holtec devices in  
3 other places. In fact, Holtec is going into the  
4 business of decommissioning. How is the industry  
5 learning across industry? 07:07

6 MR. PALMISANO: So -- good question.

7 And one of the failures that Holtec identified  
8 in their processes, you know, they load canisters at  
9 many different sites, that they are not sharing across  
10 their different projects or sites as effectively. For 07:07  
11 example, they identified that they used cameras or TVA  
12 at a Tennessee plant, yet our folks are not using  
13 cameras. So what Holtec is doing is Holtec for their  
14 fleet of plants as a Holtec users group they have  
15 stepped up significantly to share lessons, whether 07:08  
16 they're design issues or procedure issues or training  
17 issues, across their fleet.

18 DR. VICTOR: Okay. I --

19 MR. PALMISANO: And, you know, the other vendors are  
20 doing something similar. 07:08

21 DR. VICTOR: I would welcome members of the panel  
22 and the public sharing concerns you have about -- with  
23 Edison -- about how what Holtec is doing as part of  
24 this. You outlined what Edison is doing in overseeing  
25 Holtec. It seems to me it would be very helpful for us 07:08

1 to make Holtec more aware of how much attention there 07:08  
2 is to them as a subcontractor and to their need to move  
3 this information around the industry.

4 UNKNOWN SPEAKER: How about holding then  
5 accountable? 07:08

6 MR. PALMISANO: We'll do that. Trust me, Holtec is  
7 very aware of this issue and what we're going through.  
8 What I narrated here is a combination of both Holtec  
9 and Edison actions. Procedures, training are being  
10 jointly done by Holtec and Edison. So they are very 07:08  
11 much --

12 UNKNOWN SPEAKER: How can we trust you Tom?

13 DR. VICTOR: And the fourth --

14 UNKNOWN SPEAKER: How can we trust you in any, way  
15 shape or form? 07:09

16 DR. VICTOR: Okay. Then the fourth and last  
17 question, then I want to go to questions to both you  
18 and Scott, is: It seems to me that we don't know right  
19 now what it looks like in January. But if you do these  
20 trial runs and the NRC is out here inspecting, 07:09  
21 hopefully NRC has a little more inspection presence at  
22 the fuel restart, fuel offloading begins again, at  
23 minimum we need to get some kind of summary of kind of  
24 where, both -- not just on each of the individual  
25 elements, but the system of engineering personnel, 07:09

1 management, so that people can understand what the 07:09  
2 whole system looks like and what's improved and not  
3 just the individuals element.

4 MR. PALMISANO: Yes, and we can do that.

5 One of the things we certainly will commit to as 07:09  
6 we get ready to restart and restart, we will keep the  
7 communication panel and the public well informed.

8 Let me think about what your request is to what  
9 the whole system looks like. I realize I'm hitting  
10 specific items. 07:09

11 DR. VICTOR: Right. No, I just think -- I think --  
12 because it's always easy when something goes wrong on a  
13 complex engineering problem to think about this as an  
14 engineering problem or a people problem or a management  
15 problem, but it's a system problem. I think we need to 07:10  
16 understand what the system is going to have more what  
17 we call defense-in-depth, more layers of defense, more  
18 robust.

19 UNKNOWN SPEAKER: This was a predictable problem.

20 DR. VICTOR: So -- okay. I think we want to put 07:10  
21 questions to you and Scott together. So you can sit  
22 down, please. And then I'm going to give the floor to  
23 Jerry and to Dan.

24 I think the plan is that we are going to as a  
25 few questions, and then we're going to got a few 07:10

1 answers, and we're going to go back and forth here. 07:10

2 And one last thing about this is, which is that  
3 I have asked that all the questions that have been  
4 submitted be posted along with some categorization of  
5 which are about the downloading incident and not, I am 07:10  
6 not able to log in to check to see whether that's  
7 happened, but if it has not happened already, it will  
8 happen by tomorrow morning. I'll make sure.

9 MR. KERN: What we have, we have 15 questions on the  
10 blue cards, and we're going to take those. We still 07:10  
11 have about six or seven that we asked through the  
12 website that weren't addressed or weren't on topic for  
13 tonight's meeting. So in some of the ones got of the  
14 15 questions, Tom actually answered in his -- they were  
15 probably written before Tom presentation's. So those 07:11  
16 questions have been answered. So what we're going to  
17 do is try to ask the questions that haven't been  
18 addressed in the next few minutes. And hopefully get  
19 to that.

20 So I'm going to start off -- and Dan and I will 07:11  
21 problem tag team this back and forth -- we're going to  
22 go through the website questions first. Then we'll go  
23 to the live -- the questions submitted tonight.

24 So the first one -- and hope that -- I'm just  
25 going to read it. So I'm not quite sure where the 07:11

1 question is in this, but I'll do the -- where the 07:11  
2 gussets attach to the inner ring of the shell, there's a  
3 lip that should not be there. If this machining and  
4 design flaw isn't corrected, it's likely to cause future  
5 problems with properly guided canisters into the divider 07:11  
6 shelf or storage. The gussets, to my understanding, are  
7 for the purpose of guiding the canister as it descends,  
8 and the lip could cause the canister to be misguided.

9 I -- Tom, is there something in there that you  
10 can address? 07:12

11 MR. PALMISANO: Yeah, the gussets are these  
12 triangular pieces that help provide support to the  
13 shield ring. So the shield ring is a very robust piece  
14 welded to the divider shell supported by the gussets.  
15 The gussets are not designed as guides, per se, it's 07:12  
16 really support for the shield ring. There is no  
17 designed lip in there. Now, there are manufacturing  
18 tolerances and differences that give -- the gusset  
19 could end just a short distance from the edge of the  
20 shield ring, but there's not a design lip, if you will, 07:12  
21 between the edge of the gusset and the internal  
22 diameter of the shield ring.

23 UNKNOWN SPEAKER: There's a quarter inch --

24 UNKNOWN SPEAKER: That's serious design engineering  
25 flaw. 07:12



1 MR. STETSON: Tom, as you recall, when the shim 07:12  
2 incident happened, SCE came out very early with  
3 reports. That was not the case in this situation. The  
4 question is: How can the public be assured that safety  
5 incidents, events, reports are filed immediately as 07:13  
6 required by federal law and advising the public  
7 accordingly?  
8 MR. PALMISANO: Yeah, good question.  
9 As I said August 9th when the issue came up, we  
10 failed to recognize the public interest in this and 07:13  
11 disclosure of it properly as we had done the shim pin  
12 issue.  
13 UNKNOWN SPEAKER: Oh, give us a break.  
14 UNKNOWN SPEAKER: Tom -- Tom, the public interest is  
15 \$1 trillion of uninsurable loss. 07:13  
16 DR. VICTOR: Can you let him finish?  
17 MR. PALMISANO: So we failed to disclose that --  
18 MR. KERN: Let's ask the questions. Let's let him  
19 answer.  
20 UNKNOWN SPEAKER: Well, let us ask the questions 07:13  
21 because --  
22 MR. KERN: Madam, you had -- these cards have been  
23 sent back to all you people --  
24 UNKNOWN SPEAKER: You're just trying --  
25 MR. KERN: -- if you want to write the questions 07:13

1 out, line up. 07:13

2 UNKNOWN SPEAKER: That's what you're trying --

3 DR. VICTOR: No. Please. Please.

4 UNKNOWN SPEAKER: Shame on you guys, trying to --

5 MR. KERN: This is our first attempt. 07:13

6 UNKNOWN SPEAKER: -- for SEC. You are the

7 propaganda apparatus for Southern California Edison.

8 Shame on you, David.

9 UNKNOWN SPEAKER: -- prevent you from getting the

10 facts. 07:14

11 DR. VICTOR: Can we let him -- do you have a

12 question?

13 MR. KERN: This is our first attempt of doing this.

14 Right? To actually have on-target questions for an

15 agenda item. If it doesn't work, we get away from 07:14

16 that, and we just go back to your three minutes at the

17 end, and you don't get to do that.

18 UNKNOWN SPEAKER: It doesn't work.

19 MR. KERN: We haven't tried it. We've had two

20 questions. 07:14

21 DR. VICTOR: Let's continue forward, because these

22 are important questions. These are questions from the

23 public that are important questions. Let's ask them.

24 MR. PALMISANO: So in terms of the latter part of

25 the question in terms of reporting to the NRC properly, 07:14

1 we strive to do that correctly. The NRC felt in this 07:14  
2 case we were required to make a formal report, that was  
3 not our judgment initially. After we met with the NRC  
4 team, convinced us, and we then made the formal report.

5 As I had noted and as the NRC noted, we 07:14  
6 informally briefed them quickly and regularly. But we  
7 missed -- in their opinion that's the subject of one of  
8 the apparent violations, and we'll deal with that with  
9 the NRC.

10 UNKNOWN SPEAKER: Shame on you, Tom. Shame on you. 07:15

11 MR. PALMISANO: Our other reporting, we made sure we  
12 meet the requirements, and that is inspected regularly  
13 by the NRC.

14 MR. STETSON: So, Tom, as a follow-up to this  
15 question: Were you not required to file with the NRC 07:15  
16 with reference to the incident that happened on  
17 July 22nd?

18 MR. PALMISANO: That is correct. It was not a  
19 reportable event.

20 DR. VICTOR: Can I just ask specific to this, it 07:15  
21 seems to me that one of the things we've learned from  
22 this is that the threshold for reporting information  
23 about, in this case downloading incidents, but it might  
24 be something different next time, the threshold should  
25 be somehow lowered so that the industry can do a better 07:15

1 job of learning what's going on? It seems like that's 07:15  
2 something we should be carrying back to Washington as  
3 part of this process.

4 MR. KERN: So the next question is also through the  
5 website: Why doesn't Edison reject the system that 07:15  
6 they've purchased from Holtec immediately based on  
7 recent revelations mentioned above? If they don't,  
8 they will nullify the warranty simply by continuing to  
9 use the flawed system without question, releasing  
10 Holtec from any liability of their inferior design. 07:16

11 UNKNOWN SPEAKER: Exactly.

12 MR. PALMISANO: So do not agree that it's overall an  
13 inferior design.

14 UNKNOWN SPEAKER: We do.

15 MR. PALMISANO: The system provides exceptional 07:16  
16 protection and shielding to the canisters. The --  
17 there is a tight tolerance that can be a challenge,  
18 obviously, for the operators. It needs to be navigated  
19 by training and procedures in this case. And the --  
20 the activities that have occurred have not affected the 07:16  
21 warranty that Holtec provides for the canisters.

22 UNKNOWN SPEAKER: Every canister is damaged, eroded  
23 in the hole.

24 DR. VICTOR: Please. He's addressed the issue of  
25 scraping during the loading. 07:16

1 Dan, next question? 07:16

2 UNKNOWN SPEAKER: He didn't address it.

3 UNKNOWN SPEAKER: He didn't answer my question

4 about --

5 DR. VICTOR: Can we let him finish the question? 07:16

6 UNKNOWN SPEAKER: He said he's going to answer it by

7 the end of his presentation, and he didn't do it.

8 DR. VICTOR: How does it serve the public interest

9 to continue to interrupt --

10 UNKNOWN SPEAKER: Because we want to hear -- 07:16

11 UNKNOWN SPEAKER: Because it's important to

12 understand why he can't --

13 UNKNOWN SPEAKER: -- that's how it serves the public

14 interest.

15 DR. VICTOR: Why don't we let the questions be 07:17

16 asked?

17 UNKNOWN SPEAKER: Why doesn't somebody on the panel

18 with some integrity ask him the question for us?

19 UNKNOWN SPEAKER: Yeah.

20 DR. VICTOR: I think insulting people's intelligence 07:17

21 and their integrity is probably not a good strategy

22 going forward.

23 Dan, can you please ask your question?

24 UNKNOWN SPEAKER: Well, it would be a good strategy

25 of you guys had some integrity. 07:17

1 DR. VICTOR: Dan? 07:17

2 MR. STETSON: Tom, how many near misses have

3 actually occurred? It appears near misses happen all

4 the time, but the public and the Community Engagement

5 Panel has been kept in the dark by SCE with full 07:17

6 cooperation of the NRC.

7 MR. PALMISANO: I don't agree with the statement.

8 Near misses are not common. Again, the NRC inspects

9 regularly, and we have not had numerous near misses.

10 So I disagree with the statement. 07:17

11 MR. KERN: Next one is: Was Canister 29 inspected

12 completely before loading was completes?

13 MR. PALMISANO: It was inspected prior to putting

14 fuel in it. If the questions is after it was wedged

15 was it inspected, no. It was lowered down in position 07:17

16 successfully. Again, it didn't drop; it rested on the

17 shield ring. Okay? Lifted up, lowered down. We

18 viewed it from the top and viewed the shield ring.

19 There is essentially very little or no damage to the

20 shield ring. So we're satisfied, and it will be 07:18

21 entered into our future aging management program.

22 MR. STETSON: Tom, is there a video of either of the

23 two incidents that happened?

24 MR. PALMISANO: No, there is not.

25 MR. KERN: So now we're going to go to the questions 07:18

1 that were submitted tonight. 07:18

2 First one: How can SCE work with the local  
3 groups to give our community a better sense of oversight  
4 during the canister loading process? Will you work  
5 closer with the environmental groups? 07:18

6 MR. PALMISANO: Yes, we are interested in opening to  
7 communicating more frequently the status of the  
8 offloading activities and a candid discussion of what's  
9 occurring and what we're what doing about it. I think  
10 we can work in a smaller group to talk about what that 07:18  
11 may entail. As some of you know, we've had numerous  
12 people on-site with their own radiation monitoring;  
13 we've given multiple tours; we are open to engaging so  
14 people understand what's going on.

15 DR. VICTOR: We probably need to raise -- Edison 07:19  
16 needs to raise the level of information during this  
17 period of the restart process.

18 UNKNOWN SPEAKER: No, what Edison needs to do is  
19 raise --

20 DR. VICTOR: Next question. 07:19

21 UNKNOWN SPEAKER: -- the level of engineering.  
22 Raise the level of engineering.

23 MR. STETSON: Tom, at the last meeting I asked this  
24 question, but I think it's so important that it bears  
25 repeating again: What is the procedure to responding 07:19

1 to an eight-foot-high canister drop, canister rupture, 07:19  
2 both in the repair, and for dealing with both the ISFSI  
3 workers and the surrounding communities?

4 MR. PALMISANO: So asking for a canister drop that  
5 results in a breach of the canister? 07:19

6 MR. STETSON: Correct. And then also what do you do  
7 with reference to the workers -- local workers and for  
8 those in the general community?

9 MR. PALMISANO: So again, if the canister had  
10 dropped -- and our analysis shows it would not have 07:20

11 breached with a 25-foot drop -- but had it dropped, we  
12 would immediately respond to both radiation surveys and  
13 visual inspections. A canister breach -- and we've  
14 talked about this in meetings past -- the material in a  
15 canister doesn't have the driving force to be expelled 07:20

16 like an operating reactor does. Okay? This is why the  
17 risk profile is significantly reduced. It becomes a  
18 local radiation exposure and contamination event.

19 Okay? The canister dropped to the bottom of the UMAX,  
20 then it's heavily shielded. Okay? One of the 07:20

21 immediate things we would enter the emergency plan,  
22 notify NRC, notify the counties, the state, as  
23 appropriate. We would cordon off the area. We would  
24 likely initially just close the lid, that sliding  
25 cover, which would prevent any significant release of 07:20



1 material. Again, release of material is not expected 07:20  
2 because there is no driving force. Then we'd work  
3 erecting some sort of containment and then deciding  
4 what deliberate actions were needed to take to recover  
5 the canister. That would outline what the immediate 07:21  
6 actions would be.

7 MR. STETSON: Sure. Are we able -- I mean, at one  
8 of the very early meetings we had representatives both  
9 from Holtec and AREVA, and one said that they would  
10 weld it if there was a leak, and then the other said 07:21  
11 they'd probably put it in another canister.

12 MR. PALMISANO: So you've got to separate. What  
13 you're talking about there is a corrosion crack in a  
14 the canister, which is the aging management mechanism  
15 that we would worry about in canisters at San Onofre. 07:21  
16 Okay? So things like a weld repair or a patch or  
17 encapsulating a canister, those are methods that we're  
18 exploring, we talk about as we continue to develop the  
19 aging management mitigation plans. That's not a  
20 dropped canister. 07:21

21 A dropped canister's a different situation where  
22 we've got some damaged fuel. If it's a dropped canister  
23 that hypothetically breached, you are in a different  
24 situation where you're not into an immediate repair as  
25 much as you are containing it and making sure there's no 07:21

1 release of radioactivity. So it's a different 07:21  
2 situation.

3 MR. KERN: So per the NRC the damage to all the  
4 canisters, why are you still wanting to load if the  
5 canisters are damaged already? When and how will you 07:22  
6 fix damaged canisters?

7 MR. PALMISANO: Again, I think if the damage is  
8 referring to the incidental contact that causes shallow  
9 scratching, we don't see that as an immediate issue.  
10 The scratchings are shallow, well below an acceptance 07:22  
11 criteria for an acceptable scratch. The oxide layer  
12 reforms in the storage vaults. So, you know, quite  
13 frankly, we don't have a short-term concern with that.  
14 It becomes a long term aging management concern. And  
15 we've had corrosion experts look at this in terms of 07:22  
16 how the oxide layer would reform.

17 DR. VICTOR: Is it possible to share -- is it  
18 possible to share --

19 UNKNOWN SPEAKER: Well, wait a minute. That was  
20 my -- 07:22

21 DR. VICTOR: -- some of that information.

22 UNKNOWN SPEAKER: That was my question. How do you  
23 know they're shallow? The NRC inspection report said  
24 you need to be able to, you know, look at it.

25 MR. PALMISANO: Let me just answer that. 07:23

1           So by analysis, looking at the forces applied to           07:23  
2     the canister as it goes down, that and then the loading  
3     and aging management program for future inspections  
4     would confirm that.

5           DR. VICTOR:   Can we share --                                 07:23

6           UNKNOWN SPEAKER:  -- independent studies show a big  
7     difference in what you're saying and what our studies  
8     are saying.  And we have experts looking at this too,  
9     Tom.

10          DR. VICTOR:   That's -- let's make all this                 07:23  
11     information transparent, and we'll have a discussion  
12     about --

13          MR. PALMISANO:  That would be appropriate for a  
14     workshop, to really discuss the differences.

15          UNKNOWN SPEAKER:  I'd like the name of the material         07:23  
16     engineer.

17          MR. STETSON:   Tom, during your dry runs, you use a  
18     canister for practice that's -- is my understand is  
19     three inches -- three-quarters of an inch smaller than  
20     the actual canisters that you're loading.                         07:23  
21     When you go through your next run of dry runs, will you be using a  
22     canister that's the actual size?  And why or why not?

23          MR. PALMISANO:  So you're talking about our  
24     multipurpose canister.  It's basically a full-sized  
25     canister.  The difference -- the numbers I have is a                 07:24

1 half-inch less in diameter. 07:24

2 UNKNOWN SPEAKER: The report says three-quarters.

3 MR. PALMISANO: The data I have says a half-inch.

4 So I respect the report, it says something different.

5 So the simulator is used for the entire process 07:24

6 and all the load handling. It's not designed as a trial

7 fit tool just for the download. So it was fabricated --

8 I believe the answer is: Our canisters are five-eighths

9 inch thick wall thickness, which means they're a little

10 larger diameter than the simulator. 07:24

11 DR. VICTOR: Can I just ask Scott: Do you have

12 views about that process?

13 MR. MORRIS: I think I've got the lapel mic. Can

14 you hear me?

15 UNKNOWN SPEAKER: Yes. 07:24

16 MR. MORRIS: Okay.

17 So actually I have a similar question. I was --

18 so your answer was helpful. But I think in terms of

19 demonstrating a dry run -- and this is my opinion

20 only -- that it would make sense to demonstrate during a 07:24

21 dry run and use the actual -- you know, an actual

22 representation of what is going to be used during the

23 actual --

24 MR. PALMISANO: I appreciate that and --

25 MR. MORRIS: But I don't understand -- 07:25

1 MR. PALMISANO: We'll talk to the inspection team. 07:25  
2 We've had quite a bit of dialogue and discussion with  
3 them as to ensure we're not doing negative training,  
4 which means if the canister is a half-inch or  
5 three-quarter inch less in diameter that somebody 07:25  
6 doesn't have a false sense of how easy it is to --  
7 MR. MORRIS: That would be my concern.  
8 MR. PALMISANO: Yeah, so it's the negative training  
9 we should review when inspecting --  
10 DR. VICTOR: When we get this report back on what's 07:25  
11 kind of what's happened, what the system looks like  
12 before the restart, let's include some discussion in  
13 there about how you're confident that this is  
14 positively not negative training.  
15 Jerry? 07:25  
16 MR. KERN: I think, Scott, this may be for you too.  
17 Why, as the NRC states, that in their inspection report  
18 Edison is being allowed to determine their own  
19 compliance and corrective action to the violations?  
20 MR. MORRIS: Their own -- so the terms of their 07:25  
21 license are that they have to meet all of our  
22 requirements. One of them is -- one of those, not only  
23 to meet the regulations and the specific license  
24 requirements for San Onofre, but they also have to --  
25 that our expectation is that they maintain whatever it 07:26

1 is in full compliance and that they identify the 07:26  
2 problem and fix it. Once they've identified the  
3 problem, how they specifically fix it is -- is  
4 important, but it's less important than actually  
5 meeting our requirements. So we don't -- yes, we're 07:26  
6 very concerned about going to inspect the adequacy of  
7 the corrective actions, but we -- we're not  
8 prescriptive in exactly the how. It's -- it's the end  
9 result is what matters.

10 MR. KERN: I guess the underlying question here is: 07:26  
11 Who determines compliance? Is it the NRC, or is it --

12 MR. MORRIS: So we -- I'll let you finish.

13 So the question is who determines compliance.  
14 So we -- it's much like -- it's perhaps a poor analogy,  
15 but it's if you think about, you know, when you -- when 07:27  
16 you operate a motor vehicle, you're the licensed  
17 operator of the motor vehicle. Right? It's -- the  
18 issuing agency -- you have to prove to the issuing  
19 agency that you can meet all the requirements. Right?  
20 And then the expectation is that you will continue to do 07:27  
21 that. If -- if it's determined you don't, either  
22 through a self-revealing event, you have a crash,  
23 whatever, or you get pulled over because you're  
24 observed, then that's what it's like -- you know, that's  
25 when the enforcement and the root cause start work. 07:27

1 Because you don't -- you don't have a police officer 07:27  
2 sitting in the backseat with you all the time.

3 UNKNOWN SPEAKER: Maybe Edison should.

4 DR. VICTOR: So, Tom, you agree that that  
5 performance, that -- 07:27

6 MR. PALMISANO: Yes, that's basically how it works.  
7 Keep in mind that the follow-up inspections and  
8 with related -- and after restart until the inspections  
9 are completed and the NRC is satisfied, part of that is  
10 their satisfaction is it not only done what we said 07:28  
11 we're going to do and it's effective, but it complies  
12 with the requirements.

13 MR. MORRIS: Okay. Just to carry that analogy just  
14 a tad bit further, the expectation that the -- the  
15 issuing the agency has, in this case us, is that the 07:28  
16 operator will actively, proactively, identify and fix  
17 their own problems absent intervention by the NRC. And  
18 that is a process and the program that we inspect  
19 regularly.

20 UNKNOWN SPEAKER: How can you -- 07:28

21 DR. VICTOR: So can give you some orientation as to  
22 how many more questions we have so I have a -- we have  
23 three?

24 MR. STETSON: Two.

25 DR. VICTOR: Okay. 07:28

1 Jerry? 07:28

2 MR. KERN: Right. So I'll take it.

3 What -- Tom, you touched on this: The turnover

4 of experienced staff. Why can't SCE keep experienced

5 staff on the team that does the downloading of the 07:28

6 canisters?

7 MR. PALMISANO: So the staff we're talking about are

8 largely Holtec contractors and subcontractors. Okay?

9 And that's -- one of the actions is to look for more

10 continuity in retaining people longer to make sure we 07:29

11 don't have as much turnover. But the reality also is

12 people make their own decision on when they move on

13 from job to job in this world. So my point is, as we

14 look at this, there were people who rotated in who were

15 less experienced, the training was not sufficient for 07:29

16 them, et cetera. We have to not only plan on retaining

17 more experience but also plan for some rotation of

18 people. It would be unrealistic not to.

19 MR. STETSON: Scott, this question is for you --

20 UNKNOWN SPEAKER: Not a complete answer. 07:29

21 MR. STETSON: -- a request for a revocation of a

22 permit issued by the CCC, the Coastal Commission, was

23 denied because safety was not an element of their

24 jurisdiction. How can a request for revocation be

25 filed with the NRC based on the threat to public safety 07:29



1 clearly evidenced here? 07:29

2 MR. MORRIS: So I'm not familiar with that

3 particular case, and I'm not dodging --

4 DR. VICTOR: I think the question is: How would

5 somebody file for revocation of the license and permit 07:30

6 with the NRC? Not the Coastal permit, the permit to

7 operate.

8 UNKNOWN SPEAKER: Before a disaster.

9 MR. MORRIS: So there's -- we have Part 2 of our

10 regulations. Our tendency, of course, that we -- there 07:30

11 are opportunities for anybody to submit what we call

12 petitions for either enforcement or petitions for rule

13 making. That's the vehicle that would be used. And

14 that actually does happen regularly.

15 DR. VICTOR: We've been two hours with anybody 07:30

16 quoting the Code of Federal Regulations offhand. So --

17 MR. MORRIS: I didn't actually quote it. I --

18 MR. KERN: Actually the questions -- the remaining

19 questions I have have been answered within Tom's

20 presentation and the other questions. 07:30

21 So is there something else that has not been

22 covered?

23 DR. VICTOR: So I want to talk about them at the

24 end.

25 But, Dan, you have more questions? 07:30

1 MR. STETSON: So one -- and I'll paraphrase this: 07:31  
2 After the inspections are done, are those records of  
3 the inspections available to the general public? And  
4 how are they to be reached?

5 MR. PALMISANO: What inspections are you -- you're 07:31  
6 talking about NRC inspections?

7 MR. STETSON: Yes.

8 MR. MORRIS: NRC inspections are all cataloged and  
9 publicly available on our document management system  
10 that you can access -- you can access that directly 07:31  
11 from the home page of our website.

12 DR. VICTOR: Yeah, and I believe, just to celebrate  
13 your website, I believe there was a spotlight section  
14 of the NRC website, there's been a lot of material.

15 MR. MORRIS: Thank you for mentioning that. 07:31  
16 So we have intentionally put a spotlight segment  
17 right on our front page, you know, front page, above the  
18 fold, so to speak. There's an NRC spotlight that  
19 captures all this, and you can go right to it.

20 DR. VICTOR: We're pulling copies of all of these 07:31  
21 documents and getting them on SONGScommunity.com.

22 Anything else? Okay.

23 So I want to say something about the questions.  
24 First of all, I understand there's a lot of attention to  
25 this issue, as there should be. I appreciated the 07:31

1 number of questions we received in advance. I think it 07:32  
2 helped, certainly having reviewed the drafts of the  
3 presentation, it helped make the presentations more  
4 responsive to things that people were asking. You may  
5 think that your question was not answered, in which case 07:32  
6 write it down again on a yellow card and ask it again.  
7 And -- or send it to us by email again, and we'll make  
8 sure it gets answered, if you don't think it's been  
9 answered. But I think it's helped make the  
10 presentations more focused. All the questions we 07:32  
11 received will be, if not already, on the website, plus  
12 the questions on the cards we will make sure are on the  
13 website.  
14 We're going to take a five-minute break now.  
15 And we're going to come back for a brief review of a few 07:32  
16 other items about the regulatory oversight at the plant  
17 and then the public comment period using the yellow  
18 cards. If you want to be in the public comment period,  
19 please use a yellow card.  
20 (A recess is taken.) 07:32  
21 DR. VICTOR: We have -- now we have 37 -- we have 27  
22 people who want to make comments. So I want to make  
23 sure there's time for people to make comments.  
24 David Whiston. So 30 seconds for you to start  
25 talking and for people to settle instantly. 07:41

1 THE REPORTER: Before you talk, can you say your 07:41  
2 name and spell it, please?

3 DR. VICTOR: Oh, I'm sorry. I'm sorry. There's a  
4 couple of slides that Tom Palmisano needs to talk about  
5 first. Then, David, you'll be up next. I'm sorry, I 07:41  
6 guess the people who insulted my intelligence earlier  
7 were correct.

8 Tom Palmisano, the floor is yours.

9 MR. PALMISANO: Thank you.

10 I've just got a couple of additional things I 07:42  
11 want to make sure I keep the panel and public updated  
12 on.

13 Along with trying to do a better job of taking  
14 questions and answering questions, some of the routine  
15 stuff, we just have passing around of handouts. So I'm 07:42  
16 not going to cover that specifically in the slide deck.

17 I do want to mention -- I mentioned this last  
18 time, again, making sure people are aware of what's  
19 going on -- we had a contractor, SONGS Decommissioning  
20 Solutions are surveying the site, preparing for 07:42  
21 decommissioning, and we identify hazardous materials.

22 In any industrial facility or power plant there's  
23 lead-based paints, there's some asbestos,  
24 non-radiological hazards. So that's in progress. We  
25 have found some asbestos. What is a bit unusual, we 07:42

1 found some asbestos that considered friable -- meaning 07:42  
2 it's easily crumbleable and could go airborne. We don't  
3 have much asbestos in San Onofre Units 2 and 3. It was  
4 built without a lot of pipe insulation that had  
5 asbestos, but there's some in cables. So as part of the 07:43  
6 hazard surveys we found some, we clean it up, we treat  
7 it properly. But this is one of the things as we, over  
8 the next couple of years, do these full-blown hazard  
9 surveys and prepare for dismantlement, to keep you  
10 updated on? Okay. 07:43  
11 Environmental permitting status. We still want  
12 to keep it in front. We've talked quite a bit over the  
13 last couple of years about the State Lands Commission  
14 needing to certify an Environmental Impact Report,  
15 followed by the Coastal Commission needing to issue a 07:43  
16 Coastal Development Permit for the decommissioning based  
17 on that EIR. That process continues. At this point  
18 what we understand from the State Lands Commission, they  
19 will publish the final EIR in December 2018 that  
20 reflects -- they've taken all the comments and done 07:43  
21 whatever they're going to do with it -- and I don't have  
22 any insight. The State Lands Commission itself will  
23 likely hold a meeting to approve the final EIR in the  
24 first quarter of 2019. We had hoped to do that this  
25 fall, that date has now moved out to 2019. 07:44

1           We will then submit a Coastal Development Permit           07:44  
2 application. And the Coastal Commission anticipates six  
3 months or so down the road, third quarter 2019, before  
4 they approve a permit for the decommissioning, the  
5 dismantlement and decontamination activities. We'll           07:44  
6 talk more about that in the next meeting. But since  
7 December is soon to be upon us, I want to make sure  
8 everybody knows to watch the State Lands Commission  
9 website for the final EIR. We'll make sure the CEP's  
10 aware and post a link on our website.           07:44

11           Radiation monitoring and reporting. I know it's  
12 not the subject tonight, I just want to give a brief  
13 update because this is of interest. We are going to  
14 plan on putting in 24/7 perimeter monitoring of the  
15 ISFSI for as long as fuel's on-site. That's based on           07:44  
16 the public feedback and some of the visits we've had.  
17 We're starting to work out the details. That will be a  
18 system that's designed for the long-term. We'll  
19 implement it once the fuel off-load is complete. In the  
20 interim, we do have our on-site monitoring that we do so           07:45  
21 it's well monitored. We're working out how we will  
22 provide a realtime data feed to an appropriate off-site  
23 agency with radiological expertise that can interpret  
24 that and monitor that. So we've got some more work to  
25 do on how we provide that feed and what periodic reports           07:45

1 will be published. So bottom line is we are going to 07:45  
2 put in some permanent rad monitoring for the ISFSI.  
3 It's not required by the NRC; it's above the  
4 requirement. We think it's important. And we  
5 appreciate that feedback. 07:45

6 There was a question. And -- and some of the  
7 folks who have visited the site, we've allowed them to  
8 bring their own Safecast or other rad monitors, and  
9 they've taken some of the data. Some of the data has  
10 been misinterpreted. There was a comment on the web 07:45  
11 about radiation readings are high at the AREVA ISFSI.  
12 They are not. We monitor that regularly. The County of  
13 San Diego independently set up their senior health  
14 physicist who did his own rad monitoring of both ISFSIs  
15 and confirmed rad levels are normal, nothing is elevated 07:46  
16 for these ISFSIs. That was actually posted on our  
17 website. The NRC in their inspection, one of their  
18 quarterly inspections, did their own rad monitoring of  
19 the ISFSI, and they'll publish their results in their  
20 upcoming inspection report. So I want to make sure 07:46  
21 everybody understands what's it's been followed up by  
22 independent agencies, not just by Edison.

23 The shim pin update. I'm not going to -- the  
24 shim pin was initially talked about in the spring when  
25 we had the first four canisters loaded with the shim pin 07:46

1 design which is susceptible [sic]. You know, a number 07:46  
2 of plants in the country have these shim pins. We  
3 stopped after four canisters, and Holtec changed the  
4 design, as we've talked about quite a bit at the last --  
5 one of the last meetings. The NRC now has completed 07:46  
6 inspection of Holtec. This is an inspection done out of  
7 headquarters, not out of Region IV. They just published  
8 the inspection reported today. And I -- I've just  
9 started to read it. We're going to make it available on  
10 our website. I think it's important to know it's out 07:47  
11 there. So the NRC is looking at Holtec's design  
12 process, whether they made an error in the shim pin and,  
13 if so, what. Again, it just came out today. We'll  
14 provide the link on our website so it's easy for you to  
15 download and read. And I would encourage anybody who's 07:47  
16 interested to read that. Okay.

17 Just some additional resources -- oh, and my  
18 staff did slip me a note, David, that the  
19 non-proprietary drop analysis did get posted on our  
20 website today. So that non-proprietary summary is 07:47  
21 available to the public.

22 A slide here with just additional resources.

23 And at that point, let me sit down, unless  
24 there's a question from --

25 DR. VICTOR: I want to see if there's question from 07:47



1 the panel, Tom, on those last few slides. 07:47

2 Steve Swartz?

3 MR. SWARTZ: I have a question regarding the last  
4 couple of --

5 DR. VICTOR: Yes. Okay. 07:47

6 I just want to underscore there was a lot of  
7 interest in the community around realtime monitoring.  
8 I'm really happy that you guys have been responsive  
9 about this. A lot of us spent a lot of time on this. I  
10 would hope that as you figure out who to send the data 07:48  
11 to, that you could work with Donna Boston and other  
12 folks, the first responders in the community, to figure  
13 out what the --

14 MR. PALMISANO: We have. We've had a preliminary  
15 meeting with both Orange County and San Diego County. 07:48

16 DR. VICTOR: I really appreciate that.

17 We're going to have public comment now. And  
18 then at the very end we're going to have time,  
19 hopefully, for some responses but then also a couple of  
20 updates, including around this workshop on Stream 07:48  
21 Events.

22 Given what's been happening this fall at the  
23 plant, we have not made as much as progress and we can  
24 get our workshop on Stream Events, as was our original  
25 plan, but that has not fallen off the radar. It's just 07:48

1 that people are focused on other things right now, as 07:48  
2 you can see from tonight's meeting.

3 So the first public comment from Dan,  
4 David Whiston, and then it's going to be  
5 Jennifer Massey. 07:48

6 I want to say I've got 30 cards. I've got  
7 90 minutes of comments. We don't have 90 minutes; we're  
8 going to go over time a bit, but we're not going to have  
9 breakfast here. So we'll see how far we get. But  
10 please make your comments as compactly as you can. 07:49

11 And David Whiston the floor is yours.

12 MR. WHISTON: Thank you very much. David Whiston,  
13 W-H-I-S-T-O-N. Thank you for putting this together.  
14 I've learned an incredible amount just by being here  
15 for a short time. 07:49

16 What I wanted to talk about was the emergency  
17 plan. If something did happen here, we all know you  
18 can't bring it back. How would people, seniors,  
19 disabled, be able to evacuate this area if the 5 Freeway  
20 is closed and the rail system? What's the coordination 07:49  
21 through the sheriff's department, fire and police?

22 Donna Boston brought up a point that I kind of  
23 wanted to go over again. Where's the information coming  
24 from SCE quickly to the public? To the sheriff's  
25 department? And how fast does that happen? In case 07:50

1 there is an emergency -- you know, we don't assume that 07:50  
2 will happen, but we don't know. And I would like to  
3 know if there's pathways, bus systems, that will be  
4 deployed to take thousands of people out of this area in  
5 a -- a realtime area where the people -- especially 07:50  
6 people that can't walk or are in retirement homes. That  
7 was my question.

8 DR. VICTOR: Great. Thank you very much for your  
9 comment.

10 Jennifer Massey. Then Gene Stone. 07:50

11 MS. MASSEY: Thank you very much.

12 Actually that was my main question too was  
13 evacuation. What is the evacuation plan?

14 I remember one time being told, "Stay in place.  
15 Just stay in place. Just duct tape you're windows and 07:50  
16 all --" but when you have substantial broken glass in  
17 your house allowing radiation to penetrate, I think  
18 staying in place is not going to actually work very  
19 well. And I don't know -- they used to tell us also,

20 "And don't come to the schools to pick your kids up, 07:51  
21 because then the bus drivers won't be able to get  
22 through them up to the Orange County Fair Grounds where  
23 you're supposed to meet your family."

24 There are 59 bridges between where I live in  
25 South San Clemente, 5 miles from the plant, and the 07:51

1 Orange County Fair Grounds. If you don't think one of 07:51  
2 the bridges might go down or the freeway, the 5 or the  
3 405 might not open up or something else. So I think --  
4 I think we need to rethink the evacuation plans.

5 Also, in the recent fires in California, some of 07:51  
6 the people -- the power lines or the transmission  
7 systems for notifying people to get out failed. And so  
8 people either relied on friends, telephone, and on their  
9 cell phones, or -- or they saw the flames. But the  
10 communication -- the emergency communication didn't work 07:51  
11 out very well.

12 And we're told that the canisters are good for  
13 20 years. The waste is lethal for thousands of years.  
14 And I want to know -- ask the NRC and Edison if this is  
15 what they want to be remembered for? Is this the gift 07:52  
16 that you two up there feel happy leaving for your  
17 children and your grandchildren and our children and our  
18 grandchildren? I'm a grandmother. And I know there are  
19 a lot of other grandparents in the audience and parents.  
20 I still don't think one of us wants to go home tonight 07:52  
21 or can go to sleep any night with that power plant,  
22 especially it being operating so sadly, badly, so -- and  
23 what you've done tonight for me, and I think a number of  
24 other people here, is to scare us more than we've ever  
25 been scared before. 07:53

1 DR. VICTOR: Thank you very much for your comments. 07:53  
2 Next is Gene Stone.  
3 And then I have another comment from  
4 Dave Whiston. Dave, would you mind if I just made this  
5 comment about whether the seawall has been checked by a 07:53  
6 structural engineer a part of the official record so  
7 that we have a chance for other people so they make  
8 their comment? Would that be okay?  
9 I don't see anybody -- okay. One comment per  
10 person right now. 07:53  
11 Gene Stone, the floor is yours.  
12 MR. STONE: So we know, Tom, and, Scott, that the  
13 public is very interested in more inspections by the  
14 NRC. And Donna reminded me that the nuclear industry  
15 pays for 90 percent of the NRC's salary. The rest 07:53  
16 comes from taxes.  
17 So since Edison has a credibility problem of  
18 having had two incidents loading these canisters -- and  
19 we have 44 more to go -- why doesn't Edison -- actually,  
20 I think the public would demand that Edison pay more to 07:54  
21 keep an NRC person, inspector, here on-site so that all  
22 the people here can feel like the NRC is actually doing  
23 their job and being present during this extremely  
24 important time that we have go through. It's only a  
25 year. 07:54

1 Thank you very much. 07:54

2 DR. VICTOR: Thank you, Gene.

3 Next is Donna Gilmore. And then after Donna is

4 Daryl Gale.

5 Donna, the floor is yours. 07:54

6 MS. GILMORE: Okay. Anybody need any more lemons?

7 All right.

8 I was -- this is like deja vu. I was here a few

9 years ago trying to make sure they didn't start a broken

10 nuclear reactor. And I held up two lemons and I said, 07:54

11 "No one knows what a steam generator is, but they sure

12 know what lemons are. And these lemons should be

13 returned to sender." And, Tom -- the press release from

14 Edison, when they finally realized after the radiation

15 leak that these were bad, then in Edison's own press 07:55

16 release they admitted the steam generators were lemons.

17 You've got 29 canisters loaded. The NRC says

18 they've all been damaged from the loading system.

19 You're downplaying the fact that we've got brand-new

20 million-dollar canisters -- not even counting the 07:55

21 labor -- and they're already damaged, and you're okay

22 with keeping those? That's our ratepayer money?

23 The NRC -- I'm glad to see that they

24 acknowledged this issue, but now they need to take the

25 next step and admit this is a bad engineering design, 07:55

1 the system must be revoked. We don't want any more 07:55  
2 cracked and damaged canisters in Southern California.  
3 And I don't think New Mexico or anybody else wants them  
4 either. To say it's not a problem now is not  
5 sufficient. We need you to dump this system and replace 07:56  
6 it with containers that can be maintained and monitored.  
7 And you know the only ones that are that way are the  
8 casks. Fukushima used them.  
9 And trying to come -- trying to make everything  
10 sound like it's a procedural issue when you know -- Tom, 07:56  
11 you know it's bad engineering design that caused every  
12 one of those canisters to be damaged as they're loaded  
13 into the holds. You know that. The NRC acknowledged it  
14 in their yesterday's report. It's time to let people  
15 talk about that elephant in the room and dump these 07:56  
16 canisters and replace them. I don't care if you use  
17 some of that \$4 billion of decommissioning money you've  
18 got sitting there to tear down the pools and the  
19 buildings. That's what needs to happen.  
20 You know, I'm hoping somebody steps up -- I've 07:56  
21 got a handout, it's San Onofre Safety. I've got the  
22 information about all this. And please, people, go to  
23 San Onofre Safety and learn truth from bullshit.  
24 Thank you.  
25 DR. VICTOR: Thank you. 07:57

1 Next is Daryl Gale, then Denise Erkeneff. 07:57

2 MS. GILMORE: I think you deserve this the most

3 (indicating).

4 DR. VICTOR: That's very graceful.

5 Daryl, the floor is yours. 07:57

6 MS. GILMORE: -- if we had an inactive session last

7 time. We --

8 MS. GALE: Hi. I'm Daryl Gale. I live in

9 Los Angeles. I came here via Amtrak, and then from

10 Oceanside I took the Sprinter. It only took 07:57

11 16 minutes, and it only cost me a dollar. So maybe if

12 more people took the Sprinter over here -- and it's

13 just a few block walk up the hill -- they wouldn't have

14 to worry about moving your car. So for future

15 reference. 07:57

16 Mr. Morris, I realize you are not in charge of

17 the NRC. So these comments are not addressed at you

18 personally; they're addressed at your total agency.

19 A few weeks ago when I was on the webinar, I was

20 kind of horrified that the people from your agency 07:58

21 didn't seem to comprehend sea level rise. And so I

22 do -- I do a lot of talks, and there's this 37-page

23 booklet you can get for free on the Internet by the

24 California Ocean Protection Council, and it's called

25 Rising Seas of California. And I think everybody should 07:58



1 become aware of why we really can't have the situation 07:58  
2 we are suffering with right now.

3 It is incomprehensible to me why our federal  
4 government has not been more proactive about safety,  
5 especially in terms of heavily populated areas like 07:58  
6 San Onofre and Diablo Canyon.

7 My questions are: Why aren't United States  
8 nuclear facilities required to use thick casks, like  
9 France and Germany? Why hasn't the NRC looked for and  
10 prepared interim storage facilities when Yucca Mountain 07:59  
11 was nixed? And why can't the NRC require or mandate  
12 that all of our U.S. facilities hot have cells? And if  
13 the answer is because it's really, really expensive,  
14 contaminating California permanently is beyond our  
15 financial compression. 07:59

16 Thank you.

17 DR. VICTOR: Thank you for comments.

18 Denise Erkeneff? Denise Erkeneff, the floor is  
19 yours.

20 E-R-K-E-N-E-F-F. 07:59

21 MS. ERKENEFF: That is correct. Thank you.

22 I'm Denise Erkeneff with the Surfrider  
23 Foundation, South Orange County chapter. Thank you for  
24 hosting us tonight at this forum.

25 Again, Surfrider Foundation is strongly opposed 07:59

1 to permanent or long-term storage of radioactive waste 07:59  
2 at the deactivated San Onofre Nuclear Generation --  
3 Generating Station due to its proximity to the  
4 coastline, susceptibly to geological instability, and  
5 location within a very densely populated area. 08:00

6 Surfrider recognizes the waste needs to be  
7 cooled on-site before moving it, but we also demand that  
8 this is done as safely as possible, while also  
9 advocating that the waste is moved as soon as possible  
10 to a consent-based, geologically stable, permanent 08:00  
11 location far from the coast. We also call for a  
12 federally appointed permanent storage site away from the  
13 beach, again with consent-based siting, environmental  
14 review, and a strict timeline from the federal  
15 government to quickly and safely move nuclear waste from 08:00  
16 our dynamic coastline. This requires active  
17 participation from our local community, as well as  
18 communities across the U.S., to call for federal  
19 attention rapidly for rapid action on the establishment  
20 of a permanent repository. If it becomes clear that 08:01  
21 consent-based permanent or consolidated interim storage  
22 is not a possibility or there are concerns that on-site  
23 storage is no longer safe, alternative local sites, such  
24 as the mesa, should be considered at that time.

25 Again, our focus on federal action is only 08:01

1 effective as -- if the waste remains safe while it's 08:01  
2 on-site.

3 Edison, please do your job well, keep the safety  
4 of your workers, these communities, and the marine  
5 environment in mind when you transfer and store the 08:01  
6 radioactive waste.

7 Thank you.

8 DR. VICTOR: Thank you very much.

9 Katie Day is next.

10 And as Katie Day is coming up, just to remind 08:01  
11 people, if you have written out your comments and you  
12 want to make the written version also part of the public  
13 record, please send it to us and we'll make sure that  
14 happens.

15 Katie Day and then Mandy Sackett. 08:01

16 MS. DAY: Hi. Good evening. Katie Day, D-A-Y. I'm  
17 a staff scientist for the Surfrider Foundation.

18 As we've said at nearly every CEP meeting over  
19 the past two years, Edison must employ the highest  
20 safety precautions while the waste remains on-site. 08:02  
21 This is especially important during the loading and  
22 handling of high-level radioactive waste. But as  
23 illuminated by the recent near drop of a canister and  
24 subsequent NRC inspection report, Edison had disregarded  
25 these requests. This is severely alarming and 08:02

1 disheartening. 08:02

2 Mandy Sackett will share our original request to  
3 Edison shortly. But at this time I'm going to make some  
4 explicit recommendations in response to the NRC  
5 findings. Note that some of these recommendations 08:02  
6 should be inherently a part of any training program.

7 We appreciate the plans you mentioned tonight to  
8 provide a more comprehensive training and supervision  
9 for personnel, but we'd like to highlight the need for  
10 clarification on the differences between training and 08:02  
11 the actual processes and materials. The importance of  
12 personnel-wide notification of issues experienced and  
13 open sharing of operational knowledge, alarm systems for  
14 when various issues are recognized, of control panels,  
15 which you did mention tonight, would be an option. 08:03

16 We'd also like to see those CEC guiding rings  
17 fixed so they actually help guide the canister as  
18 intended. I know tonight Tom mentioned that those  
19 guiding rings are really more of holders for the shield  
20 ring, but Holtec and the NRC both referred to those 08:03  
21 gussets as guiding rings. And this design flaw, that  
22 extra lip, was actually fixed at the other Holtec UMAX  
23 facility, something SCE opted not to do.

24 We ask that you increase public transparency and  
25 timely notification of events. If we look back on 08:03

1 previous mishaps at the plant, in March the public 08:03  
2 wasn't notified of loose pins discovered at the bottom  
3 of a canister until 17 days after Edison was aware of  
4 the situation. In fact, the public wasn't even notified  
5 of the change in Holtec canister design at all. The 08:03  
6 original design, as we saw earlier, never had pins.  
7 Then in August, again the public wasn't notified of --  
8 this time a potential 18-foot drop of a loaded canister,  
9 only until a Holtec consultant made a public  
10 announcement. 08:04

11 While we understand that it's important for  
12 Edison to internally assess on-site events so -- to  
13 avoid unnecessary panic among the community, waiting  
14 this long or choosing simply not to disclose information  
15 is inappropriate. 08:04

16 We ask that you have at least one Holtec expert  
17 and one Edison supervisor on-site to directly oversee  
18 contractors during every fuel transfer. And we agree  
19 that an NRC representative on-site would be beneficial.

20 Lastly, we'd like better assurance that the 08:04  
21 canister integrity of each of the loaded canisters is  
22 truly intact after the metal-to-metal contact during  
23 loading. You mentioned that their assessment was  
24 completed, but we'd like to see that assessment and have  
25 better assurance. 08:04

1 Thank you for all of your efforts. And 08:04  
2 appreciate this opportunity.

3 DR. VICTOR: Thank you for your comments.

4 Next is Mandy Sackett, then Charles Langdon.

5 Mandy, the floor is yours. 08:04

6 S-A-C-K-E-T-T.

7 MS. SACKETT: Thank you. Yes, Mandy with the  
8 Surfrider Foundation.

9 So just to elaborate a little bit on what  
10 Katie Day mentioned, the download event must serve as a 08:05  
11 wake-up call for Edison. This incident clearly

12 demonstrated that our demand for precautionary planning,  
13 preparation, and monitoring are not unwarranted. We are  
14 dealing with the most dangerous substances on earth, and  
15 we hope this will serve as a reminder to Edison that 08:05

16 extreme vigilance and caution is necessary at all times.  
17 Indeed, Edison bears an unfathomably huge responsibility  
18 for all of our safety. We certainly appreciate the  
19 ongoing opportunities to engage and provide input at  
20 these CEP meetings and hope that our suggestions are 08:05  
21 taken seriously tonight.

22 With that in mind, I'd like to offer several  
23 additional on-site safety measures. If we've learned  
24 anything since August, it is that precautionary  
25 principle is not only wise but extremely prudent when 08:05

1 dealing with spent nuclear fuel. 08:05

2 So our first suggestion is that Edison retain at  
3 least one spent fuel pool, until  
4 another on-site method of waste retrieval or reloading  
5 becomes available. And we've mentioned this in our 08:06  
6 comments on the decommissioning EIR. Spent fuels are  
7 the only technique currently available to remove spent  
8 fuel from a cask. Relying on technology or options not  
9 yet developed puts public resources, the environment and  
10 health at the risk. Storage of spent fuel on-site after 08:06  
11 some stock operating was not part of Edison's original  
12 decommissioning plan, and thus other aspects of  
13 decommission such as this must be seriously reconsidered  
14 as well.

15 Second suggestion is that Edison conduct 24/7 08:06  
16 temperature monitoring on each canister, and radiation  
17 monitoring along the perimeter to ensure the integrity  
18 of spent fuel. This is especially important given the  
19 recent incidents involving faulty shim pins and, of  
20 course, the -- for the fuel involved in the August 08:06  
21 downloading event.

22 Third, Edison must develop readily deployable  
23 plans for hazards, including corrosion, flooding and  
24 saltwater exposure, and thorough canister monitoring,  
25 readily deployable repair mechanisms. The potential for 08:07

1 impacts from hazards exists today and thus the plans 08:07  
2 must be put in place today.

3 We also ask that Edison develop a sea and  
4 groundwater level rise vulnerability assessment using  
5 the State of California's recently acknowledged extreme 08:07  
6 rise scenario, in other words, H-plus-plus. This  
7 projection is higher than considered in Edison's hazard  
8 assessment, and we ask that it be included and updated.

9 Then, finally, we ask that Edison develop a more  
10 robust and publicly available radiological environmental 08:07  
11 monitoring program at recreation sites near SONGS. Due  
12 to the risk of toxic discharge during decommissioning,  
13 realtime monitoring of radioactive and toxic chemicals  
14 must be monitored at discharge conduits and various  
15 near -- excuse me, and various areas near the surf zone 08:07  
16 and beaches, and results of the monitoring must be made  
17 public.

18 And we'd like to acknowledge that Edison has  
19 been receptive to several of these requests, including  
20 the development of a more robust radiological monitoring 08:07  
21 program in recreational areas near the plant. And we're  
22 really looking forward to hearing more about what they  
23 have to unveil on that.

24 So thank you so much for considering our  
25 comments this evening. 08:08



1 DR. VICTOR: Thank you very much for your comments. 08:08

2 Charles Langley, then Nina Babiar.

3 MR. LANGLEY: Hi. I'm Charles Langley with Public  
4 Watchdogs.

5 You know, a couple of months ago I got a 08:08

6 speeding ticket and I was commanded to appear in court,  
7 and if I didn't appear in court, I faced jail time. And  
8 I'm very -- the reason I mention this is that we've seen

9 numerous incidents where Edison has violated federal law  
10 and doesn't appear to be facing any consequence. They 08:08

11 violated federal law on July 22nd when they didn't  
12 report an unsecured load event. They never reported it.

13 We didn't know about it. And the only reason the NRC, I  
14 believe, mentioned it in their report yesterday was

15 because we've documented it in a sworn affidavit about a 08:09

16 conversation that one of the Public Watchdogs advocates  
17 had with the lead investigator at San Onofre.

18 Why are these events being kept secret? And why

19 is it that today there is no public event notification

20 report on the NRC website? It's not there. The event 08:09

21 happened on July 22nd; we've documented that it

22 happened; it was talked about in a report yesterday; yet

23 the public never knew about it. It's the event

24 notification report page.

25 Second, on August 3rd we had another event. The 08:09

1 law required that that event be reported on the event 08:09  
2 notification page within 24 hours. Southern California  
3 Edison didn't report the event until September 14th,  
4 after the NRC inspection took place.

5 Now, what kind of regulators do we have here, 08:10  
6 Mr. Morris? I'm asking you: Please start -- ask your  
7 colleagues -- I know you're not responsible for this,  
8 but somebody at the Nuclear Regulatory Commission must  
9 start enforcing the Code of Federal Regulations. And  
10 it's very clear. You have nuclear reactors right now 08:10

11 that are reporting the presence of Kombucha tea at their  
12 facility, because it contains half a percent alcohol and  
13 is considered to be an intoxicating beverage. That  
14 appears on the event notification report page. Yet  
15 Southern California Edison nearly drops a hundred 08:10  
16 thousand pounds of nuclear waste and there's no report.  
17 It tells me that the NRC isn't doing its job of  
18 enforcement. And it feels to me as though what the NRC  
19 is doing is enabling Southern California Edison to  
20 create a desperately unsafe culture. It's incredibly 08:11  
21 cavalier about the way it handles rules and regulations.

22 Thank you.

23 DR. VICTOR: Thank you for your comments.

24 Next is Nina Babiar and Jeff Steinmetz.

25 Nina? 08:11

1 Babiar is B-A-B-I-A-R. 08:11

2 MS. BABIAR: Correct.

3 DR. VICTOR: The floor is yours.

4 MS. BABIAR: My name is Nina Babiar. I attend these

5 meetings consistently. And I normally introduce myself 08:11

6 as a Public Watchdogs board member, which I am. But

7 tonight I'm sharing with you what I do for a living, my

8 employment. I work in transportation. That's how I

9 got involved in this situation at San Onofre. And

10 specifically, Tom, I work in training, developing and 08:11

11 delivering training specifically in the transportation

12 industry on zero emission transit buses. And that's

13 hydrogen, compressed natural gas, high-voltage electric

14 vehicle buses. Prior to doing that I directed a

15 program for the State of California in advanced 08:12

16 transportation technology and energy center, developing

17 and delivering training. And this has all been funded

18 by Senator Boxer.

19 So why is training so important? Because

20 without it, there's usually, quote, unquote, an incident 08:12

21 in the field. What does an incident in the field mean

22 in simple terms? It means that something caught fire,

23 something blew up, or somebody got hurt. So fast

24 forward to what an incident in the field means at

25 San Onofre. It means that millions of people could be 08:12

1 killed, poisoned by radiation, the economic viability of 08:12  
2 Southern California, the Western U.S. could be crippled.

3 What happened to the PriceWaterhouse insurance?  
4 We're sitting here vulnerable as could be.

5 Now we hear from the NRC report that the, quote, 08:13  
6 unquote, tentative resumption of burial will proceed  
7 with Edison determining their own compliance with  
8 corrective action that's needed. Edison's acting in an  
9 irresponsible, negligent and disgusting manner, and the  
10 NRC is looking the other way. It's allowing Edison to 08:13  
11 proceed on the honor system. They have no honor, and  
12 they have no shame.

13 The public has entrusted the Nuclear Regulatory  
14 Commission to enforce federal laws to protect us, and  
15 that trust has been violated. The NRC needs to up its 08:13  
16 game and proceed with an augmented investigation team or  
17 be investigated itself for fraud upon the public.

18 And I would venture to say, in my last few  
19 seconds, that if you look at this report -- because  
20 obviously the person that Charles was talking about -- 08:14  
21 you know, I'd like David to put my sworn legal affidavit  
22 with regard to that conversation I had on October 10th  
23 with Eric Simpson about the July 22nd incident -- that  
24 if that had been reported and addressed in the training  
25 and the corrective action, we wouldn't have had an 08:14

1 August 3rd incident to investigate. 08:14

2 Thank you.

3 DR. VICTOR: Thank you very much for your comments.

4 Please send that -- we've seen it in the social

5 media. Please send that to me officially so we can make 08:14

6 than an official part of the --

7 MS. BABIAR: I will. And I'll attach the legal

8 affidavit.

9 DR. VICTOR: Jeff Steinmetz and then Gary Headrick.

10 MR. STEINMETZ: Hi, my name's Jeff Steinmetz. 08:15

11 I want to impress upon you and the folks on the

12 panel and in the press and the audience that SCE and the

13 Nuclear Regulatory Commission are not looking out for

14 your best interest. If you believe they're looking out

15 for your best interest, you're not being honest with 08:15

16 yourselves.

17 Southern California Edison is perpetually trying

18 to maximize stockholder equity. And the NRC is an

19 industry-captured regulatory agency with managers more

20 concerned with saving their jobs while advancing their 08:15

21 careers. This is not the case for the NRC staff, but

22 they are regularly ignored by management at the NRC.

23 The report that was issued last night is only

24 going to lead to another fire watch. What do I mean by

25 fire watch? Years ago the NRC granted Southern 08:15

1 California Edison a variance on repair work of old 08:15  
2 cabling that they were worried might catch fire.  
3 Instead, Southern California Edison -- excuse me.  
4 Instead Southern California Edison could have someone  
5 check it every hour instead of replacing it. What did 08:16  
6 Southern California Edison do? They forged the fire  
7 watch logs for five years before they were caught.  
8 You can expect the same thing will happen here.  
9 SCE will not report that they continue to scrape and  
10 scratch the sides of the canisters as they are lowered. 08:16  
11 This problem cannot be effectively solved by staff  
12 procedures. It is an engineering problem and not a  
13 staffing issue, like the NRC report wants you to  
14 believe.  
15 This Holtec system cannot be inspected; it 08:16  
16 cannot be repaired. And per the NRC report, Southern  
17 California Edison has already damaged 29 canisters in  
18 the loading process. Staffing procedures will not fix  
19 this poorly engineered problem. And both Southern  
20 California Edison and the Nuclear Regulatory Commission 08:16  
21 know it.  
22 The Holtec system is a lemon and needs to be  
23 recalled. The license needs to be revoked. And  
24 Southern California Edison needs to actually have their  
25 license revoked. 08:17

1                   What about the Nuclear Regulatory Commission?                   08:17

2       Well, in 2010 to 2016 they had had 687 whistleblower

3       complaints and only investigated 235 of those

4       complaints. How many of those 687 whistleblower

5       complaints were substantiated by the Nuclear Regulatory                   08:17

6       Commission? Sadly, the answer is zero. I have the

7       Freedom of Information Act documents to prove it. The

8       NRC wants you to believe that 687 whistleblower

9       complaints filed by the nuclear plant employees across

10      the United States all came from staff that did not know                   08:17

11      what they were talking about or what they were doing or

12      they are liars.

13                   Zero substantiated reports from 687

14      whistleblowers. This agency is not looking out for your

15      well-being. And if you believe it, you're lying to your                   08:18

16      yourself.

17                   DR. VICTOR: Thank you for your --

18                   MR. STEINMETZ: Additionally, it just recently came

19      out -- it just came out in testimony before the

20      South Carolina Public Utilities Commission the                   08:18

21      multibillion dollar failed V.C. Summer Nuclear project

22      did not have stamped, certified or complete engineering

23      drawings. When asked about this, the Nuclear

24      Regulatory Commission public affairs officer

25      Scott Burnell pointed a finger at the State of                   08:18

1 South Carolina and said that that is the state's 08:18  
2 responsibility.

3 DR. VICTOR: Sir, there's a lot of --

4 MR. STONE: Well, we know in all things concerning  
5 commercial nuclear power that the final say is the 08:18  
6 Nuclear Regulatory Commission. And the Nuclear  
7 Regulatory Commission cannot have it both ways and  
8 point the finger at the state when they are the ones  
9 that have the final say.

10 DR. VICTOR: Thank you for your comments. 08:18

11 Next --

12 MR. STEINMETZ: This system from Holtec needs to be  
13 recalled. It needs to be recalled now. And you guys  
14 have got to do your job, because you are not doing it.

15 DR. VICTOR: Sir, thank you for your comments. 08:19

16 Gary Headrick, then Chris Gorman.

17 Gary Headrick, the floor is yours.

18 MR. HEADRICK: Thank you.

19 I have the same emotional response like we just  
20 heard. But I think there's a more important task ahead 08:19  
21 of us, because this problem is so in need of real  
22 answers, real solutions, not denial, not, you know,  
23 trying to avoid responsibility. This -- this is  
24 reminiscent of the shutdown where we were fortunate  
25 enough that there was a close call with the steam 08:19



1 generator issue and there was not a major release of 08:19  
2 radiation. And we're so grateful for that.

3 And at the time our job as the citizens was to  
4 prevent restart of those reactors. And Edison stopped  
5 and -- you know, in that situation stopping was the 08:20  
6 answer. But now we can't just stop. We have to move  
7 forward progressively and with the right answers.

8 And I can't even believe that Edison has to  
9 report to us how bad things were to get to this point  
10 and they're revealing stuff that is being exposed to 08:20  
11 society because someone was bold enough to risk their  
12 job and be a whistleblower. So once again, we need to  
13 thank the whistleblowers.

14 And we also need to call the NRC to task. You  
15 know, you're about to approve Edison to restart this 08:20  
16 process again. And I just can't believe when I hear you  
17 say they're going to start when Edison says they are  
18 ready. Like what are your -- what is your job? We  
19 can't count on that. It's -- it was very disappointing

20 that we didn't get better answers from your tonight, and 08:21  
21 we spent a lot of time listening about things we didn't  
22 need to hear. But we need solutions. We need to put  
23 all of our heads together. We need to use the ingenuity  
24 that mankind has evolved with to get to this point and  
25 get us out of this situation before it's too late. 08:21

1 There's just not a better way I can express how 08:21  
2 dangerous this is than to give up my own anger, my own  
3 frustration and, you know, trying to yell at the top of  
4 my lungs to get some change here when I know that's not  
5 going to be the answer. We need to cooperate. We need 08:21  
6 to make the truth be known and deal with realistic  
7 problems.

8 Now, there was a -- there needs to be a  
9 contingency plan. We can't move forward. The NRC  
10 should not allow Edison to move forward when there is no 08:21  
11 way to deal with a dropped canister. And we know that  
12 there could be damage to the fuel. Well, in a 2017  
13 Nuclear Waste Technology Review Board report they  
14 explicitly expressed concerns about damaged fuel can  
15 result in hydrogen gas buildup, which can result in 08:22  
16 explosions, which is nothing like you described about  
17 the -- you know, the slow leak that we might have. We  
18 can't just trust and hope that nothing bad is going to  
19 happen. We have to plan for the worst and be ready for  
20 it. 08:22

21 So if we need a realistic picture of a dropped  
22 canister, I suggest we use one of those canisters that  
23 was built with bad shims, fill it with lead pipes and  
24 water, raise it up 18 feet and let it drop and see if  
25 that 3-inch base where -- that matches the five-eighths 08:22

1 inch wall with the 9-inch top. Let's see what happens. 08:22  
2 Let's see what the distortion is in those -- and let's  
3 see if water comes out. Because if there's anything  
4 leaking, that results in disastrous explosions.

5 So I just have so many other comments. I'm 08:23  
6 sorry I couldn't get them all in there but --

7 DR. VICTOR: Thank you.

8 MR. HEADRICK: -- I have many more questions that  
9 were not answered tonight.

10 DR. VICTOR: Thank you very much. 08:23  
11 Just a second. We have 45 minutes worth of  
12 additional public comments and seven minutes of our  
13 program. We're going to run over by 15 minutes or so to  
14 allow some time after the 15 minutes to have a few key  
15 replies and, in particular, to take advantage of Scott 08:23  
16 being here, and then a couple of things we have to talk  
17 about with regard to the agenda for next year. So we'll  
18 run over a bit. My apologies to those of you who were  
19 hoping to go home on the dot.

20 Chris Gorman and then Sarah Brady. 08:23

21 MR. GORMAN: There's been a lot of talk about a drop  
22 analysis. I think on -- maybe some report is going to  
23 be available to look at. But I think it's missing the  
24 point. It keeps emphasizing that the canister would  
25 probably not be damaged. It's not about the canister; 08:24

1 it's about the contents of the canister. 08:24

2 When you think about safety helmets, a football  
3 player or a bicycle rider, they wear safety helmets.  
4 That doesn't mean it's good for them to be hitting their  
5 head. Football players have gotten brain damage, 08:24  
6 haven't they? Their helmet doesn't break; it's the  
7 contents inside, the brain. And likewise, with this  
8 canister -- let's stop focusing on whether or not the  
9 canister breaks or is breached; it's about the fuel  
10 inside. 08:24

11 And I think during your talk, Tom, didn't you  
12 even say that there is damaged fuel? Yes, there is  
13 damaged fuel. I don't know why we're not talking about  
14 this. And then in another breath you said: When  
15 there's damaged fuel, then you need to look at how can 08:24  
16 it be removed off-site to a proper place where it could  
17 be inspected and repacked or dealt with. And I don't  
18 know why this just -- it passed by, we're not talking  
19 about it tonight. This is one of the most critical  
20 issues. We already know we have damaged fuel. 08:25

21 UNKNOWN SPEAKER: Never answered that question.

22 MR. GORMAN: Right. So that's it. That one.

23 My question that did come before, that was read,  
24 it wasn't really full addressed because I'm still  
25 concerned, but others have addressed this about the 08:25

1 machining and the actual equipment itself. You know, 08:25  
2 it's just insufficient.

3 And then my other question -- although it's not  
4 on canister downloading -- but since I have a little  
5 time I just want to fit this in because it's never been 08:25  
6 answered before: In a properly operating

7 decommissioning site is there some reason why there  
8 would be regular release of radioactive waste into the  
9 ocean water? And why is that happening? And I think it  
10 would be important if we actually know when is that 08:26

11 actually happening and have proper monitoring and  
12 notification, because so far what we've been able to  
13 find out is -- is not sufficient. And it should be  
14 when -- when it's looked at, like how much is a safe

15 amount in there, we have to consider the fact that now 08:26  
16 that we're using desalination to use ocean water for  
17 drinking water, I -- I really am quite sure that  
18 desalination process, no matter what they do, you cannot

19 remover any kind of nuclear contamination. So that's  
20 another thing I'd like to have addressed. 08:26  
21 Thank you.

22 DR. VICTOR: Thank you very much for you comments.  
23 Next we have Sarah Brady and the Helga Brady. I  
24 suspect these two folks are related.

25 MS. BRADY: Yes, Helga Brady is my mother. And she 08:26

1 wasn't able to make it here tonight, and she has opted 08:26  
2 to give her time to me, if that's okay. Because my  
3 comment is more --

4 DR. VICTOR: You only have three minutes. So if you  
5 can make your comment in three minutes and then -- 08:27

6 MS. BRADY: So I cannot use her time?

7 DR. VICTOR: No, because we don't trade time.  
8 Because then otherwise, you know, that would be a  
9 secondary mark on eBay and so on.

10 We have so many people who want the floor. I'm 08:27  
11 happy to start your time over. But please say your  
12 three minutes.

13 MS. BRADY: All right.

14 I'll go as long as I can with what I have.

15 MS. ANDERSON: She can use my time. My name's 08:27  
16 Michelle Anderson, and I'll give her my time.

17 DR. VICTOR: That's -- we just had that  
18 conversation.

19 Please start the clock over again.

20 Tell us what you'd like in three minutes. 08:27

21 MS. BRADY: Hi, board and community members. My  
22 name is Sarah Brady. I grew up Leucadia and went to  
23 San Dieguito like Mr. Morris. I am a third generation  
24 member of the San Onofre Surfing Club as well. I am an  
25 undergrad student at UC San Diego and a part-time

1 environmental research associate and community  
2 organizer at Committee to Bridge the Gap -- Gap.

3 I want to reiterate the fact that San Onofre's  
4 nuclear waste is being buried just 100 feet from the  
5 ocean and few feet above the water table is very  
6 irresponsible, especially in the time of rising sea  
7 levels. The California Coastal Commission's adopted  
8 findings for the permit for the storage containment  
9 admit that increases in the water table elevation  
10 related to sea level rise could potentially lead to the  
11 intermittent ground water contact with the base of the  
12 ISFSI toward the end of the proposed 35-year life of the  
13 project in 2049, 2050.

14 I don't know about you, but the thought of a  
15 nuclear waste storage containment sitting in soft sand  
16 drenched in ocean water doesn't make me feel very  
17 comfortable, especially when I still surf there once a  
18 week. And also knowing that, like was noted in the  
19 comment before me, that there's a -- releases of  
20 radiation into the ocean that have happened throughout  
21 my entire childhood during the operation of the plant  
22 while I've been growing up surfing there and now  
23 continue to happen -- yes, at a lower level -- that's  
24 also very concerning to me.

25 Increasing erosion is also a great concern with

1 the current storage facility. My dad, the president of  
2 the San Onofre Surfing Club, says we lost 20 feet of  
3 beach at San Onofre just last year.

4 In addition, the storage site is approachable  
5 from the ocean as well as from the publicly accessible  
6 state park and is also situated right next to the major  
7 interstate highway I-5, making it vulnerable to a  
8 potential terrorist attack. Security at the facility is  
9 insufficient, and the site could easily be breached.

10 The current storage containment is supposed to  
11 be temporary; however, there is no clear timeline for  
12 when the waste will be moved from San Onofre, nor is  
13 there a permanent repository for nuclear waste in our  
14 country yet.

15 The proposed plans for consolidated interim  
16 storage are unsafe, morally unjust, and very unlikely to  
17 happen before sea level rise begins to threaten the  
18 current facility.

19 Because of these concerns we are advocating for  
20 local relocation of the waste to a new temporary storage  
21 facility on the mesa further east in Camp Pendleton  
22 where it can be safely stored, monitored and defended  
23 until a national repository is constructed.

24 The mesa is a plot of land with existing  
25 concrete pads and roadways that Edison has used in the



1 past and has a current lease for and is performing  
2 voluntary cleanup at. The site is 120 feet above sea  
3 level, which is 108 feet higher than the current storage  
4 site, and far above expected sea level rise from climate  
5 change. Additionally, it is essentially not visible  
6 from the freeway because a hill blocks it out of sight,  
7 rendering it much easier to protect against a terrorist  
8 attack.

9 Canisters could be slowly and carefully  
10 transported under the freeway on a service road that  
11 goes underneath the freeway, Edison's service road, and  
12 connects directly to the mesa site.

13 The new facility should include above-ground  
14 concrete reinforced buildings designed to isolate it --  
15 radioactivity from the environment, where canisters can  
16 be properly monitored and inspected, and a hot cell  
17 where canisters can be repaired or replaced should  
18 damage occur. The facility should be atmospherically  
19 controlled as to reduce canister exposure to salt air,  
20 then be shut down to prevent airborne releases in the  
21 case of canister failure.

22 Lastly, I would like to note that my question,  
23 which I submitted via email, was not adequately  
24 addressed, and that question was about if a canister  
25 were breached, is there a potential for an explosion or

1 zirconium fire?

2 DR. VICTOR: Thank you very much for your comments.

3 And I see you're reading from something. So if  
4 you'll share that with us, we'll make sure the full text  
5 ends up in the record.

6 Rita Raydon and then Mark Bell.

7 (A discussion is held off the record.)

8 DR. VICTOR: Okay. Torgen?

9 MR. JOHNSON: This is addressed to Scott Morris,  
10 with all due respect. The former chairman of the U.S.  
11 Nuclear Regulatory Commission, Dr. Jaczko, who is a  
12 nuclear physicist, along with Rear Admiral Len Hering,  
13 who's a retired two-star admiral -- and he was a  
14 commander of the U.S. Navy's Region Southwest and  
15 Region Northwest, which extends out to China -- both of  
16 these men are speaking out very clearly about their  
17 deep concern about what's happening at San Onofre right  
18 now.

19 And I just want to say that the two near miss  
20 disasters are a predicable outcome of deficient  
21 engineering, deficient safety culture and deficient  
22 regulation and enforcement.

23 Near miss disasters can be a gift if those  
24 gifts -- if those responsible for the near miss  
25 disasters act responsibly and heed the warnings. And

1 that's to stop and accurately asses potential  
2 consequences to on-site workers and first responders and  
3 surrounding communities.

4 And all you need to do -- and I wish everybody  
5 in the room would do this, write this down, just Google  
6 the word fuel flea -- flea, like a flea on a dog -- and  
7 the word San Onofre, and look at the lawsuits that  
8 occurred in San Onofre because of damaged fuel. Tiny  
9 microscopic particles inhaled will kill you.

10 These canisters are full of damaged fuel. And  
11 when we talk about dropping a canister, breaching a  
12 canister, and the potential hydrogen explosions and  
13 dispersion of this material, the zirconium fires or  
14 explosions in the pallets that are also built up with  
15 hydrides, we miss the point of -- we've got communities  
16 downwind; we have first responders that are coming in to  
17 respond to this; we've got -- we've got the workers  
18 on-site. None of us have any idea what we're in for.

19 But Google that, please, and then let's have a  
20 real conversation about what these canisters mean.

21 I hope you all saw the 60 Minutes episode about  
22 Fukushima this last Sunday -- if you didn't, you should  
23 go on their site and take a look -- there are a lot of  
24 cities still abandoned, food still on the stove, clothes  
25 still on the laundry lines.

1           The public's interest in all of this -- and the  
2           reason why we're here and we're so adamant about this --  
3           is we have \$1 trillion in land improvements that are  
4           potentially uninsured losses. And all of you that are  
5           civic leaders should know that already. Uninsured  
6           losses equates, when you talk to a person's residence,  
7           that's probably their nest egg, so that equates to  
8           personal financial ruin. And that happens at the speed  
9           of the wind. An accident at 15 miles an hour travels --  
10          the wind at 15 miles -- 30 miles in two hours.

11           The public's demanding that we stop the loading  
12          and recall Holtec's deficient engineered UMAX system.  
13          And the firm NPR -- I'm just going to finish -- the firm  
14          NPR that Edison's using to analyze this system is the  
15          same firm that reassured the public that we had a Backup  
16          Plan B in Idaho, that the hot cell that was demolished  
17          in 2007 was our backup plan. They're the points now  
18          that Edison is relying on to reassure us all that this  
19          is going to be okay with these canister. Think about  
20          that.

21           And, Scott Morris, think about Southern  
22          California Edison is going to self-regulate itself, had  
23          the worst safety record of all 104 operating nuclear  
24          reactors when the public demanded shutdown.

25          DR. VICTOR: Thank you for your comments.

1 MR. JOHNSON: Thank you for shutting it down.

2 DR. VICTOR: Mark -- thank you for your comments.

3 Mark Bell and then Rita Raydon.

4 Mark Bell, the floor is yours.

5 MR. BELL: Thank you. Good evening.

6 This is a great country, a great meeting,  
7 because we can argue, yell, and everybody still gets  
8 along, nobody gets dragged out, nobody disappears at  
9 night. Not every country can do that. I -- I think  
10 it's a good deal.

11 I want you to think about Foster Farmers, Zachy,  
12 Gallo, Two Buck Chuck, Calpine, the walnut -- walnut  
13 industry here in California, the Navy. All kinds of  
14 industry have stainless steels, and stainless steels  
15 stress corrosion crack. This is not anything secret or  
16 is not bad science, is not hard to understand. It  
17 happens.

18 I am very concerned that the stainless steel  
19 canisters used are not [sic] going to suffer stress  
20 corrosion cracking. You need temperature, you've got  
21 that. All you need is 140 degrees. These things are  
22 hot to the touch, probably 240 Fahrenheit. You need  
23 chlorides. Coastal marine atmosphere, chlorides are  
24 plentiful. You need stainless steel, 304, 316, it's  
25 very susceptible to stress corrosion cracking.

1           And I think the reason you're not suffering  
2 stress corrosion now is these contain -- canisters  
3 appear to be made with compressive stresses. Apparently  
4 there's a paper out today from Holtec that describes how  
5 they do that. But my experience is if you want to avoid  
6 stress corrosion cracking, you can put the surface in  
7 compression. A scratch -- a serious scratch, a ding,  
8 some kind of an interruption in this compressive stress  
9 layer will cause stress corrosion cracking. And it  
10 doesn't take 16 or 18 years -- industry here in  
11 California will suffer in a couple of weeks -- with  
12 moderate temperatures, low levels of salt, and they  
13 get -- it will cost them a lot. It will cost us a lot  
14 more if we don't address this problem and see that  
15 it's -- the risk of it is high, the occurrence of it is  
16 fairly certain.

17           And that's a -- somebody mentioned these were  
18 the highest grade stainless steel. It's 304. It's not  
19 the highest grade. There are grades of stainless steel  
20 that are resistant, immune to stress corrosion cracking.  
21 We know about them. It's a matter of money, politics.

22           DR. VICTOR: Thank you very much for your comments.

23           Next we have Rita Raydon and then Jim Wade. And  
24 Jim Wade will probably be the last comment for tonight.

25           Rita Raydon, the floor is yours.

1 MS. RAYDON: David, I'd really like to request that  
2 we have an interactive discussion rather than listening  
3 for 60 to 75 minutes of Tom's -- or rather Edison's  
4 propoganda. I don't know about you, but I don't know  
5 like to be exposed to like Russian collusion. And  
6 that's kind of how I feel, like I have -- like the  
7 editor-in-chief of Pravda, and he gets up and he  
8 lectures us about how wonderful and rosy everything is  
9 when it's not. So I really think that we need to have  
10 something like an interactive discussion where we, as a  
11 community, while he's speaking can ask questions right  
12 on the spot and he has to answer to them right on the  
13 spot. And that way you'll get to the truth.

14 Now, I was an engineer for about ten years. I  
15 did reliability engineering. And one of the questions I  
16 asked Tom was: What is your confidence and your  
17 prediction? That's a normal engineering question that  
18 any reliability engineer would understand. Okay? They  
19 did a failure modes and effects analysis or some variant  
20 of that. And they did reliability predictions, and you  
21 come up with a confidence level: I am 99 percent  
22 confident; I am 90 percent confident. These are  
23 engineering questions. I can assure you that he's not  
24 99 percent confident or 99.9 percent confident in his  
25 predictions. And that's a problem, because you've got

1 8.6 million people in this area, the fallout zone, and  
2 I'm one them, as is my family, as is every person in  
3 this room. So this is a really serious issue, and yet  
4 we're not dealing with it like serious engineers would.

5 And the fact that we have these thin-walled  
6 canisters with this superheated, superhot uranium that  
7 puts all kinds of stressors on this material that we  
8 have not modeled, that we cannot model, and we're just  
9 basically kind of scratching our heads and trying to  
10 get -- understand this from a mathematical standpoint is  
11 very unrealistic.

12 Thank you.

13 DR. VICTOR: Thank you for your comment.

14 Jim Wade?

15 MR. WADE: This one lady did mention this already  
16 talking about it was 1966 when Edison got permission to  
17 build the plant, and they had a place to store the  
18 nuclear waste. And as soon as Yucca Mountain wasn't  
19 feasible anymore, I'm really wondering how they could  
20 continue operating the plant.

21 One other point was: Why do we have a Coastal  
22 Commission? This should be the Number 1 issue of the  
23 state, for that matter, the whole world.

24 Thank you.

25 DR. VICTOR: Thank you very much for your comments.



1 I do want to -- we're way over time but I do  
2 want to make sure that we put a few of these comments  
3 back to Tom and especially Scott, since we have Scott  
4 here once, but we hope he'll come back to the homeland.

5 So, Dan and Jerry, do you want to put a few  
6 comments to -- to Tom and to Scott? Then I want to talk  
7 a little bit about what we're going to do with all the  
8 comments that have not been fully answered.

9 MR. STETSON: Sure, be happy to.

10 And, again, I want to thank you for attending  
11 the meeting, Scott.

12 This is actually a number of keys tied together  
13 but they deal with -- Number 1 is: Why does the NRC not  
14 require Edison to use thicker casks -- or canisters than  
15 they're currently using? And 2: Why are they not  
16 required to have hot cells? And 3: Related to that,  
17 why are they allowed to get rid of the pools?

18 MR. MORRIS: I'm writing.

19 MR. STETSON: Okay.

20 MR. MORRIS: Casks, hot cells --

21 MR. STETSON: Pools.

22 MR. MORRIS: And, I'm sorry, the question about the  
23 pools exactly, what was that again?

24 DR. VICTOR: Where is removal of the on-site spent  
25 fuel pools being allowed?

1 MR. MORRIS: So thanks for the question.

2 Again, not -- I want to put the answer in  
3 context. So our folks based in Washington, the policy  
4 makers, the regulation writers and the licensing folks,  
5 that's their fundamental role. In the region -- so my  
6 point in saying that is the question would be more  
7 properly -- or more likely to be answered to your  
8 satisfaction by people who actually do that. What we do  
9 in the region is we inspect against those requirements  
10 that are established. That's fundamentally the role.  
11 Setting that aside, I'll do my best to try to answer the  
12 question. So just wanted to set that up.

13 So the cask designs that are certified under  
14 Part 72 or our requirements, again, that's a -- those  
15 requirements are established by the office of NMSS,  
16 Nuclear Materials Safety and Safeguards headquarters,  
17 and they do the licensing work. The cask -- the cask  
18 design was certified in a manner that demonstrated  
19 compliance with those requirements. You can argue with  
20 the requirements, but the requirements were created in a  
21 publically -- in a public-participative manner -- as are  
22 all -- all regulations are under the Administrative A  
23 Procedures Act passed by Congress. So they're not done  
24 in a vacuum; there is opportunity for public comment on  
25 the requirements.

1           What I'm telling you is when the licensing work  
2 was done, those -- that cask design, this particular  
3 system, was licensed against our requirements, and it  
4 met the requirements. It's not a question of  
5 relativism, you know, "Why not this cask, and why not  
6 that other cask?" Do they fundamentally meet the  
7 performance objectives and requirements for holding  
8 spent fuel for -- you know, for the duration of the  
9 license? That's that question.

10           The -- let's see. Was the other one -- oh, hot  
11 cell. Hot cell -- can't even read my writing -- hot  
12 cell. The -- the phenomenon that you're referring to  
13 that would require offloading of a fuel canister -- and  
14 again, I'm speaking a little bit out of turn because  
15 it's not necessarily my expertise -- but the -- the  
16 requirement in the regulations is that the fuel in a --  
17 loaded into canister must be retrievable. Right?  
18 Again, it's -- it's not necessarily -- it's not a  
19 deterministic or prescriptive requirement; it's -- it  
20 has to be done. How it gets done, you know, that's --  
21 you know, that can be done -- you can skin a cat in  
22 multiple ways. So we just say it has to be retrievable,  
23 and whatever mechanism is used would obviously have to  
24 ultimately be approved, but -- so the fuel is, by  
25 definition, retrievable consistent with our

1 requirements.

2           The hot cell piece. You know, clearly if there  
3 was a spent fuel pool available, then that -- clearly  
4 that would be the -- you know, one -- one way to remove  
5 the fuel, because you would put the canister back in the  
6 pool, cut open the lid and remove the fuel. Right? And  
7 it's cooled. Another -- but there are other mechanisms,  
8 including the hot cell approach and perhaps others.  
9 There's no requirement to have one present on-site prior  
10 to the fuel pools being removed because the -- the  
11 postulated -- it's not -- it's not -- and again, I'm  
12 speaking a little bit out of turn -- but it's -- there  
13 would be clearly a determine -- there would be an  
14 opportunity for the fuel to sit there in the canister  
15 until such -- there's not -- it's not an immediate  
16 explosion that's going to happen kind of event. It's --  
17 there's time to fully consider how that would actually  
18 be done.

19           DR. VICTOR: And that's the answer as to why the --

20           MR. MORRIS: And then the pool. And that's the  
21 answer to the pool question.

22           DR. VICTOR: Jerry?

23           MR. KERN: This goes back to actually the first  
24 speaker and probably to Tom about the emergency plan  
25 procedures and how does SCE disseminate the information

1 to the cities in case there's an incident?

2 MR. PALMISANO: So what are our emergency plan? We  
3 continue to have an emergency plan -- changed in 2015  
4 after the reactors had been shut down, the fuel. When  
5 we enter the unusual event or alert, we have to notify  
6 the counties within 15 minutes. That's how the  
7 counties are notified. And then the counties have the  
8 responsibility to notify the public according to what  
9 the hazard is.

10 DR. VICTOR: We have time for one or two more.

11 I have a responsibility to not go massively over  
12 time, only somewhat massively over time.

13 Dan Stetson?

14 MR. STETSON: So, Tom, with the incident with the  
15 canister getting caught up on the guiding ring, is  
16 there -- or do the guiding rings need to be modified or  
17 fixed so that that won't happen again?

18 MR. PALMISANO: We have judged -- and I realize  
19 there's a significant difference of opinion -- that for  
20 the remaining 44 canisters that the shield guide ring  
21 does not need to be modified. Whether Holtec modifies  
22 that in the longer term, I don't know. I would have to  
23 check with them.

24 DR. VICTOR: We should find out why at other sites  
25 the modification seems to be made --

1 MR. PALMISANO: Yeah, we can try that.

2 DR. VICTOR: -- and why -- why we're not doing that.

3 MR. PALMISANO: Can we clarify just one thing just  
4 so everybody understands a restart?

5 Edison only has to decide to restart. We will  
6 not do that until the NRC is satisfied.

7 MR. MORRIS: That's the same clarifying point.

8 And Edison doesn't get to decide when they  
9 restart. They have tell us when they think they're  
10 ready for the NRC to come in and inspect them such that  
11 we can make the determination that they are, in fact,  
12 ready to restart.

13 MR. PALMISANO: Right, yeah.

14 DR. VICTOR: Steve Swartz?

15 MR. SWARTZ: Just real quick. I would hate to see  
16 that we have to have a major nuclear incident here  
17 before our Congress and feds align off of their  
18 backside and do something in regards to the nuclear  
19 storage disaster that I believe Washington, D.C.,  
20 created on us -- for us.

21 But I would just want to end -- well, come back  
22 on the wrap-up in the meeting to say what I did hear  
23 during the night -- during the day was, again, it's the  
24 public wanting to have the confidence that they are  
25 going to be safe. Besides the monitoring, I think what

1 I heard also today was that I think it would be great  
2 for Edison to come back to us and tell us if they are  
3 going to go ahead and take the suggestion that was made  
4 tonight, that they're going to fund an NRC inspector to  
5 be there once the loading starts up again, to be  
6 on-site, that they'll pick up the tab, but that the  
7 inspector will report only to NRC so we have some  
8 independence there. And I think that would be a great  
9 way for Edison to come back and buy some -- get some  
10 more feeling of comfort with the community surrounding  
11 them. That's my idea.

12 DR. VICTOR: Can I just -- clearly, one of the many  
13 follow-up items from tonight is to understand how to  
14 increase the appropriate regulatory inspection  
15 oversight. Let me suggest that we separate that issue  
16 from who pays for it, because independent agencies are  
17 always wary about setting up some process where the  
18 inspectee pays for the extra inspections, because that  
19 gets the incentives wrong.

20 But the core point, I think, is: How do we get  
21 more oversight and confidence? And I completely agree  
22 with you on that. And, Scott, I'd like to follow up  
23 with your office about this -- and Edison.

24 MR. MORRIS: Sure. And -- I mean, I -- if we had  
25 more time, I could go into a lot more detail about how

1 that gets done.

2 DR. VICTOR: But we have neither.

3 So last comment or question, Dan or Jerry?

4 MR. STETSON: So, Scott, there was a report that  
5 there were 687 whistleblower complaints, and a number  
6 of those were not followed up on. Could you please  
7 tell us if that is accurate and what's the policy of  
8 the NRC to follow up on whistleblower complaints?

9 MR. MORRIS: So we -- so thanks for the question.

10 I actually took a note while you -- while folks  
11 were talking, I took quite a bit notes, because there  
12 some things in here that I want to check on myself, and  
13 that's one of them.

14 I don't know the actual numbers. I respect the  
15 gentleman who brought it up, and I have no reason  
16 discount what he said about the actual numbers. What I  
17 don't know -- and I want to look up -- is this notion of  
18 substantiation by NRC. There are -- not all  
19 whistleblower complaints -- how do I want to say it?  
20 They're not all -- they're not equal in magnitude and  
21 potential significance. There are also informal ways of  
22 resolving things without it going through a formal, more  
23 legalistic process, the idea being that we can get to a  
24 solution in a quicker fashion. And I don't know what  
25 percentage that -- I just don't know. But I commit to



1 finding out.

2 DR. VICTOR: Thank you very much for that.

3 The staff is signaling very clearly that we need  
4 to finish. So I just want to put one slide up -- the  
5 next slide -- and mention that we're starting to figure  
6 out what the topics will be for next year. The topic  
7 for today's meeting, until it was changed for obvious  
8 reasons, was to talk about things that keep coming up,  
9 stress corrosion cracking, the emergency plan and so on.  
10 That might make sense to have as a meeting. We're going  
11 to do something on defense-in-depth. It might make  
12 sense to talk about the status of private consolidated  
13 interim storage, if there's any progress on that. We're  
14 going to be working very hard on this issue, and I hope  
15 you will join us in doing that in Washington with the  
16 new Congress.

17 It's been a long meeting. I thank everyone very  
18 much. I just urge you, please, drive safely as you go  
19 home. And be safe.

20 Thank you very much.

21 (The proceedings ended at 8:55 p.m.)

22

23

24

25

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

CERTIFICATE

OF

CERTIFIED SHORTHAND REPORTER

The undersigned Certified Shorthand Reporter  
of the State of California does hereby certify:

That the foregoing proceeding was transcribed  
by me to the best of my ability;

I further certify that I am neither  
financially interested in the proceedings nor a relative  
or employee of any party to the proceedings.

IN WITNESS WHEREOF, I hereby subscribe my name  
this 13thh day of December, 2018.



Heidi Hummel-Grant

Certified Shorthand Reporter No. 12556

[& - able]

<b>&amp;</b>	<b>1981</b> 5:14	<b>29</b> 1:15 2:13 3:2	<b>50</b> 33:24 75:5
<b>&amp;</b> 9:12	<b>1993</b> 33:22	20:23 26:2 31:11	<b>500</b> 56:23 57:13,15
<b>1</b>	<b>1:00</b> 28:10	62:4 65:9 66:5	<b>59</b> 115:24
<b>1</b> 1:25 11:2 70:8	<b>1st</b> 41:9	81:3 94:11 118:17	<b>5:27</b> 2:12 3:2
89:15 148:3	<b>2</b>	134:17	<b>6</b>
152:22 153:13	<b>2</b> 105:9 109:3	<b>3</b>	<b>60</b> 7:23 10:20
<b>10</b> 62:19 63:3	153:15	<b>3</b> 26:13 69:5 109:3	13:12 24:25
<b>100</b> 143:4	<b>20</b> 10:19 35:4 82:7	138:25 153:16	147:21 151:3
<b>104</b> 148:23	116:13 144:2	<b>3,000</b> 35:23	<b>67</b> 10:22
<b>108</b> 145:3	<b>2006</b> 35:5	<b>30</b> 25:15 26:9,11	<b>68</b> 65:19
<b>10th</b> 40:14,15	<b>2007</b> 65:8 148:17	26:11 31:12,12	<b>687</b> 135:2,4,8,13
59:14 132:22	<b>2010</b> 135:2	48:2 68:25 69:1	160:5
<b>11</b> 79:15	<b>2015</b> 157:3	81:3 107:24 114:6	<b>6th</b> 22:13 39:11
<b>12</b> 62:19 63:3	<b>2016</b> 34:23 135:2	148:10	<b>7</b>
<b>120</b> 145:2	<b>2017</b> 62:13 138:12	<b>304</b> 149:24 150:18	<b>72</b> 154:14
<b>12556</b> 1:22 2:14	<b>2018</b> 1:15 2:13 3:2	<b>3108008</b> 1:23	<b>73</b> 31:11 62:18
162:19	109:19 162:13	<b>316</b> 149:24	<b>75</b> 151:3
<b>13</b> 35:3	<b>2019</b> 109:24,25	<b>35</b> 143:12	<b>7th</b> 42:7
<b>13thh</b> 162:13	110:3	<b>37</b> 19:10 51:13,13	<b>8</b>
<b>140</b> 149:21	<b>2020</b> 71:2,5	51:14 65:5,18,21	<b>8.6</b> 152:1
<b>14th</b> 40:14,16	<b>2022</b> 71:1	69:2 107:21	<b>8:55</b> 2:12 3:2
130:3	<b>2023</b> 71:6	120:22	161:21
<b>15</b> 87:9,14 139:13	<b>2049</b> 143:13	<b>3rd</b> 12:13 18:15,17	<b>8th</b> 47:25 48:13
139:14 148:9,10	<b>2050</b> 143:13	20:17,22,23 25:23	<b>9</b>
157:6	<b>22</b> 81:9	26:16,20 27:9	<b>9</b> 139:1
<b>15048</b> 162:17	<b>22nd</b> 18:16 25:16	39:3 60:4 76:16	<b>9/11</b> 34:7
<b>16</b> 120:11 150:10	59:12 91:17	129:25 133:1	<b>90</b> 114:7,7 117:15
<b>161</b> 1:25	129:11,21 132:23	<b>4</b>	151:22
<b>17</b> 24:5 79:16	<b>23</b> 13:15	<b>4</b> 42:22 119:17	<b>99</b> 10:18,22 33:2
125:3	<b>235</b> 135:3	<b>405</b> 116:3	151:21,24
<b>17th</b> 39:23 40:8	<b>24</b> 130:2	<b>44</b> 31:11,13,13,15	<b>99.9</b> 151:24
<b>18</b> 21:8 22:5 33:2	<b>24/7</b> 110:14	49:12,13 81:4	<b>9th</b> 89:9
125:8 138:24	127:15	117:19 157:20	<b>a</b>
150:10	<b>240</b> 149:22	<b>45</b> 21:14 24:25	<b>abandoned</b> 147:24
<b>1864</b> 65:9	<b>25</b> 20:14 22:4 23:9	41:20 48:3 139:11	<b>abilities</b> 40:18
<b>1938</b> 2:10	24:4 51:25 65:7	<b>4th</b> 1:3 2:1	<b>ability</b> 162:8
<b>1954</b> 35:20	70:4 96:11	<b>5</b>	<b>able</b> 15:15 33:17
<b>1966</b> 152:16	<b>26</b> 13:12	<b>5</b> 114:19 115:25	37:16 44:20,21
<b>1975</b> 35:18,22	<b>27</b> 107:21	116:2 144:7	56:25 87:6 97:7
	<b>28</b> 20:17		

[able - alarms]

<p>98:24 114:19 115:21 141:12 142:1 <b>absent</b> 103:17 <b>absolutely</b> 18:23 <b>absorb</b> 65:22 <b>absorbed</b> 65:16 <b>accelerated</b> 41:21 41:24 <b>acceptable</b> 22:22 98:11 <b>acceptance</b> 98:10 <b>access</b> 106:10,10 <b>accessible</b> 144:5 <b>accident</b> 148:9 <b>accountable</b> 85:5 <b>accurate</b> 160:7 <b>accurately</b> 147:1 <b>acknowledge</b> 128:18 <b>acknowledged</b> 118:24 119:13 128:5 <b>act</b> 35:19 135:7 146:25 154:23 <b>acting</b> 132:8 <b>action</b> 6:22 76:9 76:17,24 81:1,17 101:19 122:19,25 132:8,25 <b>actions</b> 14:6 22:16 26:1 27:6 42:9,20 43:18,20 44:14,19 45:4 47:7,8,9,14 61:5 64:16 71:17 77:22 79:6 85:9 97:4,6 102:7 104:9 <b>active</b> 35:1 50:5 53:21 56:15 122:16</p>	<p><b>actively</b> 59:9 103:16 <b>activities</b> 25:6 26:3 28:8 39:17 50:7,14 72:17,22 76:1 78:15 79:1 92:20 95:8 110:5 <b>activity</b> 18:6 19:21 27:9 61:25 66:1 72:16 75:13 <b>actual</b> 23:11 44:4 44:5 72:17 99:20 99:22 100:21,21 100:23 124:11 141:1 160:14,16 <b>adamant</b> 148:2 <b>add</b> 75:4,16 <b>added</b> 73:1 75:16 <b>adding</b> 78:7 <b>addition</b> 4:21 72:24 144:4 <b>additional</b> 42:4,5 42:18,18,24 45:8 75:17 78:8 108:10 112:17,22 126:23 139:12 <b>additionally</b> 73:16 74:22 135:18 145:5 <b>address</b> 13:16,17 43:2 45:17 47:20 88:10 93:2 150:14 <b>addressed</b> 13:14 87:12,18 92:24 120:17,18 132:24 140:24,25 141:20 145:24 146:9 <b>addresses</b> 46:11 71:2 <b>addressing</b> 77:1</p>	<p><b>adequacy</b> 42:9 78:21 102:6 <b>adequate</b> 40:21 43:10,12,15 63:18 68:10 69:12 72:8 <b>adequately</b> 40:22 63:12 67:5 68:18 73:15 145:23 <b>adjust</b> 40:4 64:6 <b>adjusting</b> 66:6 <b>administration</b> 35:15 <b>administrative</b> 154:22 <b>administratives</b> 5:6 <b>administrator</b> 4:25 32:23 33:13 33:14 <b>admiral</b> 146:12,13 <b>admit</b> 118:25 143:9 <b>admitted</b> 118:16 <b>adopted</b> 143:7 <b>adr</b> 47:11,18 48:2 48:14 <b>advance</b> 7:21 13:12 17:22 57:12 107:1 <b>advanced</b> 31:21 131:15 <b>advancing</b> 133:20 <b>advantage</b> 139:15 <b>advice</b> 13:23 <b>advising</b> 89:6 <b>advocates</b> 129:16 <b>advocating</b> 122:9 144:19 <b>aec</b> 35:20 <b>affairs</b> 135:24</p>	<p><b>affidavit</b> 129:15 132:21 133:8 <b>affirmation</b> 44:24 <b>afternoon</b> 28:11 <b>agencies</b> 54:10 111:22 159:16 <b>agency</b> 35:13,17 35:23 36:4,24 37:22 44:11 47:12 54:19 102:18,19 103:15 110:23 120:18,20 133:19 135:14 <b>agenda</b> 3:25 7:2,3 12:12 13:4,6 71:10 77:13 90:15 139:17 <b>aging</b> 69:22 70:25 71:11 94:21 97:14 97:19 98:14 99:3 <b>ago</b> 5:8 9:9 17:14 23:1 37:11 118:9 120:19 129:5 133:25 <b>agree</b> 51:20 53:6 60:11 80:15 82:10 82:10 92:12 94:7 103:4 125:18 159:21 <b>ahead</b> 7:12 136:20 159:3 <b>air</b> 82:16,22 145:19 <b>airborne</b> 109:2 145:20 <b>alarm</b> 74:18 75:4 75:7 124:13 <b>alarming</b> 81:8 123:25 <b>alarms</b> 78:8 81:13</p>
---	--	--	--

[alaska - assembly]

<p><b>alaska</b> 33:6  <b>alcohol</b> 130:12  <b>alert</b> 157:5  <b>align</b> 24:13,14  158:17  <b>aligning</b> 76:13  <b>alignment</b> 24:10  25:19 77:25 78:1  78:4  <b>allocate</b> 37:22  <b>allocating</b> 53:17  <b>allow</b> 63:18 75:18  77:16 138:10  139:14  <b>allowed</b> 101:18  111:7 153:17,25  <b>allowing</b> 115:17  132:10  <b>alluded</b> 43:23  <b>alternate</b> 52:12  <b>alternative</b> 46:25  122:23  <b>american</b> 58:16  <b>amount</b> 40:21  50:19 81:14  114:14 141:15  <b>amplify</b> 28:16  <b>amtrak</b> 120:9  <b>analogy</b> 102:14  103:13  <b>analyses</b> 27:16  44:13,19 60:21  <b>analysis</b> 22:15  30:14 44:8 45:3  51:17,22,24 52:1  52:12,14,16,20,21  52:22 60:21,21,22  64:25 65:3,9,14,23  66:2,21 67:3 68:4  83:9,16,18,19,20  96:10 99:1 112:19</p>	<p>139:22 151:19  <b>analyze</b> 148:14  <b>analyzed</b> 22:3  64:22 70:15 82:25  <b>anderson</b> 142:15  142:16  <b>angeles</b> 120:9  <b>anger</b> 138:2  <b>announcement</b>  125:10  <b>annual</b> 58:17  <b>answer</b> 27:13 28:2  29:4 32:21 37:5  40:9 44:9 53:13  54:20 56:16 89:19  93:3,6 98:25  100:8,18 104:20  121:13 135:6  137:6 138:5  151:12 154:2,11  156:19,21  <b>answered</b> 7:25  8:14 9:1,4 12:18  12:21,25 65:24  87:14,16 105:19  107:5,8,9 139:9  140:21 141:6  153:8 154:7  <b>answering</b> 18:11  27:22 108:14  <b>answers</b> 4:2 13:20  13:22 87:1 136:22  137:7,20  <b>anthony</b> 9:19  <b>anticipate</b> 62:25  <b>anticipates</b> 110:2  <b>anybody</b> 17:3  105:11,15 112:15  117:9 118:6 119:3  <b>anymore</b> 28:7  152:19</p>	<p><b>anyway</b> 74:12  <b>apologies</b> 139:18  <b>apologize</b> 43:14  <b>apparatus</b> 90:7  <b>apparent</b> 42:16  45:12 62:8 91:8  <b>apparently</b> 80:9  150:3  <b>appear</b> 129:6,7,10  150:3  <b>appears</b> 94:3  130:14  <b>applaud</b> 3:9  <b>application</b> 51:18  110:2  <b>applications</b> 33:10  <b>applied</b> 99:1  <b>apply</b> 38:7 40:5  <b>applying</b> 50:18  <b>appointed</b> 36:2  122:12  <b>appreciate</b> 27:22  32:12 81:18  100:24 111:5  113:16 124:7  126:2,18  <b>appreciated</b>  106:25  <b>approach</b> 38:10  40:3 47:1,4,24  55:11 68:23 156:8  <b>approachable</b>  144:4  <b>appropriate</b> 26:14  29:14 50:16,18  96:23 99:13  110:22 159:14  <b>appropriations</b>  14:6  <b>approval</b> 62:12  79:23</p>	<p><b>approve</b> 57:21  109:23 110:4  137:15  <b>approved</b> 155:24  <b>approximately</b>  20:14  <b>area</b> 10:9 15:13  96:23 114:19  115:4,5 122:5  152:1  <b>areas</b> 121:5  128:15,21  <b>areva</b> 9:14 62:20  71:1,5 97:9  111:11  <b>argue</b> 55:7 149:7  154:19  <b>ark</b> 4:17  <b>arlington</b> 32:24  34:24 45:19  <b>asbestos</b> 108:23,25  109:1,3,5  <b>aside</b> 154:11  <b>asked</b> 7:20 8:13  31:2 52:20 58:17  64:19 66:17 83:19  87:3,11 93:16  95:23 135:23  151:16  <b>asking</b> 13:1 77:12  79:7 96:4 107:4  130:6  <b>aspects</b> 127:12  <b>aspire</b> 36:17,18  <b>assembles</b> 22:8  <b>assemblies</b> 19:10  27:19 66:22 67:4  67:8,11,16 69:2  76:2 83:3  <b>assembly</b> 19:24  66:8 67:6</p>
---	--	---	--

[asses - bit]

<p><b>asses</b> 147:1  <b>assess</b> 38:11,17  56:7 78:20 125:12  <b>assessed</b> 78:25  <b>assessment</b> 60:24  78:19 125:23,24  128:4,8  <b>assessments</b> 55:20  55:23  <b>assign</b> 49:18  <b>assists</b> 83:5  <b>associate</b> 143:1  <b>assume</b> 30:11  49:13 115:1  <b>assumptions</b> 55:24  <b>assurance</b> 125:20  125:25  <b>assure</b> 151:23  <b>assured</b> 51:19  89:4  <b>atmosphere</b>  149:23  <b>atmospherically</b>  145:18  <b>atomic</b> 35:19  <b>attach</b> 88:2 133:7  <b>attack</b> 144:8 145:8  <b>attempt</b> 90:5,13  <b>attend</b> 131:4  <b>attended</b> 9:11,14  <b>attending</b> 153:10  <b>attention</b> 7:16  16:10 32:5 81:7  85:1 106:24  122:19  <b>audience</b> 116:19  133:12  <b>audio</b> 81:13  <b>augmented</b> 132:16  <b>august</b> 9:7 12:13  17:9 18:15,17</p>	<p>20:17,22,23 22:13  25:23 26:16,20  27:9 32:14 39:3  39:11 42:6,7 60:4  76:16 89:9 125:7  126:24 127:20  129:25 133:1  <b>authority</b> 80:6,7  80:10  <b>available</b> 5:16 8:4  17:14 37:13 40:6  40:12,18 42:1  79:20 106:3,9  112:9,21 127:5,7  128:10 139:23  156:3  <b>avenida</b> 2:11  <b>average</b> 37:2  <b>avoid</b> 25:21  125:13 136:23  150:5  <b>aware</b> 14:15 39:11  59:5,8 69:15 85:1  85:7 108:18  110:10 121:1  125:3</p>	<p>83:10 87:1,21  89:23 90:16 92:2  101:10 107:15  114:18 124:25  153:3,4 156:5,23  158:21 159:2,9  <b>backseat</b> 103:2  <b>backside</b> 158:18  <b>backup</b> 148:15,17  <b>bad</b> 118:15,25  119:11 137:9  138:18,23 149:16  <b>badly</b> 116:22  <b>balance</b> 76:6  <b>ball</b> 15:17  <b>base</b> 138:25  143:11  <b>based</b> 11:6 28:8  37:21 38:10,18  49:3 58:2 73:14  92:6 104:25  108:23 109:16  110:15 122:10,13  122:21 154:3  <b>basic</b> 36:17 62:23  72:21 73:6  <b>basically</b> 30:8  82:21 83:2 99:24  103:6 152:9  <b>basis</b> 50:8  <b>basket</b> 71:24  74:22  <b>beach</b> 122:13  144:3  <b>beaches</b> 128:16  <b>bear</b> 4:1  <b>bears</b> 95:24  126:17  <b>began</b> 26:3 39:12  <b>beginning</b> 2:12</p>	<p><b>begins</b> 85:22  144:17  <b>behalf</b> 39:19  <b>beholden</b> 36:1,2  <b>believe</b> 15:1 100:8  106:12,13 129:14  133:14 134:14  135:8,15 137:8,16  158:19  <b>bell</b> 146:6 149:3,4  149:5  <b>beneficial</b> 125:19  <b>benefit</b> 6:16 16:14  16:14  <b>benefited</b> 25:23  <b>best</b> 10:11 133:14  133:15 154:11  162:8  <b>better</b> 12:4 16:19  16:22 31:25 71:19  77:20 78:4 80:17  91:25 95:3 108:13  125:20,25 137:20  138:1  <b>beverage</b> 130:13  <b>beyond</b> 121:14  <b>biblical</b> 4:20  <b>bicycle</b> 140:3  <b>big</b> 3:24 7:3 9:14  14:5,18 99:6  <b>bill</b> 15:15,16,17  <b>billion</b> 119:17  <b>bit</b> 7:22 12:6 16:1  16:19 19:12 32:22  33:9,12 35:8,10,11  60:3,12 61:8  101:2 103:14  108:25 109:12  112:4 114:8 126:9  139:18 153:7  155:14 156:12</p>
	<b>b</b>		
	<p><b>b</b> 131:1,1 148:16  <b>babiar</b> 129:2  130:24 131:1,2,4,4  133:7  <b>back</b> 4:7,15 8:9,12  8:14,23 9:12 11:6  12:13 16:17 21:18  24:16 28:21 29:3  30:13,22 31:6  34:14 37:16 41:5  43:19 52:19 53:15  54:10 56:7 58:22  60:5 62:8 74:23  75:24 76:5 78:19</p>		

[bit - canister]

<p>160:11  <b>blew</b> 131:23  <b>blind</b> 24:11  <b>block</b> 120:13  <b>blocks</b> 145:6  <b>blown</b> 109:8  <b>blue</b> 8:3,3,4,7,8,10  12:13 17:22 87:10  <b>board</b> 2:11 131:6  138:13 142:21  <b>bodies</b> 6:1  <b>body</b> 5:25  <b>bold</b> 137:11  <b>bolt</b> 78:2  <b>bolted</b> 20:10 78:3  <b>bolts</b> 29:9  <b>booklet</b> 120:23  <b>booths</b> 5:16  <b>bore</b> 40:11  <b>boss</b> 33:13  <b>boston</b> 27:24,25  27:25 52:24,25  53:1,6,18 54:9,14  54:17 55:10,12  113:11 114:22  <b>bottom</b> 20:14 23:4  23:22 24:13,22  30:19 67:2 70:4  81:10 82:15 96:19  111:1 125:2  <b>boundary</b> 22:6  51:6 66:24 67:3  <b>boxer</b> 131:18  <b>brady</b> 139:20  141:23,23,25,25  142:6,13,21,22  <b>brain</b> 140:5,7  <b>branch</b> 34:3 35:15  35:16,17  <b>brand</b> 118:19</p>	<p><b>breach</b> 52:15 65:7  65:10 82:13 96:5  96:13  <b>breached</b> 22:6,22  27:18,19 66:10,22  67:9,17 96:11  97:23 140:9 144:9  145:25  <b>breaching</b> 147:11  <b>break</b> 49:13 79:20  89:13 107:14  140:6  <b>breakfast</b> 114:9  <b>breaks</b> 63:14  140:9  <b>breath</b> 140:14  <b>bridge</b> 143:2  <b>bridges</b> 115:24  116:2  <b>brief</b> 7:4 12:8  13:25 15:10,10  107:15 110:12  <b>briefed</b> 26:5 91:6  <b>briefly</b> 11:14 16:3  17:8 31:7 45:10  <b>bring</b> 5:13 72:11  111:8 114:18  <b>bringing</b> 72:6  <b>broaden</b> 71:20  <b>broader</b> 62:1  <b>broadly</b> 57:7  <b>broken</b> 115:16  118:9  <b>brought</b> 8:8  114:22 160:15  <b>bs</b> 52:7  <b>buck</b> 149:12  <b>build</b> 15:13 152:17  <b>building</b> 4:7 19:11  19:16 20:7,8  26:13,17 69:5</p>	<p><b>buildings</b> 119:19  145:14  <b>buildup</b> 138:15  <b>built</b> 65:12 73:17  73:22 109:4  138:23 147:14  <b>bulk</b> 29:17,18  <b>bullshit</b> 119:23  <b>bumping</b> 76:13  <b>burial</b> 132:6  <b>buried</b> 143:4  <b>burnell</b> 135:25  <b>bus</b> 115:3,21  <b>buses</b> 131:12,14  <b>business</b> 9:3 26:6  41:19 84:4  <b>button</b> 23:13  <b>buy</b> 159:9  <b>bypassed</b> 65:1</p> <hr/> <p style="text-align: center;"><b>c</b></p> <hr/> <p><b>c</b> 126:6  <b>cables</b> 109:5  <b>cabing</b> 134:2  <b>calculationally</b>  83:5  <b>california</b> 1:14  2:11 3:1 4:23 5:2  12:1 15:12 16:17  16:20 35:6 39:19  46:4,8 47:23 48:8  90:7 116:5 119:2  120:24,25 121:14  130:2,15,19  131:15 132:2  133:17 134:1,3,4,6  134:17,20,24  143:7 148:22  149:13 150:11  162:6  <b>california's</b> 128:5</p>	<p><b>call</b> 6:22 24:11  39:12,14,18 40:10  41:10 42:15,21  45:13,21 86:17  105:11 122:11,18  126:11 136:25  137:14  <b>callaway</b> 61:1  <b>called</b> 19:25 20:2  20:24 29:8 38:9  46:25 73:4 120:24  <b>calpine</b> 149:12  <b>camera</b> 31:25 75:1  78:7  <b>cameras</b> 43:23  84:11,13  <b>camp</b> 144:21  <b>campaign</b> 15:7  50:24 62:17,19,22  72:9  <b>campaigns</b> 50:5  53:22  <b>candid</b> 18:7 95:8  <b>canister</b> 7:10,19  8:2 12:21 19:6,7,9  19:11,14,17 20:4,5  20:13,23 21:3,3,5  21:6,8,11,13,17,18  21:19,21,22,25  22:3,4,21 23:4,7,8  23:15,22,25 24:4  24:13,19,20,24  25:7,12 26:2,9,11  26:11,16 27:17,19  29:13,16,21 30:1,2  30:4,18,19,21 32:1  44:4 51:7,24  52:13,15 61:19,22  62:4,5,6 65:5,6,10  65:12,13,14 66:5,6  66:8,10,19,20,20</p>
---	---	--	---

[canister - changing]

<p>66:21 67:2,7,15,17 68:17,25 69:1,16 69:17,19,23,24 70:4,6,11,12,19 71:9,24 73:4,5,12 74:23,25 75:3,5 76:11,13 81:9 82:13,16 83:1,4 88:7,8 92:22 94:11 95:4 96:1,1 96:4,5,9,13,15,19 97:5,11,14,17,20 97:22 99:2,18,22 99:24,25 101:4 123:23 124:17 125:3,5,8,21 127:16,24 138:11 138:22 139:24,25 140:1,8,9 141:4 145:19,21,24 147:11,12 148:19 155:13,17 156:5 156:14 157:15 <b>canister's</b> 21:12 29:18,19 66:24 97:21 <b>canisters</b> 12:12 20:18 25:9 31:13 51:14 62:18,21,24 64:22 70:24,25 71:3 76:2,3,3 81:2 83:6,8,11 84:8 88:5 92:16,21 97:15 98:4,5,6 99:20 100:8 104:6 111:25 112:3 116:12 117:18 118:17,20 119:2 119:12,16 125:21 134:10,17 138:22 145:9,15,17</p>	<p>147:10,20 149:19 150:2 152:6 153:14 157:20 <b>canyon</b> 11:11 121:6 <b>capability</b> 54:11 61:18 65:2 74:1 <b>captain</b> 31:7,9,15 31:19 <b>captured</b> 133:19 <b>captures</b> 106:19 <b>car</b> 80:7,10 120:14 <b>carbon</b> 10:21 11:5 <b>card</b> 8:3,8,17 12:14 107:6,19 <b>cards</b> 3:8 8:3,4,8 8:10,17 17:22 87:10 89:22 107:12,18 114:6 <b>care</b> 14:13,13 119:16 <b>career</b> 34:1 <b>careers</b> 133:21 <b>carefully</b> 7:24 82:4 145:9 <b>carolina</b> 9:13 135:20 136:1 <b>carry</b> 103:13 <b>carrying</b> 92:2 <b>case</b> 4:6 27:10 42:17 52:17 62:11 64:25 70:1 74:7 89:3 91:2,23 92:19 103:15 105:3 107:5 114:25 133:21 145:21 157:1 <b>cask</b> 19:18,25 20:3 20:3,8,9,13 23:2,3 23:8,20 24:21 26:12,18 29:4,10</p>	<p>30:8,13,15,17,24 31:23 49:10,12 51:10 61:17 68:19 69:4,13 75:5 127:8 154:13,17 154:17 155:2,5,6 <b>casks</b> 31:9 49:12 49:13 51:15 119:8 121:8 153:14,20 <b>cat</b> 155:21 <b>cataloged</b> 106:8 <b>catch</b> 134:2 <b>categories</b> 61:9 <b>categorization</b> 87:4 <b>category</b> 54:5 61:14 <b>caught</b> 131:22 134:7 157:15 <b>causal</b> 44:13,18 45:3 <b>cause</b> 22:15 69:19 88:4,8 102:25 150:9 <b>caused</b> 119:11 <b>causes</b> 18:20,20,21 43:8 60:10 98:8 <b>caution</b> 126:16 <b>cautious</b> 81:3 <b>cavalier</b> 130:21 <b>cavity</b> 70:20 <b>ccc</b> 104:22 <b>cease</b> 39:20 <b>cec</b> 124:16 <b>celebrate</b> 106:12 <b>cell</b> 116:9 145:16 148:16 155:11,11 155:12 156:2,8 <b>cells</b> 121:12 153:16,20</p>	<p><b>center</b> 34:14,16 131:16 <b>centered</b> 30:23 <b>centering</b> 25:9 <b>cep</b> 6:4 7:7 10:1,7 58:19 123:18 126:20 <b>cep's</b> 110:9 <b>certain</b> 150:16 <b>certainly</b> 86:5 107:2 126:18 <b>certificate</b> 64:23 64:24 162:1 <b>certified</b> 2:14 135:22 154:13,18 162:3,5,19 <b>certify</b> 57:21 109:14 162:6,9 <b>cetera</b> 33:9 43:24 71:4 104:16 <b>chair</b> 3:8 6:7 10:4 58:18 <b>chairman</b> 3:22 9:20 146:10 <b>challenge</b> 11:2 25:19 92:17 <b>challenges</b> 11:2 37:14 57:10 <b>chance</b> 6:20 11:13 60:17 65:10 73:9 78:5 80:2 117:7 <b>change</b> 11:20 15:2 56:15 81:25 125:5 138:4 145:5 <b>changed</b> 14:14 15:24 112:3 157:3 161:7 <b>changes</b> 14:7 43:22 81:13 <b>changing</b> 14:1 55:22</p>
--	--	---	---



[chapter - commit]

<p><b>chapter</b> 121:23  <b>charge</b> 34:12  120:16  <b>charles</b> 126:4  129:2,3 132:20  <b>charlotte</b> 9:12  <b>check</b> 72:3 73:11  73:19 78:21 87:6  134:5 157:23  160:12  <b>checked</b> 117:5  <b>checking</b> 30:3  <b>checks</b> 73:17,18  73:22 81:24  <b>chemicals</b> 128:13  <b>chief</b> 34:3 151:7  <b>childhood</b> 143:21  <b>children</b> 116:17  116:17  <b>china</b> 146:15  <b>chloride</b> 69:21  <b>chlorides</b> 149:23  149:23  <b>chooses</b> 47:3  <b>choosing</b> 125:14  <b>chosen</b> 70:9  <b>chris</b> 136:16  139:20  <b>christopher</b> 9:17  <b>chromium</b> 70:17  <b>chronology</b> 39:10  <b>chuck</b> 149:12  <b>church</b> 80:7,8  <b>circulate</b> 82:22  <b>circulation</b> 82:16  83:1  <b>cities</b> 147:24 157:1  <b>citizens</b> 137:3  <b>civic</b> 148:5  <b>civilian</b> 36:7</p>	<p><b>civility</b> 4:3  <b>clarification</b>  124:10  <b>clarify</b> 17:17  158:3  <b>clarifying</b> 17:17  17:18 26:24 48:10  158:7  <b>clean</b> 109:6  <b>cleanup</b> 145:2  <b>clear</b> 18:23 36:20  36:22 47:2 51:12  51:13 75:4 122:20  130:10 144:11  <b>clearance</b> 21:6  23:24 24:9 70:2  <b>clearly</b> 19:1 43:24  56:5 105:1 126:11  146:16 156:2,3,13  159:12 161:3  <b>clears</b> 24:17  <b>clemente</b> 3:17,20  115:25  <b>clicker</b> 28:23  <b>clicker's</b> 28:22  <b>cliff</b> 49:16  <b>climate</b> 145:4  <b>clock</b> 142:19  <b>close</b> 14:19 16:6  49:11 96:24  136:25  <b>closed</b> 114:20  <b>closely</b> 71:21  <b>closer</b> 95:5  <b>closeup</b> 24:19  <b>closure</b> 65:16  <b>clothes</b> 147:24  <b>club</b> 142:24 144:2  <b>cluster</b> 13:19  <b>coal</b> 11:6</p>	<p><b>coalition</b> 15:13  <b>coast</b> 9:9 122:11  <b>coastal</b> 104:22  105:6 109:15  110:1,2 143:7  149:23 152:21  <b>coastline</b> 122:4,16  <b>cocked</b> 24:22  <b>code</b> 105:16 130:9  <b>colleagues</b> 130:7  <b>collect</b> 41:3  <b>collusion</b> 151:5  <b>comb</b> 58:4  <b>combination</b> 85:8  <b>combine</b> 61:10  <b>come</b> 5:9 7:2 30:18  31:5 39:22 42:17  44:3,18 45:19,24  47:6 52:19,22  55:14 62:3 71:1  77:21 107:15  115:20 119:9  140:23 151:21  153:4 158:10,21  159:2,9  <b>comes</b> 37:19 39:3  47:15 61:6 63:23  117:16 139:3  <b>comfort</b> 159:10  <b>comfortable</b>  143:17  <b>coming</b> 3:21 5:10  5:15 21:2 31:4  114:23 123:10  147:16 161:8  <b>commanded</b> 129:6  <b>commander</b>  146:14  <b>commenced</b> 26:6  <b>comment</b> 8:16,18  8:24 32:21 58:14</p>	<p>58:15 65:8 107:17  107:18 111:10  113:17 114:3  115:9 117:3,5,8,9  142:3,5 143:19  150:24 152:13  154:24 160:3  <b>comments</b> 7:14  17:3,4,20,21 77:14  107:22,23 109:20  114:7,10 117:1  120:17 121:17  123:11 126:3  127:6 128:25  129:1 130:23  133:3 136:10,15  139:5,12 141:22  146:2 148:25  149:2 150:22  152:25 153:2,6,8  <b>commercial</b> 136:5  <b>commission</b> 4:25  5:1,8 9:20 16:18  17:11 35:19 52:9  58:23 104:22  109:13,15,18,22  110:2,8 130:8  132:14 133:13  134:20 135:1,6,20  135:24 136:6,7  146:11 152:22  <b>commission's</b> 7:11  143:7  <b>commissioned</b>  35:2 60:8  <b>commissioner</b>  9:18  <b>commissioners</b>  36:2  <b>commit</b> 44:17 45:7  50:10 53:15 86:5</p>
---	---	---	--

[commit - contact]

<p>160:25  <b>commitment</b>  44:23  <b>commitments</b>  63:17  <b>committed</b> 22:14  39:19 40:24 42:7  <b>committee</b> 10:5  143:2  <b>common</b> 35:25  94:8  <b>communicated</b>  79:17  <b>communicating</b>  95:7  <b>communication</b>  12:4 86:7 116:10  116:10  <b>communications</b>  39:15  <b>communities</b> 49:7  96:3 122:18 123:4  147:3,15  <b>community</b> 1:3  2:1 3:22 5:17,20  10:8,10,11,13  32:16 54:12 57:4  94:4 95:3 96:8  113:7,12 122:17  125:13 142:21  143:1 151:11  159:10  <b>compactly</b> 114:10  <b>companies</b> 9:15  <b>company</b> 84:2  <b>compartment</b>  20:15,25 21:20  <b>compensate</b> 79:8  <b>competence</b> 10:9  <b>complaints</b> 135:3  135:4,5,9 160:5,8</p>	<p>160:19  <b>complete</b> 19:15  21:21 25:14 60:15  79:5 104:20  110:19 135:22  <b>completed</b> 22:10  26:2,10 30:3 42:8  69:1 103:9 112:5  125:24  <b>completely</b> 19:15  29:20 94:12  159:21  <b>completes</b> 94:12  <b>completing</b> 65:25  79:13  <b>complex</b> 86:13  <b>compliance</b> 64:23  69:14 101:19  102:1,11,13 132:7  154:19  <b>complies</b> 103:11  <b>composed</b> 60:24  <b>comprehend</b>  120:21  <b>comprehensive</b>  45:3 124:8  <b>compressed</b>  131:13  <b>compression</b>  121:15 150:7  <b>compressive</b> 150:3  150:8  <b>compromise</b> 14:5  <b>computations</b>  55:16  <b>computer</b> 74:1,3  <b>concept</b> 17:18  <b>concern</b> 69:20  70:24 71:9 98:13  98:14 101:7  143:25 146:17</p>	<p><b>concerned</b> 80:22  102:6 133:20  140:25 149:18  <b>concerning</b> 136:4  143:24  <b>concerns</b> 3:14  39:13 47:20 48:16  84:22 122:22  138:14 144:19  <b>conclude</b> 79:5  <b>conclusion</b> 44:21  <b>conclusions</b> 43:9  <b>concrete</b> 144:25  145:14  <b>condition</b> 24:24  25:12 62:7 69:10  70:24  <b>conditions</b> 78:17  <b>conduct</b> 22:12  40:10 42:5 50:7  72:22 127:15  <b>conducted</b> 33:15  41:10 48:1,2 83:3  <b>conducts</b> 83:2  <b>conduit</b> 5:20,23  <b>conduits</b> 128:14  <b>conference</b> 9:8  45:21 48:1  <b>confidence</b> 67:19  67:23 84:1 151:16  151:21 158:24  159:21  <b>confident</b> 42:9  101:13 151:22,22  151:24,24  <b>confinement</b> 22:6  66:24 67:3  <b>confirm</b> 27:7  73:12,20 99:4  <b>confirmatory</b>  47:13,16</p>	<p><b>confirmed</b> 111:15  <b>confirming</b> 29:23  <b>congress</b> 14:4,25  15:10 35:17,21  154:23 158:17  161:16  <b>conical</b> 23:13  <b>connect</b> 20:11  <b>connected</b> 23:15  <b>connecting</b> 14:12  <b>connects</b> 145:12  <b>conscientious</b> 82:6  <b>conscious</b> 80:25  <b>consent</b> 122:10,13  122:21  <b>consequence</b>  129:10  <b>consequences</b>  66:18 147:2  <b>consider</b> 141:15  156:17  <b>considered</b> 109:1  122:24 128:7  130:13  <b>considering</b>  128:24  <b>consistent</b> 36:20  37:23 38:21 40:9  57:23 155:25  <b>consistently</b> 131:5  <b>consolidated</b>  122:21 144:15  161:12  <b>constructed</b>  144:23  <b>consultant</b> 125:9  <b>contact</b> 14:19  69:25 70:5,7  74:25 98:8 125:22  143:11</p>
---	--	---	--

[contacted - damage]

<p><b>contacted</b> 25:10  <b>contacts</b> 70:2  <b>contain</b> 150:2  <b>container</b> 70:20  <b>containers</b> 119:6  <b>containing</b> 97:25  <b>containment</b> 97:3  143:8,15 144:10  <b>contains</b> 130:12  <b>contaminating</b>  121:14  <b>contamination</b>  96:18 141:19  <b>contents</b> 140:1,7  <b>context</b> 154:3  <b>contingency</b> 138:9  <b>continue</b> 41:8  44:22 64:1 67:13  68:14 76:19,21  79:9 90:21 93:9  97:18 102:20  134:9 143:23  152:20 157:3  <b>continued</b> 67:6  <b>continues</b> 109:17  <b>continuing</b> 30:16  92:8  <b>continuity</b> 62:25  104:10  <b>continuously</b>  81:23  <b>contractor</b> 19:3  43:16 44:1 108:19  <b>contractors</b> 104:8  125:18  <b>control</b> 17:18 18:5  21:18 34:22 43:11  124:14  <b>controlled</b> 25:13  29:25 145:19</p>	<p><b>conversation</b>  129:16 132:22  142:18 147:20  <b>convinced</b> 91:4  <b>coolable</b> 67:5  <b>cooled</b> 67:6 68:17  122:7 156:7  <b>cooling</b> 69:12  <b>cooperate</b> 138:5  <b>cooperation</b> 94:6  <b>coordination</b>  114:20  <b>copies</b> 106:20  <b>cordon</b> 96:23  <b>core</b> 159:20  <b>correct</b> 18:21  31:18 40:21 55:24  60:16 91:18 96:6  108:7 121:21  131:2  <b>corrected</b> 38:25  60:16 88:4  <b>corrective</b> 22:16  27:6 42:9 43:18  43:20 44:14,19  45:4 47:9 61:5  71:17 76:9,17,24  81:17 101:19  102:7 132:8,25  <b>correctly</b> 91:1  <b>corrosion</b> 60:22  69:20,21 70:10  71:8 97:13 98:15  127:23 149:15,20  149:25 150:2,6,9  150:20 161:9  <b>cost</b> 120:11 150:13  150:13  <b>costal</b> 109:16  <b>council</b> 120:24</p>	<p><b>councilmember</b>  4:14  <b>count</b> 137:19  <b>counties</b> 96:22  157:6,7,7  <b>counting</b> 118:20  <b>countries</b> 56:10  <b>country</b> 5:3 10:21  11:1 14:12 33:25  34:10 38:3 50:1  112:2 144:14  149:6,9  <b>county</b> 27:25 53:1  111:12 113:15,15  115:22 116:1  121:23  <b>couple</b> 11:2 17:13  37:10 53:11 61:23  74:3 76:14 108:4  108:10 109:8,13  113:4,19 129:5  139:16 150:11  <b>course</b> 14:22 33:7  36:13 63:3 72:12  105:10 127:20  <b>court</b> 6:16 129:6,7  <b>cover</b> 32:19 96:25  108:16  <b>covered</b> 105:22  <b>crack</b> 97:13  149:15  <b>cracked</b> 119:2  <b>cracking</b> 69:21  149:20,25 150:6,9  150:20 161:9  <b>crane</b> 20:1 21:7,13  21:18 24:14,25  61:18 62:6 71:23  71:24 73:25 74:2  78:3</p>	<p><b>crane's</b> 74:3  <b>crash</b> 102:22  <b>create</b> 5:19 130:20  <b>created</b> 65:2  154:20 158:20  <b>credibility</b> 117:17  <b>crew</b> 21:5,6,9,16  25:8,16,18,22  61:19 62:22 63:22  72:1,5 75:10,10  <b>crews</b> 25:21 26:4,5  63:4,16 71:20  72:11 78:12  <b>crippled</b> 132:2  <b>criteria</b> 51:6,19  98:11  <b>critical</b> 24:10  60:20 140:19  <b>crumbleable</b>  109:2  <b>crunching</b> 55:14  <b>csr</b> 1:22  <b>culture</b> 130:20  146:21  <b>curious</b> 30:7  <b>current</b> 9:19 31:23  144:1,10,18 145:1  145:3  <b>currently</b> 10:17  50:11 69:4 127:7  153:15  <b>curtain</b> 4:9  <b>cut</b> 156:6  <b>cycle</b> 76:8</p> <hr/> <p style="text-align: center;"><b>d</b></p> <hr/> <p><b>d</b> 123:16  <b>d.c.</b> 158:19  <b>dad</b> 144:1  <b>daily</b> 39:15  <b>damage</b> 22:8  27:18 30:11 65:22</p>
---	--	---	--

[damage - desperately]

<p>66:7,23,25 82:14 94:19 98:3,7 138:12 140:5 145:18 <b>damaged</b> 67:8,16 92:22 97:22 98:5 98:6 118:18,21 119:2,12 134:17 138:14 139:25 140:12,13,15,20 147:8,10 <b>dan</b> 5:7 6:23 8:11 8:19 9:7 11:8 12:14 13:10 27:24 28:13 56:19 86:23 87:20 93:1,23 94:1 105:25 114:3 153:5 157:13 160:3 <b>dangerous</b> 126:14 138:2 <b>dark</b> 94:5 <b>daryl</b> 118:4 120:1 120:5,8 <b>data</b> 56:9 100:3 110:22 111:9,9 113:10 <b>date</b> 13:16 44:17 109:25 <b>dated</b> 32:6 <b>dave</b> 117:4,4 <b>david</b> 3:22 9:10 12:8 32:11 33:14 52:5,6 73:19 77:6 77:10,20,21 90:8 107:24 108:5 112:18 114:4,11 114:12 132:21 151:1 <b>day</b> 10:20 19:8 26:6 28:3,11</p>	<p>36:23,23 37:3 39:18 50:17 63:23 75:24 123:9,10,15 123:16,16 126:10 158:23 162:13 <b>days</b> 9:3 14:16 17:14 19:14 41:20 48:2,3 49:10 125:3 <b>deactivated</b> 122:2 <b>deal</b> 43:19 91:8 138:6,11 149:10 153:13 <b>dealing</b> 96:2 126:14 127:1 152:4 <b>dealt</b> 140:17 <b>december</b> 47:25 48:13 78:20 79:12 79:15,16 109:19 110:7 162:13 <b>decide</b> 158:5,8 <b>decided</b> 26:13 40:8 69:6,6 <b>deciding</b> 97:3 <b>decision</b> 5:25 6:1 40:7 42:20 46:1 47:24 50:17 104:12 <b>decisional</b> 45:21 47:25 <b>decisions</b> 10:10 36:23,24 <b>deck</b> 6:4 64:19 108:16 <b>decommission</b> 127:13 <b>decommissioned</b> 10:25 11:19,22 <b>decommissioning</b> 5:21 6:7 9:8,12</p>	<p>16:21 53:7,10 55:21 84:4 108:19 108:21 109:16 110:4 119:17 127:6,12 128:12 141:7 <b>decontamination</b> 110:5 <b>decrease</b> 75:6 <b>deep</b> 24:4 58:9,11 146:17 <b>deeper</b> 60:13 <b>deeply</b> 18:19 <b>defective</b> 76:18 79:8 <b>defended</b> 144:22 <b>defense</b> 35:25 86:17,17 161:11 <b>deficient</b> 146:20 146:21,21 148:12 <b>definition</b> 155:25 <b>degrades</b> 38:12 <b>degree</b> 4:3 <b>degrees</b> 149:21 <b>deja</b> 118:8 <b>del</b> 2:11 <b>deliberate</b> 97:4 <b>delivering</b> 131:11 131:17 <b>demand</b> 117:20 122:7 126:12 <b>demanded</b> 148:24 <b>demanding</b> 148:11 <b>demolished</b> 148:16 <b>demonstrate</b> 100:20 <b>demonstrated</b> 5:22 126:12 154:18</p>	<p><b>demonstrates</b> 65:6 <b>demonstrating</b> 100:19 <b>denial</b> 136:22 <b>denied</b> 104:23 <b>denise</b> 120:1 121:18,18,22 <b>densely</b> 122:5 <b>department</b> 4:10 9:18 28:1 35:14 53:2 114:21,25 <b>depending</b> 40:3 <b>depends</b> 10:21 <b>deployable</b> 127:22 127:25 <b>deployed</b> 115:4 <b>depth</b> 60:9 86:17 161:11 <b>deputy</b> 32:22 33:13 <b>desalination</b> 141:16,18 <b>descends</b> 88:7 <b>described</b> 138:16 <b>describes</b> 150:4 <b>deserve</b> 120:2 <b>design</b> 23:23 29:12 51:20 76:18 79:8 82:25 84:16 88:4 88:20,24 92:10,13 112:1,4,11 118:25 119:11 124:21 125:5,6 154:18 155:2 <b>designed</b> 21:1 88:15,17 100:6 110:18 145:14 <b>designs</b> 154:13 <b>desperately</b> 130:20</p>
---	---	---	---

[detail - door]

<p><b>detail</b> 19:3 44:18 61:16 73:14 77:24 81:19 159:25 <b>detailed</b> 31:2 72:10,24,25 75:17 75:18 77:24 78:13 80:2 <b>details</b> 110:17 <b>determination</b> 158:11 <b>determine</b> 39:16 101:18 156:13 <b>determined</b> 102:21 <b>determines</b> 102:11 102:13 <b>determining</b> 132:7 <b>deterministic</b> 155:19 <b>develop</b> 97:18 127:22 128:3,9 <b>developed</b> 34:19 127:9 <b>developing</b> 34:5 131:10,16 <b>development</b> 36:5 109:16 110:1 128:20 <b>device</b> 20:10 23:4 24:14 29:8,9,19 78:2 <b>devices</b> 84:2 <b>diablo</b> 11:11 121:6 <b>dialogue</b> 10:12 41:6 101:2 <b>diameter</b> 23:25,25 88:22 100:1,10 101:5 <b>dictate</b> 28:8 <b>diego</b> 111:13 113:15 142:25</p>	<p><b>dieguito</b> 5:14 35:8 142:23 <b>difference</b> 65:18 99:7,25 157:19 <b>differences</b> 88:18 99:14 124:10 <b>different</b> 9:23 15:16 16:7 24:2 33:23 34:2 65:12 65:15,16 84:9,10 91:24 97:21,23 98:1 100:4 <b>differently</b> 18:9 20:21 65:12,13 <b>difficult</b> 3:24 <b>difficulties</b> 16:9 <b>difficulty</b> 76:12 <b>dig</b> 37:18 39:4 <b>ding</b> 150:7 <b>direct</b> 60:25 61:24 <b>directed</b> 131:14 <b>direction</b> 47:19 <b>directions</b> 5:24 <b>directive</b> 40:9,13 <b>directives</b> 39:25 <b>directly</b> 7:19,23 58:22 106:10 125:17 145:12 <b>director</b> 34:17 <b>disabled</b> 114:19 <b>disagree</b> 80:21 94:10 <b>disappears</b> 149:8 <b>disappointing</b> 18:4 137:19 <b>disaster</b> 77:17 105:8 158:19 <b>disasters</b> 146:20 146:23,25 <b>disastrous</b> 139:4</p>	<p><b>discharge</b> 128:12 128:14 <b>disciplines</b> 76:25 <b>disclose</b> 89:17 125:14 <b>disclosure</b> 89:11 <b>discount</b> 160:16 <b>discovered</b> 125:2 <b>discuss</b> 6:21 18:4 31:7 99:14 <b>discussed</b> 83:10 <b>discussion</b> 18:3,7 18:10,22 31:3 48:18 50:25 95:8 99:11 101:2,12 146:7 151:2,10 <b>discussions</b> 12:3 <b>disgusting</b> 132:9 <b>disheartening</b> 124:1 <b>dismantlement</b> 109:9 110:5 <b>dispersion</b> 147:13 <b>display</b> 75:2 <b>displays</b> 74:17 <b>dispute</b> 46:25 <b>disregarded</b> 123:24 <b>disrupt</b> 3:10 <b>disruptive</b> 3:14 <b>dissected</b> 65:10 <b>disseminate</b> 156:25 <b>disseminated</b> 68:11 <b>disseminating</b> 59:10 <b>dissipates</b> 69:12 <b>distance</b> 29:14 52:14 81:11 88:19</p>	<p><b>distortion</b> 139:2 <b>disturb</b> 70:16 <b>disturbed</b> 70:18 <b>dive</b> 58:10,11 <b>divider</b> 88:5,14 <b>division</b> 53:16 <b>divisions</b> 33:16 <b>document</b> 43:1 106:9 <b>documented</b> 42:25 129:15,21 <b>documenting</b> 41:19 <b>documents</b> 37:12 106:21 135:7 <b>dodging</b> 105:3 <b>dog</b> 77:18 147:6 <b>doing</b> 7:13 17:7 18:8 20:17,21 29:1 33:18 53:23 58:1,1,6 59:20 60:2 63:5 64:4,7 71:18,22 73:8 84:13,20,23,24 90:13 95:9 101:3 117:22 130:17,19 131:14 135:11 136:14 158:2 161:15 <b>dollar</b> 118:20 120:11 135:21 <b>domain</b> 38:8 <b>domestically</b> 56:8 <b>domestics</b> 34:7 <b>donna</b> 27:24,25 52:24 53:1 113:11 114:22 117:14 118:3,3,5 <b>door</b> 23:6,8 29:9 73:5</p>
--	--	--	--

[doors - edison's]

<p><b>doors</b> 4:8  <b>dot</b> 139:19  <b>download</b> 23:16  25:15 26:14 30:3  69:18 70:14 72:16  73:3,3,10 76:5  78:5 100:7 112:15  126:10  <b>downloaded</b> 19:19  21:19 29:21 69:24  <b>downloading</b> 7:10  7:19 8:2 12:20  19:1,7,20 20:15,23  23:10 25:20 26:5  31:17 61:15 69:8  71:22 75:15 77:25  78:9 87:5 91:23  104:5 127:21  141:4  <b>downloads</b> 61:3  72:20  <b>downplaying</b>  118:19  <b>downwind</b> 147:16  <b>dozen</b> 12:23  <b>dr</b> 3:5,18,20 5:15  8:6 11:8 13:10,18  26:23 27:3,24  28:13,23 30:6,25  31:5 32:3 46:5,9  46:19,21 48:4,9  50:22 52:2,8,19  55:18 56:17 57:17  58:14 59:11,15,17  64:5,7,14 66:14,16  67:13,21,24 68:2,5  68:7,12 71:10,14  74:11,14 76:19,21  76:23 77:3,12,19  79:9 80:1,15  83:13,24 84:18,21</p>	<p>85:13,16 86:11,20  89:16 90:3,11,21  91:20 92:24 93:5  93:8,15,20 94:1  95:15,20 98:17,21  99:5,10 100:11  101:10 103:4,21  103:25 105:4,15  105:23 106:12,20  107:21 108:3  112:25 113:5,16  115:8 117:1 118:2  119:25 120:4  121:17 123:8  126:3 129:1  130:23 131:3  133:3,9 135:17  136:3,10,15 139:7  139:10 141:22  142:4,7,17 146:2,8  146:11 148:25  149:2 150:22  152:13,25 153:24  156:19,22 157:10  157:24 158:2,14  159:12 160:2  161:2  <b>drafts</b> 107:2  <b>dragged</b> 149:8  <b>draining</b> 19:14  <b>draw</b> 7:16 32:5  <b>drawings</b> 135:23  <b>drenched</b> 143:16  <b>dried</b> 69:3  <b>drilling</b> 59:11  <b>drinking</b> 141:17  <b>drive</b> 4:19 161:18  <b>drivers</b> 115:21  <b>driving</b> 96:15 97:2  <b>drop</b> 22:3,22  27:10,11,13 44:4,8</p>	<p>51:17,22,23 60:21  64:22,24 65:2,3,7  65:13,17,18 66:4,5  66:20 68:16 82:12  83:16,20 94:16  96:1,4,11 112:19  123:23 125:8  138:24 139:21  <b>dropped</b> 21:21,23  21:25 22:4 27:16  51:25 52:13 66:10  66:19,20 67:8,15  82:20 96:10,11,19  97:20,21,22  138:11,21  <b>dropping</b> 51:10  147:11  <b>drops</b> 38:6 130:15  <b>dry</b> 19:15,18,24  31:10 38:20,23  49:9,15 50:2,4  53:19 62:13 70:19  73:8 78:14,21,22  99:17,21 100:19  100:21  <b>drying</b> 19:14  26:10 76:3  <b>duck</b> 14:4,16  <b>duct</b> 115:15  <b>due</b> 63:17 122:3  128:11 146:10  <b>dump</b> 119:5,15  <b>duration</b> 155:8  <b>duty</b> 35:2  <b>dynamic</b> 122:16</p>	<p><b>early</b> 28:11 89:2  97:8  <b>earth</b> 126:14  <b>easier</b> 16:1 78:4  145:7  <b>easily</b> 63:5 109:2  144:9  <b>east</b> 9:9 144:21  <b>easy</b> 86:12 101:6  112:14  <b>ebay</b> 142:9  <b>economic</b> 132:1  <b>edge</b> 88:19,21  <b>edison</b> 4:23 5:17  5:19,22 39:20  40:20 42:17 43:1  44:12,24 45:19  47:23 48:11,19  51:16 57:24 60:23  79:23 84:23,24  85:9,10 90:7 92:5  95:15,18 101:18  103:3 111:22  116:14 117:17,19  117:20 118:14  123:3,19,24 124:3  125:3,12,17  126:11,15,17  127:2,15,22 128:3  128:9,18 129:9  130:3,15,19 132:7  132:10 133:17  134:1,3,4,6,17,20  134:24 137:4,8,15  137:17 138:10  144:25 148:18,22  152:16 153:14  158:5,8 159:2,9,23  <b>edison's</b> 118:15  127:11 128:7  132:8 145:11</p>
		<p><b>e</b></p>	
		<p><b>e</b> 121:20,20,20  126:6  <b>earlier</b> 15:4 25:8  37:24 59:9 82:24  108:6 125:6</p>	

[edison's - evacuate]

<p>148:14 151:3  <b>editor</b> 151:7  <b>effective</b> 61:4 79:6  79:22 103:11  123:1  <b>effectively</b> 49:8  61:17 63:1 75:19  76:7 84:10 134:11  <b>effects</b> 151:19  <b>efficient</b> 8:12  13:21 36:21,22  <b>efficiently</b> 61:16  <b>effort</b> 18:24  <b>efforts</b> 14:7 126:1  <b>egg</b> 148:7  <b>eight</b> 96:1  <b>eighths</b> 70:11  100:8 138:25  <b>eir</b> 109:17,19,23  110:9 127:6  <b>either</b> 4:8 12:14  94:22 102:21  105:12 116:8  119:4  <b>elaborate</b> 126:9  <b>elect</b> 47:25  <b>elected</b> 39:14  <b>election</b> 14:1,3,25  <b>electives</b> 15:11  <b>electoral</b> 15:6  <b>electric</b> 131:13  <b>electricity</b> 10:19  <b>element</b> 38:16  86:3 104:23  <b>elements</b> 18:16  85:25  <b>elephant</b> 119:15  <b>elevated</b> 111:15  <b>elevation</b> 143:9  <b>email</b> 7:20 9:2  107:7 145:23</p>	<p><b>emergency</b> 34:13  36:13 53:4,25  54:3,11,19,25 55:6  96:21 114:16  115:1 116:10  156:24 157:2,3  161:9  <b>emission</b> 131:12  <b>emotional</b> 136:19  <b>emphasize</b> 42:3  <b>emphasizing</b>  139:24  <b>employ</b> 123:19  <b>employed</b> 51:15  51:16  <b>employee</b> 22:24  162:11  <b>employees</b> 135:9  <b>employment</b> 131:8  <b>empty</b> 19:9  <b>enabling</b> 130:19  <b>encapsulating</b>  97:17  <b>enclosure</b> 70:19  70:20  <b>encourage</b> 112:15  <b>ended</b> 161:21  <b>ends</b> 146:5  <b>energy</b> 10:21 11:5  11:25 16:17 35:14  35:18,19 65:17,22  131:16  <b>enforce</b> 132:14  <b>enforcement</b>  36:12 45:11,13,18  45:21 46:1 47:8  48:1 102:25  105:12 130:18  146:22  <b>enforcing</b> 130:9</p>	<p><b>engage</b> 10:12  126:19  <b>engaged</b> 55:15  75:22  <b>engagement</b> 1:3  2:1 3:23 32:16  94:4  <b>engaging</b> 95:13  <b>engineer</b> 99:16  117:6 151:14,18  <b>engineered</b> 134:19  148:12  <b>engineering</b> 76:22  79:8 85:25 86:13  86:14 88:24 95:21  95:22 118:25  119:11 134:12  135:22 146:21  151:15,17,23  <b>engineers</b> 152:4  <b>enhanced</b> 31:24  39:17  <b>enhancements</b>  34:8 43:23  <b>enjoy</b> 10:20  <b>ensure</b> 60:17  78:15 79:21 101:3  127:17  <b>ensuring</b> 62:2  75:21  <b>entail</b> 95:11  <b>entails</b> 23:10  <b>enter</b> 96:21 157:5  <b>entered</b> 94:21  <b>entire</b> 43:16 56:7  76:7 100:5 143:21  <b>entrusted</b> 132:13  <b>environment</b> 34:7  53:7 70:10,18  123:5 127:9  145:15</p>	<p><b>environmental</b>  95:5 109:11,14  122:13 128:10  143:1  <b>episode</b> 147:21  <b>equal</b> 160:20  <b>equally</b> 11:4  <b>equates</b> 148:6,7  <b>equipment</b> 23:11  43:22 73:24,24  75:16 141:1  <b>equity</b> 133:18  <b>erecting</b> 97:3  <b>eric</b> 132:23  <b>erkeneff</b> 120:1  121:18,18,21,22  <b>eroded</b> 92:22  <b>erosion</b> 143:25  <b>erred</b> 72:2  <b>error</b> 76:5 112:12  <b>escalated</b> 42:12  45:13  <b>esoteric</b> 42:13  <b>especially</b> 50:22  115:5 116:22  121:5 123:21  127:18 143:6,17  153:3  <b>essentially</b> 32:24  63:19 65:1 94:19  145:5  <b>establish</b> 10:7  57:20  <b>established</b> 36:3,4  154:10,15  <b>establishment</b>  122:19  <b>et</b> 33:9 43:24 71:4  104:16  <b>evacuate</b> 4:7,7  114:19</p>
--	--	--	--

[evacuation - family]

<p><b>evacuation</b> 115:13 115:13 116:4 <b>evening</b> 10:13 123:16 128:25 149:5 <b>event</b> 4:4 18:4,24 19:21 21:23 22:16 25:3,7 31:15 34:16 38:23 43:8 44:2 59:12 69:6 73:15 76:10,16 91:19 96:18 102:22 126:10 127:21 129:12,19 129:20,23,25 130:1,1,3,14 156:16 157:5 <b>events</b> 55:24 89:5 113:21,24 124:25 125:12 129:18 <b>eventually</b> 20:11 60:2 <b>everybody</b> 6:20 13:11 110:8 111:21 120:25 147:4 149:7 158:4 <b>everybody's</b> 6:7 <b>evidenced</b> 105:1 <b>evolution</b> 19:2 21:21 23:10 25:8 43:11,16 61:13 76:4 <b>evolutions</b> 50:9 <b>evolved</b> 137:24 <b>exactly</b> 44:16 58:10 92:11 102:8 153:23 <b>example</b> 38:20 73:2,23 84:11 <b>exceptional</b> 92:15</p>	<p><b>excessive</b> 21:2 29:15 <b>excuse</b> 48:9 127:3 128:15 134:3 <b>executing</b> 18:25 <b>executive</b> 33:21 35:16 <b>exemptions</b> 54:5 <b>exhibit</b> 10:9 <b>existing</b> 144:24 <b>exists</b> 54:14 128:1 <b>exit</b> 4:8 41:10,18 <b>exits</b> 4:9 <b>expand</b> 56:14 57:16 <b>expect</b> 29:22 38:13 39:13 81:5 82:3 134:8 <b>expectation</b> 45:2 101:25 102:20 103:14 <b>expected</b> 29:24 66:25 97:1 145:4 <b>expecting</b> 10:24 <b>expelled</b> 96:15 <b>expensive</b> 121:13 <b>experience</b> 25:24 56:5,6,8 59:8 60:25 61:12 72:6 72:14,23 75:13 78:9 104:17 150:5 <b>experienced</b> 61:1 63:4,6,16 75:14,15 104:4,4,15 124:12 <b>experiences</b> 60:20 <b>expert</b> 125:16 <b>expertise</b> 110:23 155:15 <b>experts</b> 10:4 98:15 99:8</p>	<p><b>explain</b> 32:17 39:6 43:1 <b>explaining</b> 39:12 <b>explains</b> 65:20 <b>explanation</b> 3:7 <b>explicit</b> 124:4 <b>explicitly</b> 138:14 <b>exploring</b> 97:18 <b>explosion</b> 145:25 156:16 <b>explosions</b> 138:16 139:4 147:12,14 <b>exposed</b> 29:15 137:10 151:5 <b>exposure</b> 27:9 49:3 72:1 74:24 96:18 127:24 145:19 <b>express</b> 3:13 138:1 <b>expressed</b> 138:14 <b>extends</b> 146:15 <b>extent</b> 59:7 66:23 <b>exterior</b> 69:19 <b>extra</b> 124:22 159:18 <b>extraordinary</b> 4:18 <b>extreme</b> 126:16 128:5 <b>extremely</b> 60:14 117:23 126:25</p> <hr/> <p style="text-align: center;"><b>f</b></p> <hr/> <p><b>f</b> 121:20,20 <b>fabricated</b> 100:7 <b>facebook</b> 37:7 <b>faced</b> 129:7 <b>facilitate</b> 3:13 8:20 <b>facilitated</b> 63:11 <b>facilities</b> 16:5 31:10 33:19,25 36:10 50:2,14</p>	<p>121:8,10,12 <b>facility</b> 4:16 38:14 39:15 49:4,6,16 108:22 124:23 130:12 144:1,8,18 144:21 145:13,18 <b>facing</b> 129:10 <b>fact</b> 7:16 32:6 33:18 37:9 41:24 61:4 63:2 74:8 80:23 82:5 84:3 118:19 125:4 141:15 143:3 152:5 158:11 <b>factor</b> 83:6 <b>facts</b> 90:10 <b>fahrenheit</b> 149:22 <b>fail</b> 65:17 <b>failed</b> 18:5 19:2,3 21:9 25:18,20 43:10,11,15 63:22 89:10,17 116:7 135:21 <b>failure</b> 44:5 51:19 52:17 55:24 65:1 68:3 145:21 151:19 <b>failures</b> 84:7 <b>fair</b> 115:22 116:1 <b>fairly</b> 24:18 29:13 31:2,23 70:21,22 81:14 150:16 <b>fall</b> 33:3 109:25 113:22 <b>fallen</b> 31:2 113:25 <b>fallout</b> 152:1 <b>false</b> 101:6 <b>familiar</b> 80:24 81:5 105:2 <b>family</b> 115:23 152:2</p>
--	--	---	--



[far - formal]

<p><b>far</b> 59:12,21 72:2 81:12 114:9 122:11 141:12 145:4 <b>farmers</b> 149:11 <b>farther</b> 72:1 <b>fashion</b> 160:24 <b>fast</b> 57:7 114:25 131:23 <b>fatigue</b> 63:14 <b>faulty</b> 127:19 <b>feasible</b> 152:19 <b>feature</b> 78:7 <b>federal</b> 11:20 15:2 35:12 54:18,18 89:6 105:16 121:3 122:14,18,25 129:9,11 130:9 132:14 <b>federally</b> 122:12 <b>feds</b> 158:17 <b>feed</b> 110:22,25 <b>feedback</b> 78:22 110:16 111:5 <b>feel</b> 10:10 52:15 68:22 116:16 117:22 143:16 151:6 <b>feeling</b> 159:10 <b>feels</b> 47:19 130:18 <b>feet</b> 20:14 21:8 22:4,5 23:9 24:8 30:19 51:25 81:9 138:24 143:4,5 144:2 145:2,3 <b>feinstein's</b> 14:19 <b>felt</b> 91:1 <b>field</b> 131:21,21,24 <b>fifth</b> 9:11 <b>figure</b> 113:10,12 161:5</p>	<p><b>file</b> 91:15 105:5 <b>filed</b> 89:5 104:25 135:9 <b>fill</b> 8:2,16 82:21 138:23 <b>filled</b> 19:11 69:3 <b>final</b> 19:15 41:16 42:19 44:20 45:25 79:2,23 83:22 109:19,23 110:9 136:5,9 <b>finalized</b> 79:18 <b>finally</b> 43:15 79:1 118:14 128:9 <b>financial</b> 121:15 148:8 <b>financially</b> 162:10 <b>find</b> 6:9 45:1,2 141:13 157:24 <b>finding</b> 161:1 <b>findings</b> 18:18 41:12 42:12,15 45:14 124:5 143:8 <b>fine</b> 57:13 <b>finger</b> 135:25 136:8 <b>finish</b> 41:4 46:5,9 46:10,19 63:10 66:16 67:21 74:11 74:14 77:4 89:16 93:5 102:12 148:13 161:4 <b>fire</b> 114:21 131:22 133:24,25 134:2,6 146:1 <b>fired</b> 64:11 <b>fires</b> 116:5 147:13 <b>firm</b> 60:19 148:13 148:13,15 <b>first</b> 7:18 10:8 11:22 12:11 14:3</p>	<p>16:22 18:14 19:6 20:19 26:6 27:13 32:11 60:4 64:20 69:17 71:19 72:5 80:5 83:16 87:22 87:24 90:5,13 95:2 106:24 108:5 109:24 111:25 113:12 114:3 127:2 147:2,16 156:23 <b>fist</b> 9:7 <b>fit</b> 23:23 100:7 141:5 <b>fitting</b> 4:4 <b>five</b> 9:3 36:2,3,17 70:11 82:16 100:8 107:14 134:7 138:25 <b>fix</b> 38:15 58:8 98:6 102:2,3 103:16 134:18 <b>fixed</b> 76:16 124:17 124:22 157:17 <b>fixing</b> 74:15 <b>flag</b> 6:8,8,9 <b>flames</b> 116:9 <b>flaw</b> 88:4,25 124:21 <b>flawed</b> 92:9 <b>flea</b> 147:6,6,6 <b>fleet</b> 84:14,17 <b>flooding</b> 127:23 <b>floor</b> 6:18 8:25 17:24 32:4,9 59:18 86:22 108:8 114:11 117:11 118:5 120:5 121:18 126:5 131:3 136:17 142:10 149:4</p>	<p>150:25 <b>flows</b> 5:24 <b>focus</b> 11:21 16:19 27:6 122:25 <b>focused</b> 107:10 114:1 <b>focusing</b> 16:16 140:8 <b>fold</b> 106:18 <b>folks</b> 14:14 33:14 33:17 54:25 84:12 111:7 113:12 133:11 141:24 154:3,4 160:10 <b>follow</b> 6:25 7:1 31:25 39:22 58:21 75:3 80:20 91:14 103:7 159:13,22 160:8 <b>followed</b> 40:6 109:15 111:21 160:6 <b>following</b> 16:11 55:17 <b>food</b> 147:24 <b>foot</b> 24:4,5 29:17 65:7 70:4 96:1,11 125:8 <b>football</b> 140:2,5 <b>force</b> 96:15 97:2 <b>forced</b> 49:8 <b>forces</b> 99:1 <b>forecast</b> 79:24 <b>foregoing</b> 162:7 <b>forever</b> 12:5 <b>forged</b> 134:6 <b>form</b> 47:15 85:15 <b>formal</b> 5:24,25 44:14 91:2,4 160:22</p>
--	--	---	---

[formally - go]

<p><b>formally</b> 41:19 43:1,3 44:12 <b>formative</b> 35:7 <b>formed</b> 60:23 <b>former</b> 9:17 146:10 <b>forth</b> 8:12,14 16:17 87:1,21 <b>fortunate</b> 136:24 <b>forum</b> 121:24 <b>forward</b> 5:5 11:14 15:18 17:15 18:9 18:10,21 28:24 36:24 59:20 71:16 90:21 93:22 128:22 131:24 137:7 138:9,10 <b>foster</b> 149:11 <b>found</b> 25:4,5 52:10 108:25 109:1,6 <b>foundation</b> 121:23 121:25 123:17 126:8 <b>founding</b> 52:16 <b>four</b> 5:23 9:13 24:8 29:17 30:19 33:16 83:13 111:25 112:3 <b>fourth</b> 85:13,16 <b>frame</b> 25:1 <b>france</b> 121:9 <b>frankly</b> 71:25 98:13 <b>fraud</b> 132:17 <b>free</b> 10:21 11:5 120:23 <b>freedom</b> 135:7 <b>freeway</b> 114:19 116:2 145:6,10,11 <b>frequently</b> 41:7 95:7</p>	<p><b>fresh</b> 71:11 <b>friable</b> 109:1 <b>friday</b> 20:23 28:12 <b>friends</b> 116:8 <b>front</b> 3:25 6:21 8:5 8:6 63:5 106:17 106:17 109:12 <b>frustration</b> 138:3 <b>fuel</b> 9:12 11:3,6,22 14:7 16:22 19:1,7 19:8,10,10,16,18 19:24 22:8,8,14,17 26:3,4,13,17 27:18 39:20,20 40:24,24 42:5,6 44:5 45:8 50:23 66:8,8,22,25 67:1,4,8,11,16 68:17 69:2,5,16 70:19 75:14 76:2 82:14 83:3,8 85:22,22 94:14 97:22 110:19 125:18 127:1,3,8 127:10,18,20 138:12,14 140:9 140:12,13,15,20 147:6,8,10 153:25 155:8,13,16,24 156:3,5,6,10,14 157:4 <b>fuel's</b> 110:15 <b>fuels</b> 127:6 <b>fukushima</b> 34:16 119:8 147:22 <b>full</b> 15:5 69:14 94:5 99:24 102:1 109:8 140:24 146:4 147:10 <b>fully</b> 11:25 21:17 24:6 30:1 44:3 60:15,16 81:24</p>	<p>153:8 156:17 <b>function</b> 75:19 <b>functions</b> 74:18 75:4 <b>fund</b> 159:4 <b>fundamental</b> 62:15 154:5 <b>fundamentally</b> 154:10 155:6 <b>funded</b> 131:17 <b>funding</b> 14:6,9,10 14:17 <b>further</b> 41:6,12 42:5 50:25 52:14 64:9 103:14 144:21 162:9 <b>future</b> 51:7 71:3 88:4 94:21 99:3 120:14</p> <p style="text-align: center;"><b>g</b></p> <p><b>gale</b> 118:4 120:1,8 120:8 <b>gallo</b> 149:12 <b>game</b> 132:16 <b>gap</b> 143:2,2 <b>garbled</b> 43:14 <b>gary</b> 3:20 133:9 136:16,17 <b>gas</b> 131:13 138:15 <b>gene</b> 48:9,9 115:10 117:2,11 118:2 <b>general</b> 7:4,7 8:15 9:6 71:21 96:8 106:3 <b>generally</b> 70:19 <b>generating</b> 122:3 <b>generation</b> 122:2 142:23 <b>generator</b> 118:11 137:1</p>	<p><b>generators</b> 118:16 <b>generic</b> 82:25 <b>gentleman</b> 160:15 <b>geographic</b> 33:4 <b>geological</b> 122:4 <b>geologically</b> 122:10 <b>geometry</b> 67:5 <b>geophysical</b> 58:17 <b>germany</b> 121:9 <b>getting</b> 16:8 25:9 77:18 78:1 90:9 106:21 157:15 <b>gift</b> 116:15 146:23 <b>gifts</b> 146:24 <b>gilmore</b> 118:3,6 120:2,6 <b>give</b> 13:8 18:7 27:13 29:3 32:4 41:20 42:17 45:18 45:18 70:23 73:2 82:8 86:22 88:18 89:13 95:3 103:21 110:12 138:2 142:2,16 <b>given</b> 70:10 81:11 95:13 113:22 127:18 <b>gives</b> 24:2,3 <b>glad</b> 5:13 118:23 <b>glass</b> 115:16 <b>global</b> 54:2 <b>go</b> 4:19 6:8 8:9,22 9:5 13:8 14:11 16:25 17:2,6 18:9 18:21 23:12,14 28:19,25 29:3 30:13 31:12 34:20 37:3,16 40:2,18,19 41:4,18 43:19 49:2,14 57:4</p>
--	--	--	---

[go - happened]

<p>58:18 60:12 64:20 69:7,18 72:13 81:4 83:14,22 85:17 87:1,22,22 90:16 94:25 99:20 106:19 109:2 114:8,23 116:2,20 116:21 117:19,24 119:22 139:19 142:14 147:23 157:11 159:3,25 161:18 <b>goes</b> 28:24 70:3,3 75:7 78:5 86:12 99:2 145:11 156:23 <b>going</b> 3:5 4:7,22 5:5 6:22 7:3,4,9 7:13 8:7 10:24,25 11:3,4 12:8,10,19 13:7,8,13,15 14:8 15:3,8 16:2,21 17:7,8,10,15 18:3 18:7,13,14,17,18 20:19 21:25 26:18 26:21 27:12 30:14 31:5 32:8 39:4,5,6 43:20 45:1,5 47:19,20,24 48:17 49:6,19 50:5,23 52:19,22 53:10 54:8 59:2,20,22,25 60:12 61:6 64:9 64:12,16 69:7,22 71:1,15,16 74:16 74:20 75:1,3,16 78:12,14,23 79:14 80:3 81:20 83:14 84:3 85:7 86:16 86:22,24,25 87:1 87:10,16,20,21,25</p>	<p>92:1 93:6,22 94:25 95:14 100:22 102:6 103:11 107:14,15 108:16,19 109:21 110:13 111:1,23 112:9 113:17,18 114:4,8,8 115:18 124:3 133:24 137:17 138:5,18 139:13,22 148:13 148:19,22 149:19 153:7 156:16 158:25 159:3,4 160:22 161:10,14 <b>good</b> 29:3 32:10 43:19 49:17,23 84:6 89:8 93:21 93:24 116:12 123:16 140:4 149:5,10 <b>google</b> 147:5,19 <b>gorman</b> 136:16 139:20,21 140:22 <b>gotten</b> 140:5 <b>govern</b> 49:19 61:14 <b>government</b> 54:10 121:4 122:15 <b>graceful</b> 120:4 <b>grade</b> 70:9 150:18 150:19 <b>graded</b> 40:3 <b>grades</b> 150:19 <b>graduated</b> 35:7 <b>grandchildren</b> 116:17,18 <b>grandmother</b> 116:18 <b>grandparents</b> 116:19</p>	<p><b>grant</b> 1:21 2:13 162:18 <b>granted</b> 133:25 <b>graph</b> 23:18 <b>graphic</b> 23:1 29:2 <b>graphics</b> 21:1 <b>grateful</b> 137:2 <b>great</b> 56:1 115:8 143:25 149:6,6 159:1,8 <b>greatest</b> 37:23 38:1 <b>green</b> 3:20 6:8 <b>grew</b> 35:6 142:22 <b>ground</b> 143:11 145:13 <b>grounds</b> 115:22 116:1 <b>groundwater</b> 128:4 <b>group</b> 83:19 84:14 95:10 <b>groups</b> 95:3,5 <b>growing</b> 143:22 <b>grown</b> 35:10 <b>guam</b> 33:5 <b>guess</b> 14:8 102:10 108:6 <b>guidance</b> 72:21 75:13 <b>guide</b> 36:23 124:17 157:20 <b>guided</b> 88:5 <b>guides</b> 88:15 <b>guiding</b> 88:7 124:16,19,21 157:15,16 <b>gulf</b> 33:6 <b>gusset</b> 88:18,21 <b>gussets</b> 88:2,6,11 88:14,15 124:21</p>	<p><b>guys</b> 28:22 59:20 90:4 93:25 113:8 136:13</p> <p style="text-align: center;"><b>h</b></p> <p><b>h</b> 114:13 128:6 <b>half</b> 12:23 25:14 33:1 79:14 100:1 100:3 101:4 130:12 <b>halfs</b> 18:13 <b>halted</b> 22:11 <b>handful</b> 8:13 58:20 <b>handle</b> 63:1 <b>handles</b> 130:21 <b>handling</b> 22:14,18 26:4 39:21 69:16 70:13 76:2 100:6 123:22 <b>handout</b> 23:5 119:21 <b>handouts</b> 108:15 <b>hanging</b> 61:20 <b>happen</b> 14:8 15:3 31:16 50:11 55:25 81:2,6 87:8 94:3 105:14 114:17,25 115:2 119:19 134:8 138:19 143:23 144:17 156:16 157:17 <b>happened</b> 9:6 17:9 18:15,15,17 20:20 20:21,22 22:1,2,11 23:19 26:15 28:20 29:16 31:1 32:18 34:9,15 39:12 47:21 58:25,25 59:1 60:8,9,10 75:25 87:7,7 89:2 91:16 94:23</p>
---	--	---	---

[happened - hypothetically]

<p>101:11 129:21,22 132:3 143:20 <b>happening</b> 7:5 113:22 141:9,11 146:17 <b>happens</b> 81:6 123:14 139:1 148:8 149:17 <b>happy</b> 32:16 113:8 116:16 142:11 153:9 <b>hard</b> 15:8 16:2 75:24 80:16 149:16 161:14 <b>harder</b> 16:8 <b>hate</b> 158:15 <b>hawaii</b> 33:5 <b>hazard</b> 67:9 109:6 109:8 128:7 157:9 <b>hazardous</b> 108:21 <b>hazards</b> 54:15 108:24 127:23 128:1 <b>he'll</b> 153:4 <b>head</b> 140:5 <b>headed</b> 32:19 <b>headquarters</b> 34:4 56:7 58:18 112:7 154:16 <b>headrick</b> 3:6,17,20 133:9 136:16,17 136:18 139:8 <b>heads</b> 137:23 152:9 <b>healing</b> 70:21 <b>health</b> 22:23,24 27:15 35:24 36:15 111:13 127:10 <b>hear</b> 32:10 93:10 132:5 137:16,22 158:22</p>	<p><b>heard</b> 60:6 136:20 159:1 <b>hearing</b> 128:22 <b>heat</b> 67:6 69:12 83:1,2,3,7 <b>heavily</b> 29:11 63:4 96:20 121:5 <b>heavy</b> 29:20 <b>heed</b> 146:25 <b>heidi</b> 1:21 2:13 162:18 <b>held</b> 118:10 146:7 <b>helga</b> 141:23,25 <b>helium</b> 69:3 83:2,7 <b>heller</b> 15:22 <b>helmet</b> 140:6 <b>helmets</b> 140:2,3 <b>help</b> 4:11 15:13 32:17 58:20 73:15 88:12 124:17 <b>helped</b> 107:2,3,9 <b>helpful</b> 14:20 52:4 58:24 80:22 84:25 100:18 <b>hering</b> 146:12 <b>hi</b> 120:8 123:16 129:3 133:10 142:21 <b>high</b> 5:14 35:8 49:25 69:11 96:1 111:11 123:22 131:13 150:15 <b>higher</b> 29:23 80:5 80:7,10 128:7 145:3 <b>highest</b> 70:9 123:19 150:18,19 <b>highlight</b> 124:9 <b>highlighted</b> 42:3 <b>highway</b> 144:7</p>	<p><b>hill</b> 14:14 120:13 145:6 <b>hire</b> 50:20 <b>hit</b> 57:14 <b>hitting</b> 86:9 140:4 <b>hold</b> 13:20 26:16 37:1 109:23 <b>holders</b> 124:19 <b>holding</b> 85:4 155:7 <b>holds</b> 29:10 119:13 <b>hole</b> 92:23 <b>holiday</b> 79:20 <b>holtec</b> 9:14 19:4 26:4 30:13 51:15 51:23 52:12 57:19 60:7,22,25 62:10 63:24 64:21,23 65:3,11 71:2,4 75:15 78:9 82:24 84:2,3,7,13,13,14 84:23,25 85:1,6,8 85:10 92:6,10,21 97:9 104:8 112:3 112:6 124:20,22 125:5,9,16 134:15 134:22 136:12 150:4 157:21 <b>holtec's</b> 63:2 83:18 112:11 148:12 <b>home</b> 4:19 5:13 106:11 116:20 139:19 161:19 <b>homecoming</b> 35:9 <b>homeland</b> 153:4 <b>homes</b> 71:5 115:6 <b>honest</b> 133:15 <b>honor</b> 132:11,11 <b>hope</b> 32:19 53:20 53:22 67:12 87:24 113:10 126:15,20</p>	<p>138:18 147:21 153:4 161:14 <b>hoped</b> 109:24 <b>hopefully</b> 3:13 15:15 27:1 85:21 87:18 113:19 <b>hoping</b> 119:20 139:19 <b>horrified</b> 120:20 <b>hosting</b> 121:24 <b>hot</b> 70:19 121:12 145:16 148:16 149:22 153:16,20 155:10,11,11 156:2,8 <b>hottest</b> 83:11 <b>hour</b> 21:14 25:14 134:5 148:9 <b>hours</b> 105:15 130:2 148:10 <b>house</b> 15:14,15 115:17 <b>houses</b> 23:3 <b>huge</b> 126:17 <b>hummel</b> 1:21 2:13 162:18 <b>hunch</b> 50:22 <b>hundred</b> 9:13 130:15 <b>hung</b> 24:10 29:17 30:8,20 <b>hurt</b> 131:23 <b>hydroreactors</b> 78:2 <b>hydrides</b> 147:15 <b>hydrogen</b> 131:13 138:15 147:12 <b>hypothetical</b> 66:4 68:16 <b>hypothetically</b> 21:22 97:23</p>
--	--	--	---

<p style="text-align: center;"><b>i</b></p> <p><b>idaho</b> 148:16</p> <p><b>idea</b> 49:17 147:18 159:11 160:23</p> <p><b>ideally</b> 44:20</p> <p><b>identified</b> 38:25 84:7,11 102:2</p> <p><b>identify</b> 6:24 38:14 39:25 56:4 58:8,20 102:1 103:16 108:21</p> <p><b>ignored</b> 133:22</p> <p><b>illuminated</b> 123:23</p> <p><b>imagine</b> 40:2</p> <p><b>immediate</b> 26:1 96:21 97:5,24 98:9 156:15</p> <p><b>immediately</b> 14:22 22:11 26:1 60:8 89:5 92:6 96:12</p> <p><b>immune</b> 150:20</p> <p><b>impact</b> 27:8,11 109:14</p> <p><b>impacts</b> 128:1</p> <p><b>implement</b> 110:19</p> <p><b>implementation</b> 81:15</p> <p><b>implementing</b> 58:5</p> <p><b>importance</b> 124:11</p> <p><b>important</b> 3:25 4:2 5:17 7:5 9:24 11:4,24 18:3,10,22 22:18 31:6 48:18 48:22 55:19 59:22 60:14 66:22 72:19 79:3 90:22,23 93:11 95:24 102:4 102:4 111:4</p>	<p>112:10 117:24 123:21 125:11 127:18 131:19 136:20 141:10</p> <p><b>importantly</b> 44:13 59:20</p> <p><b>impossible</b> 15:4</p> <p><b>impress</b> 133:11</p> <p><b>improved</b> 72:5,17 86:2</p> <p><b>improvements</b> 43:25 148:3</p> <p><b>improving</b> 84:1</p> <p><b>inactive</b> 120:6</p> <p><b>inadequate</b> 72:15</p> <p><b>inappropriate</b> 125:15</p> <p><b>incentives</b> 159:19</p> <p><b>inch</b> 23:24 70:11 88:23 99:19 100:1 100:3,9 101:4,5 138:25 139:1,1</p> <p><b>inches</b> 82:17 99:19</p> <p><b>incident</b> 4:6 7:10 7:19 8:2 27:5 34:3 34:13 39:3,7,23 55:15 58:7 59:6 59:19,19 87:5 89:2 91:16 126:11 131:20,21,24 132:23 133:1 157:1,14 158:16</p> <p><b>incidental</b> 69:25 70:5,7 98:8</p> <p><b>incidents</b> 17:9 56:9 59:3 89:5 91:23 94:23 117:18 127:19 129:9</p> <p><b>include</b> 43:21 101:12 145:13</p>	<p><b>included</b> 45:20 128:8</p> <p><b>includes</b> 14:9 16:16</p> <p><b>including</b> 34:2 43:25 113:20 127:23 128:19 156:8</p> <p><b>incomprehensible</b> 121:3</p> <p><b>increase</b> 124:24 159:14</p> <p><b>increased</b> 34:7</p> <p><b>increases</b> 143:9</p> <p><b>increasing</b> 143:25</p> <p><b>increasingly</b> 14:15</p> <p><b>incredible</b> 114:14</p> <p><b>incredibly</b> 130:20</p> <p><b>independence</b> 159:8</p> <p><b>independent</b> 19:17 35:12,17 36:19,21 52:21 60:23 74:16 74:21 78:6,19 83:19 99:6 111:22 159:16</p> <p><b>independently</b> 78:25 111:13</p> <p><b>indicated</b> 28:19 30:1</p> <p><b>indicating</b> 3:11,12 120:3</p> <p><b>indication's</b> 74:4</p> <p><b>indications</b> 30:4 78:7</p> <p><b>indicators</b> 28:15</p> <p><b>individual</b> 34:21 85:24</p> <p><b>individuals</b> 9:22 86:3</p>	<p><b>industrial</b> 108:22</p> <p><b>industry</b> 9:13 59:4 60:24 72:20 83:25 84:2,4,5 85:3 91:25 117:14 131:12 133:19 149:13,14 150:10</p> <p><b>inert</b> 70:16</p> <p><b>inferior</b> 92:10,13</p> <p><b>inform</b> 55:16 56:12,12</p> <p><b>informal</b> 160:21</p> <p><b>informally</b> 22:13 26:5 39:11 91:6</p> <p><b>information</b> 5:16 5:23 14:21 39:24 40:22 41:3,8 42:18,24 43:4 56:11,11 57:7 59:10 68:10 71:7 83:18 85:3 91:22 95:16 98:21 99:11 114:23 119:22 125:14 135:7 156:25</p> <p><b>information's</b> 52:3</p> <p><b>informed</b> 37:20 48:12,20 55:2 86:7</p> <p><b>ingenuity</b> 137:23</p> <p><b>inhaled</b> 147:9</p> <p><b>inherently</b> 124:6</p> <p><b>initial</b> 39:14 62:18 78:1,4</p> <p><b>initially</b> 21:4 30:2 70:16,17 78:3 91:3 96:24 111:24</p> <p><b>inner</b> 23:25 88:2</p> <p><b>input</b> 126:19</p> <p><b>inserted</b> 24:6 29:17 30:2 31:12</p>
---	---	---	---

[inside - issuing]

<p><b>inside</b> 16:8 19:10 19:16 20:4,25 23:8,13 26:17 27:19 30:8,9,10,11 30:24 66:23 67:16 84:1 140:7,10 <b>insight</b> 58:13 109:22 <b>insights</b> 11:15 <b>inspect</b> 28:7 38:9 39:22,22 44:17 50:15 60:17 66:12 73:9 102:6 103:18 154:9 158:10 <b>inspected</b> 91:12 94:11,13,15 134:15 140:17 145:16 <b>inspectee</b> 159:18 <b>inspecting</b> 5:4 85:20 101:9 <b>inspection</b> 25:5 26:7 32:7,18 33:15 34:18,19 37:19,20 38:21 40:1,5,10,15,23 41:1,12,16 42:8,11 43:9 44:15,25 45:1,15 46:24 50:13 52:10 53:8 56:4 66:1 71:4,5 79:1,5,16,17 85:21 98:23 101:1,17 111:17,20 112:6,6 112:8 123:24 130:4 159:14 <b>inspections</b> 33:19 34:20 36:11 38:19 40:11 42:4 45:6 48:20 96:13 99:3 103:7,8 106:2,3,5</p>	<p>106:6,8 111:18 117:13 159:18 <b>inspector</b> 28:4,6 33:21,23 49:1,18 53:21 117:21 159:4,7 <b>inspectors</b> 28:7 37:25 38:1,22 40:17 41:6 50:7 <b>inspects</b> 94:8 <b>instability</b> 122:4 <b>installation</b> 19:18 <b>instantly</b> 107:25 <b>instructions</b> 75:18 <b>instrument</b> 81:8 <b>instrumentation</b> 81:16 <b>insufficient</b> 80:13 141:2 144:9 <b>insulation</b> 109:4 <b>insulted</b> 108:6 <b>insulting</b> 93:20 <b>insurance</b> 132:3 <b>intact</b> 22:5 66:25 68:17 125:22 <b>integrity</b> 93:18,21 93:25 125:21 127:17 <b>intelligence</b> 93:20 108:6 <b>intend</b> 23:22 43:2 <b>intended</b> 124:18 <b>intends</b> 44:22 <b>intentionally</b> 106:16 <b>interact</b> 37:9 <b>interactive</b> 151:2 151:10 <b>interest</b> 10:11 57:4 77:5,7 89:10,14 93:8,14 110:13</p>	<p>113:7 133:14,15 148:1 <b>interested</b> 95:6 112:16 117:13 162:10 <b>interesting</b> 10:17 <b>interference</b> 24:16 73:11 78:5 81:21 <b>interim</b> 14:13 16:4 16:12,24 49:9 110:20 121:10 122:21 144:15 161:13 <b>intermittent</b> 143:11 <b>internal</b> 20:25 88:21 <b>internally</b> 12:25 39:16 53:16 125:12 <b>internals</b> 65:14 <b>internet</b> 120:23 <b>interpret</b> 110:23 <b>interrupt</b> 17:16 93:9 <b>interrupting</b> 52:3 <b>interruption</b> 150:8 <b>intersection</b> 53:4 <b>interstate</b> 144:7 <b>intervention</b> 103:17 <b>intoxicating</b> 130:13 <b>introduce</b> 131:5 <b>intrusively</b> 75:21 <b>investigate</b> 133:1 <b>investigated</b> 132:17 135:3 <b>investigation</b> 22:12 25:5 132:16</p>	<p><b>investigator</b> 129:17 <b>invitation</b> 5:7 <b>invite</b> 42:16 45:14 46:14 <b>invited</b> 37:4 57:10 <b>inviting</b> 32:11 <b>involved</b> 6:1 58:9 127:20 131:9 <b>involving</b> 127:19 <b>irradiators</b> 33:8 <b>irresponsible</b> 132:9 143:6 <b>isaac</b> 10:4 <b>isfsi</b> 96:2 110:15 111:2,11,19 143:12 <b>isfsis</b> 111:14,16 <b>isolate</b> 145:14 <b>issue</b> 16:2 30:16 30:25 31:1 40:4,5 41:21 52:20 63:6 63:20 80:24 82:12 82:25 85:7 89:9 89:12 92:24 98:9 106:25 109:15 118:24 119:10 134:13 137:1 152:3,22 159:15 161:14 <b>issued</b> 36:10 41:22 42:12,23 47:14 104:22 133:23 <b>issues</b> 3:25 4:22 6:21 14:18 27:5 31:6 43:3 56:4 58:19 77:1 84:16 84:16,17 124:12 124:14 140:20 <b>issuing</b> 34:5,6 102:18,18 103:15</p>
--	--	--	--

[item - leaders]

<p><b>item</b> 12:12 13:4 90:15</p> <p><b>items</b> 6:22 13:6 45:18 86:10 107:16 159:13</p> <p><b>iv</b> 5:1 32:5,23 33:3 34:23 112:7</p>	<p><b>judgment</b> 91:3</p> <p><b>judicial</b> 35:16</p> <p><b>july</b> 18:16 25:3,6,8 25:16,25 59:1,12 76:10 91:17 129:11,21 132:23</p> <p><b>june</b> 83:10</p> <p><b>jurisdiction</b> 104:24</p>	<p>120:20 130:5 141:19 150:8 151:6 152:9 156:16</p> <p><b>kinds</b> 59:3 149:13 152:7</p> <p><b>knew</b> 25:12 57:3 129:23</p> <p><b>know</b> 8:7 14:15 15:3 16:4 28:25 31:22 37:7 40:3,4 41:15,16,22 43:13 43:18 44:7,16 45:1 48:23 49:12 50:3,12 54:8,20,23 55:7 59:2 61:10 61:14 66:19 67:22 69:23,24 70:2 73:4 76:13 77:12 81:11,11,12 82:22 84:8,19 85:18 95:11 98:12,23,24 100:21 102:15,24 106:17 110:11 112:1,10 114:17 115:1,2,3,19 116:14,18 117:12 118:12 119:7,10 119:11,13,20 124:18 129:5,13 130:7 132:21 134:21 135:10 136:4,22 137:5,15 138:3,4,11,17 140:13,18,20 141:1,10 142:8 143:14 148:5 150:21 151:4,4 155:5,8,20,21 156:2,4 157:22 160:14,17,24,25</p>	<p><b>knowing</b> 143:18</p> <p><b>knowledge</b> 124:13</p> <p><b>known</b> 81:21 138:6</p> <p><b>knows</b> 13:11 110:8 118:11</p> <p><b>kombucha</b> 130:11</p>
<b>j</b>	<b>k</b>	<b>l</b>	
<p><b>jaczko</b> 146:11</p> <p><b>jail</b> 129:7</p> <p><b>january</b> 79:21,25 85:19</p> <p><b>jeff</b> 130:24 133:9 133:10</p> <p><b>jennifer</b> 114:5 115:10</p> <p><b>jerry</b> 4:13 5:7 6:23 8:11,19 12:5 86:23 101:15 104:1 153:5 156:22 160:3</p> <p><b>jim</b> 150:23,24 152:14</p> <p><b>job</b> 1:23 12:4 72:12 73:16 75:11 78:17 80:17 82:4 92:1 104:13,13 108:13 117:23 123:3 130:17 136:14 137:3,12 137:18</p> <p><b>jobs</b> 133:20</p> <p><b>johnson</b> 146:9 149:1</p> <p><b>join</b> 5:11 161:15</p> <p><b>joined</b> 11:25</p> <p><b>joining</b> 9:16</p> <p><b>jointly</b> 85:10</p> <p><b>judged</b> 76:3 157:18</p>	<p><b>k</b> 121:20 126:6</p> <p><b>katie</b> 123:9,10,15 123:16 126:10</p> <p><b>keep</b> 7:4 8:19 48:19,20 86:6 103:7 104:4 108:11 109:9,12 117:21 123:3 161:8</p> <p><b>keeping</b> 7:24 118:22</p> <p><b>keeps</b> 139:24</p> <p><b>kept</b> 69:10 94:5 129:18</p> <p><b>kern</b> 4:13 8:19 12:5,8 87:9 89:18 89:22,25 90:5,13 90:19 92:4 94:11 94:25 98:3 101:16 102:10 104:2 105:18 156:23</p> <p><b>key</b> 21:4 38:16 48:13 53:8 139:14</p> <p><b>keys</b> 153:12</p> <p><b>kids</b> 115:20</p> <p><b>kill</b> 147:9</p> <p><b>killed</b> 132:1</p> <p><b>kind</b> 24:2 46:1 53:3 54:2 57:12 57:12 85:23,23 101:11 114:22</p>	<p><b>lab</b> 68:20</p> <p><b>labor</b> 118:21</p> <p><b>lady</b> 152:15</p> <p><b>lame</b> 14:4,16</p> <p><b>land</b> 144:24 148:3</p> <p><b>lands</b> 109:13,18,22 110:8</p> <p><b>landscape</b> 14:1 17:2</p> <p><b>langdon</b> 126:4</p> <p><b>langley</b> 129:2,3,3</p> <p><b>lapel</b> 100:13</p> <p><b>largely</b> 60:11 104:8</p> <p><b>larger</b> 100:10</p> <p><b>lastly</b> 125:20 145:22</p> <p><b>late</b> 11:13 137:25</p> <p><b>laundry</b> 147:25</p> <p><b>law</b> 11:20 14:7 15:2 89:6 129:9 129:11 130:1</p> <p><b>laws</b> 132:14</p> <p><b>lawsuits</b> 147:7</p> <p><b>layer</b> 70:17,17,20 70:22 98:11,16 150:9</p> <p><b>layers</b> 86:17</p> <p><b>lead</b> 108:23 129:17 133:24 138:23 143:10</p> <p><b>leaders</b> 148:5</p>	

[leak - loose]

<p><b>leak</b> 97:10 118:15 138:17</p> <p><b>leaking</b> 139:4</p> <p><b>learn</b> 7:15,21 14:20 25:18 59:13 119:23</p> <p><b>learned</b> 18:8 20:21 25:8 53:11 57:16 60:1 73:14 76:6 91:21 114:14 126:23</p> <p><b>learning</b> 53:14 56:3 59:4 75:25 84:5 92:1</p> <p><b>lease</b> 145:1</p> <p><b>leaving</b> 116:16</p> <p><b>lectures</b> 151:8</p> <p><b>legal</b> 132:21 133:7</p> <p><b>legalistic</b> 160:23</p> <p><b>legislative</b> 35:15</p> <p><b>lemon</b> 134:22</p> <p><b>lemons</b> 118:6,10 118:12,12,16</p> <p><b>len</b> 146:12</p> <p><b>lesser</b> 42:22</p> <p><b>lesson</b> 53:11 57:15</p> <p><b>lessons</b> 84:15</p> <p><b>lethal</b> 116:13</p> <p><b>letter</b> 32:7 45:14 46:23</p> <p><b>leucadia</b> 5:12 35:6 142:22</p> <p><b>level</b> 10:17 16:4 19:12 41:15 42:22 49:25 73:21 95:16 95:21,22 120:21 123:22 128:4 143:10,23 144:17 145:3,4 151:21</p> <p><b>levels</b> 29:22,24 55:21 61:23</p>	<p>111:15 143:7 150:12</p> <p><b>lexicon</b> 42:15</p> <p><b>liability</b> 92:10</p> <p><b>liars</b> 135:12</p> <p><b>license</b> 34:21 38:14 68:19 69:14 101:21,23 105:5 134:23,25 155:9</p> <p><b>licensed</b> 102:16 155:3</p> <p><b>licensee</b> 40:20 41:8,10 42:4,17 44:12,21,24 45:7 45:24 46:14 47:1 47:3,15 51:18 55:4 58:7</p> <p><b>licensees</b> 33:8 56:12 57:24</p> <p><b>licenses</b> 36:10</p> <p><b>licensing</b> 34:11,21 36:9,9 154:4,17 155:1</p> <p><b>lid</b> 19:12,13 23:13 23:14 65:16 96:24 156:6</p> <p><b>life</b> 80:16 143:12</p> <p><b>lift</b> 23:7 24:11,16 76:14</p> <p><b>lifted</b> 30:22,23 66:6 73:5 94:17</p> <p><b>likewise</b> 140:7</p> <p><b>limit</b> 57:15</p> <p><b>limited</b> 37:22 38:6 50:6,6</p> <p><b>limits</b> 81:22 83:9</p> <p><b>line</b> 55:12 90:1 111:1</p> <p><b>lined</b> 15:15</p> <p><b>lines</b> 116:6 147:25</p>	<p><b>link</b> 110:10 112:14</p> <p><b>lip</b> 88:3,8,17,20 124:22</p> <p><b>list</b> 12:16</p> <p><b>listening</b> 137:21 151:2</p> <p><b>little</b> 3:7 7:22 12:6 16:1,19 19:12,22 32:22 33:12 35:8 35:11 43:14 60:12 85:21 94:19 100:9 126:9 141:4 153:7 155:14 156:12</p> <p><b>live</b> 6:11,16 87:23 115:24 120:8</p> <p><b>lived</b> 35:9</p> <p><b>living</b> 131:7</p> <p><b>load</b> 21:9 25:13 31:25 43:24 44:8 51:11,17,22,23 61:19 73:11,12,13 73:19,20,25 74:5,8 74:16,18,20,21 75:4,6 78:6,8,11 78:13,24 81:10,13 81:21,22,25 83:7 84:8 98:4 100:6 110:19 129:12</p> <p><b>loaded</b> 31:13 83:6 83:12 111:25 118:17 119:12 125:8,21 155:17</p> <p><b>loading</b> 19:7 38:20 39:20 48:21 50:5 53:22 69:1 92:25 94:12 95:4 99:2 99:20 117:18 118:18 123:21 125:23 134:18 148:11 159:5</p>	<p><b>local</b> 54:10,11 95:2 96:7,18 122:17,23 144:20</p> <p><b>located</b> 29:9 49:17</p> <p><b>location</b> 20:10 122:5,11</p> <p><b>locations</b> 75:2</p> <p><b>log</b> 87:6</p> <p><b>loggers</b> 33:9</p> <p><b>logic</b> 51:21</p> <p><b>logs</b> 134:7</p> <p><b>long</b> 56:16 62:17 64:1,1 69:22 71:3 80:23 98:14 110:15,18 122:1 125:14 142:14 161:17</p> <p><b>longer</b> 55:8 104:10 122:23 157:22</p> <p><b>look</b> 11:14 18:10 50:12 58:5 60:3 71:11 72:22 75:13 75:23 81:16 98:15 98:24 104:9,14 124:25 132:19 139:23 140:15 147:7,23 160:17</p> <p><b>looked</b> 62:9 70:7 71:6,21 75:24 121:9 141:14</p> <p><b>looking</b> 23:1 57:25 57:25 74:20 82:3 99:1,8 112:11 128:22 132:10 133:13,14 135:14</p> <p><b>looks</b> 15:14 23:17 85:19 86:2,9 101:11</p> <p><b>lookup</b> 54:21</p> <p><b>loose</b> 125:2</p>
--	---	---	--



[los - mention]

<p><b>los</b> 120:9  <b>losing</b> 10:23  <b>loss</b> 10:23 89:15  <b>losses</b> 148:4,6  <b>lost</b> 15:23 74:25  144:2  <b>lot</b> 6:24 12:17 14:5  18:24 41:3,3,7  57:3 60:19 62:25  63:14 69:20 76:1  80:15 106:14,24  109:4 113:6,9,9  116:19 120:22  136:3 137:21  139:21 147:23  150:13,13 159:25  <b>lots</b> 5:25 37:8  77:14  <b>loud</b> 3:9  <b>low</b> 29:22 83:7  150:12  <b>lower</b> 19:12 20:12  21:7 23:9 24:17  55:21 81:9 143:23  <b>lowered</b> 21:13,17  23:23 24:7,7  27:14 30:23 62:6  66:7 73:6 75:6  91:25 94:15,17  134:10  <b>lowering</b> 21:8  24:12,15  <b>luis</b> 11:12 32:14  <b>lungs</b> 138:4  <b>lying</b> 135:15</p>	<p><b>madam</b> 89:22  <b>magically</b> 8:3  <b>magnitude</b> 160:20  <b>main</b> 7:9 17:3  73:10 115:12  <b>maintain</b> 4:3  101:25  <b>maintained</b> 38:4  67:4 119:6  <b>maintenance</b> 71:5  <b>major</b> 137:1 144:6  158:16  <b>majority</b> 50:4  <b>makers</b> 154:4  <b>making</b> 5:25 6:1  10:10 40:7 42:14  43:21 44:23 61:3  97:25 105:13  108:18 144:7  <b>management</b>  39:25 40:9,12  41:6,11,12 43:7,10  43:25 45:20 46:16  54:19 62:1 63:20  63:24 64:11 70:25  71:12 75:20 76:7  86:1,14 94:21  97:14,19 98:14  99:3 106:9 133:22  <b>managers</b> 133:19  <b>mandate</b> 121:11  <b>mandy</b> 123:15  124:2 126:4,5,7  <b>mankind</b> 137:24  <b>manner</b> 132:9  154:18,21  <b>manufacturing</b>  88:17  <b>march</b> 125:1  <b>marine</b> 123:4  149:23</p>	<p><b>mark</b> 142:9 146:6  149:2,3,4  <b>maryland</b> 34:14  <b>massey</b> 114:5  115:10,11  <b>massively</b> 157:11  157:12  <b>match</b> 72:23  <b>matches</b> 138:25  <b>material</b> 6:2,9  59:22 96:14 97:1  97:1 99:15 106:14  147:13 152:7  <b>materials</b> 6:3 33:8  36:7 108:21  124:11 154:16  <b>mathematical</b>  55:16 68:1 152:10  <b>mating</b> 20:10 23:4  24:14 29:8,9,19  78:2  <b>matter</b> 14:22  17:13 81:4 141:18  150:21 152:23  <b>matters</b> 102:9  <b>maxed</b> 56:24  <b>maximize</b> 56:25  133:18  <b>mean</b> 37:21 45:22  50:11 82:2 97:7  131:21 133:24  140:4 147:20  159:24  <b>meaning</b> 38:10  65:17 109:1  <b>means</b> 13:1 37:21  100:9 101:4  131:22,24,25  <b>measures</b> 126:23  <b>mechanism</b> 69:22  97:14 155:23</p>	<p><b>mechanisms</b>  127:25 156:7  <b>media</b> 37:6 133:5  <b>mediated</b> 47:1  <b>mediation</b> 47:7  <b>meet</b> 11:14 45:19  46:15 91:12  101:21,23 102:19  115:23 155:6  <b>meeting</b> 1:4 2:2  3:6,10,24 4:4 6:3  6:11 8:21 9:25  11:12 12:3 17:3  27:7 37:3 41:10  41:23 44:10 45:22  46:3,7,20 48:8,16  58:17 87:13 95:23  102:5 109:23  110:6 113:15  114:2 123:18  149:6 153:11  158:22 161:7,10  161:17  <b>meetings</b> 6:18  37:1,4 96:14 97:8  112:5 126:20  131:5  <b>member</b> 4:13  15:16 131:6  142:24  <b>members</b> 5:16  6:13 11:10 15:10  17:16,22 18:1  54:12 58:19 84:21  142:21  <b>men</b> 146:16  <b>mention</b> 11:9 26:8  26:8 37:10 42:2  45:16 53:19,24  75:23 108:17  124:15 129:8</p>
<b>m</b>			
<p><b>ma'am</b> 68:2,7  <b>machining</b> 88:3  141:1  <b>macro</b> 10:17</p>			

[mention - multiple]

<p>152:15 161:5  <b>mentioned</b> 28:14  33:2 35:6 37:24  43:17 45:11 54:1  92:7 108:17 124:7  124:18 125:23  126:10 127:5  129:14 150:17  <b>mentioning</b>  106:15  <b>mesa</b> 122:24  144:21,24 145:12  <b>message</b> 80:5  <b>met</b> 32:14 51:19  91:3 155:4  <b>metal</b> 125:22,22  <b>method</b> 68:19  127:4  <b>methods</b> 97:17  <b>mexico</b> 33:6 119:3  <b>mic</b> 100:13  <b>michelle</b> 142:16  <b>microscopic</b> 147:9  <b>miles</b> 115:25 148:9  148:10,10  <b>million</b> 118:20  152:1  <b>millions</b> 6:15  131:25  <b>mills</b> 33:8  <b>mind</b> 103:7 117:4  123:5 126:22  <b>minimal</b> 72:15  <b>minimize</b> 72:1  <b>minimizing</b> 74:24  <b>minimum</b> 49:10  85:23  <b>minute</b> 8:9 20:2,12  21:1 23:1 24:25  37:10 57:14 60:11  64:17 98:19</p>	<p>107:14  <b>minutes</b> 13:6  19:23 21:14 25:15  39:5,6 56:23  87:18 90:16 114:7  114:7 120:11  139:11,12,13,14  142:4,5,12,20  147:21 151:3  157:6  <b>misguided</b> 88:8  <b>mishap</b> 12:13  <b>mishaps</b> 125:1  <b>misinterpreted</b>  111:10  <b>missed</b> 72:4 91:7  <b>misses</b> 94:2,3,8,9  <b>missing</b> 139:23  <b>mission</b> 35:24,24  <b>mitigation</b> 97:19  <b>mobile</b> 20:1 24:14  61:18 73:25  <b>model</b> 51:13,14  74:10 152:8  <b>modeled</b> 152:8  <b>modeling</b> 55:13  <b>moderate</b> 150:12  <b>modes</b> 151:19  <b>modification</b>  157:25  <b>modified</b> 157:16  157:21  <b>modifies</b> 157:21  <b>modify</b> 56:14  <b>module</b> 23:20 24:4  29:5,10 30:20  <b>moment</b> 7:8,15  8:23 17:2 52:23  <b>monday</b> 22:13  39:11</p>	<p><b>money</b> 10:23 81:7  118:22 119:17  150:21  <b>monitor</b> 74:17,20  75:4 78:8,11  81:21,23 110:24  111:12  <b>monitored</b> 110:21  119:6 128:14  144:22 145:16  <b>monitoring</b> 21:9  31:25 43:24 73:19  73:20,25 74:16,21  78:7,13,25 95:12  110:11,14,20  111:2,14,18 113:7  126:13 127:16,17  127:24 128:11,13  128:16,20 141:11  158:25  <b>monitors</b> 74:13  111:8  <b>monopoly</b> 16:14  <b>month</b> 62:19  <b>months</b> 9:9 63:3  110:3 129:5  <b>morally</b> 144:16  <b>morning</b> 22:13  87:8  <b>morris</b> 4:24 5:14  26:7,22 32:4,10  46:6,12,20,22 47:6  48:6 49:22 51:2  51:11 52:5,11  53:5,13 54:7,13,15  54:20 55:11,17  56:1 57:1,22 59:5  59:12 100:13,16  100:25 101:7,20  102:12 103:13  105:2,9,17 106:8</p>	<p>106:15 120:16  130:6 142:23  146:9 148:21  153:18,20,22  154:1 156:20  158:7 159:24  160:9  <b>mother</b> 141:25  <b>motor</b> 102:16,17  <b>mount</b> 75:1  <b>mountain</b> 14:10  14:11,12 121:10  152:18  <b>move</b> 20:7 26:14  31:10 40:24 49:12  56:20 69:17 76:9  80:7,10,11 81:3  85:2 104:12  122:15 137:6  138:9,10  <b>moved</b> 19:17  21:11 31:14 71:25  72:2 74:23 109:25  122:9 144:12  <b>movements</b> 42:5,6  <b>moves</b> 15:17 36:24  45:8  <b>moving</b> 16:5 30:21  40:24 81:1 120:14  122:7  <b>mp</b> 65:5  <b>mpc</b> 51:13 65:18  65:19,21  <b>mpc's</b> 51:14  <b>msr</b> 83:19  <b>multibillion</b>  135:21  <b>multiple</b> 74:17,17  74:21 75:2,2  76:25 77:25 95:13  155:22</p>
--	---	---	--

[multipurpose - nrc's]

<p><b>multipurpose</b> 51:14 99:24</p>	<p>98:24 116:4 118:6 118:24 119:5</p>	<p>144:20 145:13 161:16</p>	<p><b>npr</b> 60:19 65:11 148:13,14</p>
<p><b>n</b></p>	<p>124:9 136:21 137:12,14,22,22 137:22,23 138:5,5 138:21 140:15 147:4 149:20,21 149:22,24 151:9 157:16,21 161:3</p>	<p><b>night</b> 18:2 116:21 133:23 149:9 158:23 <b>nina</b> 129:2 130:24 130:25 131:4 <b>nine</b> 34:15 <b>nixed</b> 121:11 <b>nmss</b> 154:15 <b>noah</b> 4:17 <b>nominally</b> 25:15 <b>non</b> 6:9 49:3,6 66:2 108:24 112:19,20 <b>norm</b> 6:11,24 <b>normal</b> 8:16,18 70:13,14 111:15 151:17 <b>normally</b> 64:11 81:6 131:5 <b>north</b> 9:13 <b>northwest</b> 146:15 <b>note</b> 112:18 124:5 145:22 160:10 <b>noted</b> 43:6 91:5,5 143:18 <b>notes</b> 58:20 160:11 <b>noticed</b> 14:2 <b>notification</b> 124:12,25 129:19 129:24 130:2,14 141:12 <b>notified</b> 22:12 125:2,4,7 157:7 <b>notify</b> 54:18 96:22 96:22 157:5,8 <b>notifying</b> 116:7 <b>notion</b> 160:17 <b>november</b> 1:15 2:13 3:2 41:9</p>	<p><b>npr's</b> 65:4 <b>nrc</b> 5:4 17:11,12 18:17 22:12 25:2 25:5 26:5,6 27:22 28:4,5 32:5,6,17 33:22 34:4 35:12 35:12,22 39:10,21 42:3 47:18 48:11 48:20 51:9 53:6 53:23 54:4 55:22 58:18 59:2,13 60:11,17 62:12 64:21 65:11,23 69:15 71:7 73:8 79:1,4,16 85:20,21 90:25 91:1,3,5,9 91:13,15 94:6,8 96:22 98:3,23 101:17 102:11 103:9,17 104:25 105:6 106:6,8,14 106:18 111:3,17 112:5,11 116:14 117:14,21,22 118:17,23 119:13 120:17 121:9,11 123:24 124:4,20 125:19 129:13,20 130:4,17,18 132:5 132:10,15 133:18 133:21,22,25 134:13,16 135:8 137:14 138:9 153:13 158:6,10 159:4,7 160:8,18 <b>nrc's</b> 27:17 32:23 34:18,23 61:8 117:15</p>
<p><b>n</b> 114:13 121:20 <b>name</b> 6:15 32:13 37:7 99:15 108:2 131:4 142:22 162:12 <b>name's</b> 3:22 133:10 142:15 <b>nameplate</b> 6:19 <b>names</b> 7:6 15:20 <b>narrated</b> 85:8 <b>narrowed</b> 77:23 <b>nation</b> 53:9 <b>national</b> 9:11 14:1 17:1 68:20 144:23 <b>nationally</b> 11:2 <b>nationwide</b> 35:23 <b>native</b> 5:12 <b>natural</b> 131:13 <b>nature</b> 40:1 <b>navigated</b> 92:18 <b>navy</b> 35:2,4 149:13 <b>navy's</b> 146:14 <b>near</b> 94:2,3,8,9 123:23 128:11,15 128:15,21 146:19 146:23,24 <b>nearly</b> 123:18 130:15 <b>necessarily</b> 46:13 75:14 155:15,18 <b>necessary</b> 126:16 <b>need</b> 4:6 16:10 50:25 53:6 56:14 56:17,17,20 57:16 72:11,22 80:7 82:7 83:20 85:2 85:23 86:15 95:15</p>	<p><b>needed</b> 14:17 16:20 26:15 39:16 40:20,22 97:4 132:8 <b>needing</b> 11:20,21 109:14,15 <b>needs</b> 50:17 92:18 95:16,18 108:4 119:19 122:6 132:15 134:22,23 134:24 136:12,13 138:8 <b>negative</b> 101:3,8 101:14 <b>negligent</b> 132:9 <b>neither</b> 160:2 162:9 <b>nest</b> 148:7 <b>neuter</b> 77:9 <b>nevada</b> 15:21,23 15:24 16:5,8 <b>never</b> 21:21 25:11 125:6 129:12,23 140:21 141:5 <b>new</b> 6:6 7:13 13:7 14:25,25 15:1,10 15:10 16:1,21 34:10 48:21 65:9 65:19,21 71:5 72:12 73:7 78:11 78:12,13 82:6 118:19 119:3</p>	<p>144:20 145:13 161:16 <b>night</b> 18:2 116:21 133:23 149:9 158:23 <b>nina</b> 129:2 130:24 130:25 131:4 <b>nine</b> 34:15 <b>nixed</b> 121:11 <b>nmss</b> 154:15 <b>noah</b> 4:17 <b>nominally</b> 25:15 <b>non</b> 6:9 49:3,6 66:2 108:24 112:19,20 <b>norm</b> 6:11,24 <b>normal</b> 8:16,18 70:13,14 111:15 151:17 <b>normally</b> 64:11 81:6 131:5 <b>north</b> 9:13 <b>northwest</b> 146:15 <b>note</b> 112:18 124:5 145:22 160:10 <b>noted</b> 43:6 91:5,5 143:18 <b>notes</b> 58:20 160:11 <b>noticed</b> 14:2 <b>notification</b> 124:12,25 129:19 129:24 130:2,14 141:12 <b>notified</b> 22:12 125:2,4,7 157:7 <b>notify</b> 54:18 96:22 96:22 157:5,8 <b>notifying</b> 116:7 <b>notion</b> 160:17 <b>november</b> 1:15 2:13 3:2 41:9</p>	<p><b>npr</b> 60:19 65:11 148:13,14 <b>npr's</b> 65:4 <b>nrc</b> 5:4 17:11,12 18:17 22:12 25:2 25:5 26:5,6 27:22 28:4,5 32:5,6,17 33:22 34:4 35:12 35:12,22 39:10,21 42:3 47:18 48:11 48:20 51:9 53:6 53:23 54:4 55:22 58:18 59:2,13 60:11,17 62:12 64:21 65:11,23 69:15 71:7 73:8 79:1,4,16 85:20,21 90:25 91:1,3,5,9 91:13,15 94:6,8 96:22 98:3,23 101:17 102:11 103:9,17 104:25 105:6 106:6,8,14 106:18 111:3,17 112:5,11 116:14 117:14,21,22 118:17,23 119:13 120:17 121:9,11 123:24 124:4,20 125:19 129:13,20 130:4,17,18 132:5 132:10,15 133:18 133:21,22,25 134:13,16 135:8 137:14 138:9 153:13 158:6,10 159:4,7 160:8,18 <b>nrc's</b> 27:17 32:23 34:18,23 61:8 117:15</p>

[nuclear - operator]

<p><b>nuclear</b> 4:24 5:1,8 7:11 10:18 17:10 33:7,10,23 34:3,9 34:12 35:4,13 36:6 50:1 52:9 53:9 54:6 58:23 60:19 77:17 117:14 118:10 121:8 122:2,15 127:1 130:8,10,16 132:13 133:13 134:20 135:1,5,9 135:21,23 136:5,6 136:6 138:13 141:19 143:4,15 144:13 146:11,12 148:23 152:18 154:16 158:16,18</p> <p><b>nullify</b> 92:8</p> <p><b>number</b> 7:5 10:25 11:2 26:9,11,11 43:5 50:7 70:8 73:1 107:1 112:1 116:23 152:22 153:12,13 160:5</p> <p><b>numbered</b> 8:17</p> <p><b>numbers</b> 50:3 55:14 99:25 160:14,16</p> <p><b>numerous</b> 47:10 47:11 94:9 95:11 129:9</p>	<p>73:9 78:20 79:2</p> <p><b>observed</b> 38:21,24 45:23 53:19 62:12 102:24</p> <p><b>observers</b> 78:1</p> <p><b>observing</b> 11:11 61:25</p> <p><b>obvious</b> 161:7</p> <p><b>obviously</b> 30:1 44:4 45:23 57:3 79:18 92:18 132:20 155:23</p> <p><b>occur</b> 28:3 145:18</p> <p><b>occurred</b> 18:8 19:21 21:23 25:24 28:9 34:8 54:24 60:1,2,5,13 82:12 92:20 94:3 147:8</p> <p><b>occurrence</b> 150:15</p> <p><b>occurring</b> 22:20 27:6 59:6 95:9</p> <p><b>ocean</b> 49:17 120:24 141:9,16 143:5,16,20 144:5</p> <p><b>oceanside</b> 1:14 2:11 3:1 4:10,14 4:15 120:10</p> <p><b>october</b> 9:11 11:13 132:22</p> <p><b>offer</b> 64:12 126:22</p> <p><b>offhand</b> 105:16</p> <p><b>office</b> 14:19 32:23 33:16 34:24 41:5 46:15 52:9 154:15 159:23</p> <p><b>officer</b> 35:3 103:1 135:24</p> <p><b>officers</b> 4:11</p> <p><b>official</b> 52:8 117:6 133:6</p>	<p><b>officially</b> 133:5</p> <p><b>offload</b> 60:15 81:24</p> <p><b>offloading</b> 12:12 18:25 85:22 95:8 155:13</p> <p><b>oh</b> 34:1 57:13 89:13 108:3 112:17 155:10</p> <p><b>okay</b> 17:5,25 21:14,15 23:23 25:11,25 26:20 27:4 28:25 29:1,2 29:6,11 32:10 42:1 43:4 45:9 47:2 50:2 51:11 51:20 52:8,19 53:5 59:24 63:21 63:25 64:25 65:7 65:21 66:19 68:16 68:24 69:5 77:22 79:11 83:24 84:18 85:16 86:20 94:17 96:16,19,20 97:16 100:16 103:13,25 104:8 106:22 109:10 112:16 113:5 117:8,9 118:6,21 142:2 146:8 148:19 151:18 153:19</p> <p><b>old</b> 134:1</p> <p><b>older</b> 31:20</p> <p><b>once</b> 4:15 22:10 24:17 27:7 33:22 36:10 41:18 44:12 44:15 49:11 102:2 110:19 137:12 143:17 153:4 159:5</p>	<p><b>ones</b> 87:13 119:7 136:8</p> <p><b>ongoing</b> 56:16 65:25 80:23 126:19</p> <p><b>online</b> 71:1</p> <p><b>onofre</b> 43:10 51:15 53:20 66:3 97:15 101:24 109:3 119:21,23 121:6 122:2 129:17 131:9,25 142:24 144:2,3,12 146:17 147:7,8</p> <p><b>onofre's</b> 143:3</p> <p><b>open</b> 10:12 23:6,8 36:19,22 48:10 80:3 95:13 116:3 124:13 156:6</p> <p><b>opened</b> 68:20 73:5</p> <p><b>opening</b> 95:6</p> <p><b>operate</b> 102:16 105:7</p> <p><b>operating</b> 10:18 10:23 33:2,3 34:16 37:25 38:2 49:3,3,6,11 50:4 56:5,6 59:8 62:20 81:5 96:16 116:22 127:11 141:6 148:23 152:20</p> <p><b>operation</b> 36:11 75:21 143:21</p> <p><b>operational</b> 56:8 124:13</p> <p><b>operations</b> 10:6,9 34:14 39:20 75:15</p> <p><b>operator</b> 38:25 39:15 71:25 74:2 74:19 82:6 102:17 103:16</p>
<b>o</b>			
<p><b>o</b> 114:13</p> <p><b>o'clock</b> 28:10</p> <p><b>obispo</b> 11:12 32:14</p> <p><b>objectives</b> 155:7</p> <p><b>observations</b> 43:5</p> <p><b>observe</b> 38:11,19 38:20,24 53:21</p>			

[operators - patch]

<p><b>operators</b> 34:21 38:14 80:24 92:18 <b>opinion</b> 91:7 100:19 157:19 <b>opportunities</b> 77:15 105:11 126:19 <b>opportunity</b> 32:12 39:21 45:19 46:6 46:21,22,23,24 55:3,4 79:2,4 126:2 154:24 156:14 <b>opposed</b> 68:21 121:25 <b>opted</b> 124:23 142:1 <b>option</b> 124:15 <b>options</b> 16:15 127:8 <b>orange</b> 23:21 27:25 53:1 113:15 115:22 116:1 121:23 <b>order</b> 10:6 41:21 46:15 47:13,16,16 <b>organization</b> 34:4 34:18 53:14 56:3 56:7 <b>organizations</b> 34:2 <b>organized</b> 8:11 16:19 <b>organizer</b> 143:2 <b>orientation</b> 103:21 <b>original</b> 113:24 124:2 125:6 127:11 <b>originally</b> 73:22 <b>oro</b> 2:11 <b>outcome</b> 146:20</p>	<p><b>outcomes</b> 57:25 <b>outline</b> 97:5 <b>outlined</b> 84:24 <b>outlines</b> 47:14 <b>outset</b> 58:11 <b>outside</b> 23:24 <b>overall</b> 45:24 75:21 92:12 <b>overreacted</b> 15:20 <b>oversee</b> 75:20 125:17 <b>overseeing</b> 5:4 84:24 <b>oversight</b> 6:1 7:11 18:5 19:2 32:25 39:17 43:7,15,24 43:25 50:23 51:9 54:4 61:10,23,24 61:24 62:1 75:9 75:11,11,17,20 76:1,5,7 78:10 95:3 107:16 159:15,21 <b>owners</b> 5:21 50:1 <b>owns</b> 19:4 60:7 <b>oxide</b> 70:17,17,20 70:22 98:11,16</p> <hr/> <p style="text-align: center;"><b>p</b></p> <hr/> <p><b>p.m.</b> 2:12,12 3:2,2 161:21 <b>pacific</b> 49:17 <b>pads</b> 144:25 <b>page</b> 106:11,17,17 120:22 129:24 130:2,14 <b>pages</b> 1:25 <b>paints</b> 108:23 <b>pallets</b> 147:14 <b>palmisano</b> 4:22 12:18 17:8,25 27:12 28:5,17,21</p>	<p>28:25 29:7 30:9 30:15 31:4,11,17 31:22 59:24 63:10 64:9,16 66:15,18 67:15 68:15 71:13 71:15 74:12,15 76:24 77:22 79:10 81:18 82:10,18,24 83:21 84:6,19 85:6 86:4 88:11 89:8,17 90:24 91:11,18 92:12,15 94:7,13,24 95:6 96:4,9 97:12 98:7 98:25 99:13,23 100:3,24 101:1,8 103:6 104:7 106:5 108:4,8,9 113:14 157:2,18 158:1,3 158:13 <b>pan</b> 33:5 <b>panel</b> 1:3 2:1 3:23 4:14 5:19 6:13 9:16,17 11:10,13 14:21 17:4,16,21 18:1 32:12,16 48:12,20 58:18,22 84:21 86:7 93:17 94:5 108:11 113:1 133:12 <b>panels</b> 9:23 124:14 <b>panic</b> 125:13 <b>paper</b> 150:4 <b>paraphrase</b> 106:1 <b>parents</b> 116:19 <b>park</b> 80:9 144:6 <b>parked</b> 80:6,8 <b>parking</b> 80:13,16 80:17 <b>part</b> 6:23 8:25 9:3 16:15 18:14 20:19</p>	<p>20:20 30:9 31:12 32:2,8 35:13,14,15 35:16 36:25 39:14 40:19,20 41:23 47:10 51:5 54:13 54:15,17 56:15 60:18 63:24 65:25 66:17 75:25 76:4 76:6 77:12 79:25 84:23 90:24 92:3 103:9 105:9 109:5 117:6 123:12 124:6 127:11 133:6 142:25 154:14 <b>partially</b> 59:1 <b>participation</b> 122:17 <b>participative</b> 154:21 <b>particles</b> 147:9 <b>particular</b> 11:21 14:20 15:11,21 37:20 55:7 105:3 139:15 155:2 <b>particularly</b> 6:3 12:20 <b>partner</b> 54:18 71:7 <b>partners</b> 56:10 <b>parts</b> 5:3 9:21 38:7 <b>partway</b> 30:9 <b>party</b> 47:1,6 60:19 162:11 <b>pass</b> 24:8 <b>passed</b> 140:18 154:23 <b>passes</b> 29:13 70:1 <b>passing</b> 108:15 <b>patch</b> 97:16</p>
---	--	--	---

[path - please]

<p><b>path</b> 71:16  <b>pathways</b> 115:3  <b>paul</b> 80:18,19  <b>pause</b> 17:2 26:23  <b>pay</b> 16:10 81:6  117:20  <b>pays</b> 117:15  159:16,18  <b>pellets</b> 66:8 67:1  82:15,20  <b>pendleton</b> 144:21  <b>penetrate</b> 115:17  <b>people</b> 4:1,14 7:7  7:20 15:1,9,19,21  24:12 35:23 48:17  50:20,22 56:23  60:24,25 61:1,5,11  61:24 62:1,24  63:3,7,15,16 71:21  71:23 72:2,12,23  74:17 75:2,14,17  77:15 78:10 79:21  79:22 81:5 86:1  86:14 89:23 95:12  95:14 104:10,12  104:14,18 107:4  107:22,23,25  108:6,18 114:1,18  115:4,5,6 116:6,7  116:8,24 117:7,22  119:14,22 120:12  120:20 123:11  131:25 142:10  152:1 154:8  <b>people's</b> 93:20  <b>percent</b> 10:19,20  10:22 33:24 65:9  117:15 130:12  151:21,22,24,24  <b>percentage</b> 67:19  67:22 160:25</p>	<p><b>perform</b> 42:4 45:8  63:15,22 72:15  73:16 78:17 79:14  79:15  <b>performance</b>  37:21 38:10,11,11  38:12,18,19 58:2  103:5 155:7  <b>performed</b> 50:9  <b>performing</b> 145:1  <b>perimeter</b> 110:14  127:17  <b>period</b> 8:16,19  29:13 32:21 62:19  80:23 95:17  107:17,18  <b>periodic</b> 110:25  <b>periodically</b> 28:7  53:21 74:6  <b>permanent</b> 111:2  122:1,10,12,20,21  144:13  <b>permanently</b>  121:14  <b>permission</b> 152:16  <b>permit</b> 104:22  105:5,6,6 109:16  110:1,4 143:8  <b>permitting</b> 109:11  <b>perpetually</b>  133:17  <b>person</b> 21:10  61:16,21 73:15  74:19 117:10,21  132:20 152:2  <b>person's</b> 148:6  <b>personal</b> 148:8  <b>personally</b> 59:5  120:18  <b>personnel</b> 85:25  124:9,12</p>	<p><b>perspective</b> 54:2  <b>perspectives</b> 45:25  <b>pertain</b> 12:20,24  <b>pertaining</b> 13:3  <b>pertains</b> 12:11  <b>pertinent</b> 42:19  55:8  <b>petitions</b> 105:12  105:12  <b>phenomenon</b>  155:12  <b>phone</b> 39:18  <b>phones</b> 116:9  <b>phrase</b> 55:18  <b>physically</b> 16:6  20:6 22:1 23:16  <b>physicist</b> 111:14  146:12  <b>pick</b> 18:18 115:20  159:6  <b>picture</b> 19:23 20:2  20:12 22:25 23:11  24:3 138:21  <b>piece</b> 45:11 75:20  88:13 156:2  <b>pieces</b> 88:12  <b>pile</b> 8:10  <b>pin</b> 82:25 89:11  111:23,24,25  112:12  <b>pins</b> 112:2 125:2,6  127:19  <b>pipe</b> 109:4  <b>pipes</b> 138:23  <b>place</b> 22:16 45:17  61:4,12 64:3  75:12 115:14,15  115:18 128:2  130:4 140:16  152:17</p>	<p><b>placed</b> 21:20  <b>places</b> 84:3  <b>plan</b> 39:17 54:16  86:24 96:21  104:16,17 110:14  113:25 114:17  115:13 127:12  138:9,19 148:16  148:17 156:24  157:2,3 161:9  <b>planets</b> 16:7  <b>planned</b> 40:15  <b>planning</b> 16:23  126:12  <b>plans</b> 45:25 79:18  97:19 116:4 124:7  127:23 128:1  144:15  <b>plant</b> 5:4 50:1  62:20 84:12  107:16 108:22  113:23 115:25  116:21 125:1  128:21 135:9  143:21 152:17,20  <b>plants</b> 10:18,22  11:19 16:20 33:7  33:23,24 34:9  50:4 53:9 54:3,6  55:22 59:2,3,4,6  62:14 84:14 112:2  <b>plate</b> 50:13  <b>player</b> 140:3  <b>players</b> 140:5  <b>please</b> 4:18,19  6:18 8:2 9:1 12:2  13:25 17:6 46:5  48:19 56:25 64:5  64:14 67:13,13,21  68:2,7,14 74:11  76:19,21,21,23</p>
---	--	---	--

[please - prior]

77:3,19 80:9,10 86:22 90:3,3 92:24 93:23 107:19 108:2 114:10 119:22 123:3,13 130:6 133:4,5 142:11,19 147:19 160:6 161:18 <b>plentiful</b> 149:24 <b>plenty</b> 46:21 <b>plot</b> 144:24 <b>plus</b> 107:11 128:6 128:6 <b>point</b> 11:9 19:17 23:16 24:7 26:8 26:13 29:7 30:22 37:18 38:5 40:25 41:14 42:14 47:18 50:9 54:18 58:10 68:17 73:11 81:22 104:13 109:17 112:23 114:22 136:8 137:9,24 139:24 147:15 152:21 154:6 158:7 159:20 <b>pointed</b> 33:14 62:17 64:23 135:25 <b>pointing</b> 54:9 <b>points</b> 148:17 <b>poisoned</b> 132:1 <b>police</b> 4:10 103:1 114:21 <b>policy</b> 36:4 154:3 160:7 <b>political</b> 11:25 <b>politically</b> 16:7,8 <b>politics</b> 14:11,14 15:14,24 150:21	<b>pony</b> 77:18 <b>pool</b> 19:9 127:3 156:3,6,20,21 <b>pools</b> 119:18 153:17,21,23,25 156:10 <b>poor</b> 102:14 <b>poorly</b> 134:19 <b>populated</b> 121:5 122:5 <b>population</b> 36:7 <b>portion</b> 41:2,4 <b>portions</b> 12:21 <b>pose</b> 67:9 <b>position</b> 11:20 21:11 23:2 27:14 69:13 75:8,12 94:15 <b>positioned</b> 78:3 <b>positive</b> 3:10 <b>positively</b> 101:14 <b>possibility</b> 122:22 <b>possible</b> 12:16 16:12,13,15 36:19 36:19,20,21,21 82:20,23 98:17,18 122:8,9 <b>possibly</b> 49:18 82:14 <b>post</b> 14:25 34:7 66:1 110:10 <b>posted</b> 6:4 41:25 83:23 87:4 111:16 112:19 <b>postulated</b> 64:22 156:11 <b>posture</b> 53:7 <b>potential</b> 125:8 127:25 144:8 145:25 147:1,12 160:21	<b>potentially</b> 61:20 143:10 148:4 <b>pounds</b> 130:16 <b>power</b> 10:18,22 33:7,23 34:9 37:25 38:2 50:1,4 108:22 116:6,21 136:5 <b>practice</b> 61:3 78:23 79:2,14,19 79:22 99:18 <b>practicing</b> 73:7 <b>pravda</b> 151:7 <b>pre</b> 45:21 47:25 <b>precautionary</b> 126:12,24 <b>precautions</b> 73:6 123:20 <b>preclude</b> 45:4 <b>precursors</b> 76:12 <b>predicable</b> 146:20 <b>predict</b> 45:5 68:6 <b>predictable</b> 86:19 <b>prediction</b> 67:20 68:1 151:17 <b>predictions</b> 151:20 151:25 <b>predicts</b> 65:9 <b>preliminary</b> 39:24 41:11 113:14 <b>preparation</b> 126:13 <b>prepare</b> 18:9,21 40:22 63:2,12 109:9 <b>prepared</b> 10:14,15 23:15 121:10 <b>preparedness</b> 34:13 36:13 53:25 54:3,11 55:1,6	<b>preparing</b> 18:25 108:20 <b>prescriptive</b> 102:8 155:19 <b>presence</b> 85:21 130:11 <b>present</b> 117:23 156:9 <b>presentation</b> 6:14 12:18,25 13:14 18:11,14 32:20 66:16 68:8,10,14 74:14 77:13 93:7 105:20 107:3 <b>presentation's</b> 87:15 <b>presentations</b> 17:20 37:4 107:3 107:10 <b>presented</b> 6:10 <b>president</b> 144:1 <b>presidential</b> 15:6 <b>presidentially</b> 36:2 <b>press</b> 118:13,15 133:12 <b>pretty</b> 3:7 7:3 <b>prevent</b> 21:2 22:20 90:9 96:25 137:4 145:20 <b>previous</b> 20:18 125:1 <b>pricewaterhouse</b> 132:3 <b>primarily</b> 43:6 <b>principle</b> 126:25 <b>principles</b> 36:17 36:18,23 <b>prior</b> 35:19 94:13 131:14 156:9
---	---	--	--

[private - public]

<p><b>private</b> 161:12  <b>proactive</b> 121:4  <b>proactively</b>  103:16  <b>probability</b> 55:15  <b>probably</b> 14:9  15:25 62:15 81:19  87:15 93:21 95:15  97:11 139:25  148:7 149:22  150:24 156:24  <b>problem</b> 15:19,24  22:20 25:16,17  76:22 86:13,14,14  86:15,15,19 87:21  102:2,3 117:17  119:4 134:11,12  134:19 136:21  150:14 151:25  <b>problems</b> 25:6  36:12 38:15,15,24  38:24 69:9 88:5  103:17 138:7  <b>procedural</b> 119:10  <b>procedure</b> 73:2,3  73:7 81:20 84:16  95:25  <b>procedures</b> 38:22  43:11,13,22 48:21  58:4,12 61:9,13,14  62:9,10,11,23  63:17 72:8,18,19  72:24,25 73:1,17  73:22 77:25 78:11  78:13,16,21,24  85:9 92:19 134:12  134:18 154:23  156:25  <b>proceed</b> 22:17  73:11 132:6,11,16</p>	<p><b>proceeded</b> 21:7  <b>proceeding</b> 73:21  162:7  <b>proceedings</b> 1:13  2:10 161:21  162:10,11  <b>proceeds</b> 24:18  <b>process</b> 5:21 11:16  11:16 13:21 16:23  17:12 19:8 24:7  31:17 34:11 40:6  45:16 46:2,14  47:13,17 48:3,14  49:1 53:10 56:16  57:23 58:5 60:15  61:15 69:1 70:14  75:24 92:3 95:4  95:17 100:5,12  103:18 109:17  112:12 134:18  137:16 141:18  159:17 160:23  <b>processes</b> 5:5  61:15 84:8 124:11  <b>processing</b> 59:9  <b>produces</b> 14:17  <b>product</b> 41:16  <b>profile</b> 38:1,6  96:17  <b>profiles</b> 50:14  <b>program</b> 38:21  71:2 72:7,13 76:9  94:21 99:3 103:18  124:6 128:11,21  131:15 139:13  <b>programs</b> 70:25  71:12,20  <b>progress</b> 10:3 12:5  108:24 113:23  161:13</p>	<p><b>progressively</b>  137:7  <b>project</b> 16:9  135:21 143:13  <b>projection</b> 128:7  <b>projects</b> 84:10  <b>promise</b> 13:7  <b>promotional</b> 35:21  <b>prompting</b> 38:15  39:1  <b>proof</b> 52:18 65:1  <b>propaganda</b> 90:7  151:4  <b>proper</b> 18:5 19:2,3  140:16 141:11  <b>properly</b> 21:9  24:13,24 25:14  26:12 61:5,12  72:11 88:5 89:11  90:25 109:7 141:6  145:16 154:7  <b>proposed</b> 143:12  144:15  <b>proprietary</b> 66:2  83:17,21 112:19  112:20  <b>protect</b> 132:14  145:7  <b>protected</b> 29:25  <b>protection</b> 92:16  120:24  <b>protects</b> 20:3,6  23:3  <b>protocols</b> 34:19  56:13 57:19,20,22  71:4  <b>prove</b> 102:18  135:7  <b>provide</b> 10:19  18:5 19:2 41:11  43:10,12,15 45:24</p>	<p>54:5,10 62:11  75:11 78:22 88:12  110:22,25 112:14  124:8 126:19  <b>provided</b> 40:21  62:10 65:23 71:6  <b>provides</b> 44:12  69:11 92:15,21  <b>providing</b> 3:8 7:7  <b>proximity</b> 122:3  <b>prudent</b> 126:25  <b>public</b> 3:13 4:4,4  6:23 7:14,17,18  8:16,18 9:1,4,18  9:20 14:23 17:23  18:1 22:23 27:8  27:11,15 32:15  35:24 36:15 37:1  40:7 41:20 43:3  45:22,23 46:20,20  47:2,3,12 48:7,12  48:22 51:5 52:22  57:11 58:20 66:9  67:10 77:5,7,10  83:17 84:22 86:7  89:4,6,10,14 90:23  93:8,13 94:4  104:25 106:3  107:17,18 108:11  110:16 112:21  113:17 114:3,24  117:13,20 123:12  124:24 125:1,4,7,9  127:9 128:17  129:3,16,19,23  131:6 132:13,17  135:20,24 139:12  148:15,24 154:21  154:24 157:8  158:24</p>
--	---	---	---



[public's - readily]

<p><b>public's</b> 148:1,11  <b>publically</b> 45:22  154:21  <b>publicly</b> 106:9  128:10 144:5  <b>publish</b> 109:19  111:19  <b>published</b> 45:15  111:1 112:7  <b>pulled</b> 102:23  <b>pulling</b> 106:20  <b>purchased</b> 92:6  <b>purpose</b> 88:7  <b>push</b> 16:12 56:18  <b>pushing</b> 48:6  <b>put</b> 5:7 11:6 12:22  15:16,25 18:24  19:9,12 22:16  26:16 59:15 61:4  61:13 62:22 64:18  71:10 73:14 76:1  76:4 86:20 97:11  106:16 111:2  128:2 132:21  137:22 150:6  153:2,5 154:2  156:5 161:4  <b>puts</b> 127:9 152:7  <b>putting</b> 76:2 94:13  110:14 114:13</p>	<p><b>question</b> 8:1,15,24  12:1,11,14,15  13:17 27:21 28:4  28:5 30:6 31:19  32:21 46:11 49:22  49:23 51:3,8,12  53:12 54:7 55:18  55:19 56:1,19  57:2,17 58:15,25  59:15 63:11 65:20  66:15 68:15 80:12  80:18 84:6 85:17  88:1 89:4,8 90:12  90:25 91:15 92:4  92:9 93:1,3,5,18  93:23 95:20,24  98:22 100:17  102:10,13 104:19  105:4 107:5 111:6  112:24,25 113:3  115:7,12 140:21  140:23 141:3  145:22,24 151:17  153:22 154:1,6,12  155:4,9 156:21  160:3,9</p>	<p>90:20,22,22,23  93:15 94:14,25  103:22 105:18,19  105:20,25 106:23  107:1,10,12  108:14,14 121:7  139:8 151:11,15  151:23  <b>quick</b> 9:6 39:10  83:14 158:15  <b>quicker</b> 160:24  <b>quickly</b> 37:19  38:25 68:22 70:21  70:23 91:6 114:24  122:15  <b>quinn</b> 26:25 27:3,4  27:21 48:24 51:1  51:4  <b>quite</b> 10:24 33:9  35:10 52:3 59:21  71:25 87:25 98:12  101:2 109:12  112:4 141:17  160:11  <b>quote</b> 105:17  131:20 132:5  <b>quoting</b> 105:16</p>	<p>143:20  <b>radioactive</b> 33:10  36:6 122:1 123:6  123:22 128:13  141:8  <b>radioactivity</b>  27:20 66:11 67:18  98:1 145:15  <b>radiological</b> 44:6  108:24 110:23  128:10,20  <b>rail</b> 114:20  <b>rainy</b> 18:2  <b>raise</b> 48:17 95:15  95:16,19,22  138:24  <b>raised</b> 21:18 23:2  39:13  <b>ran</b> 15:23  <b>range</b> 68:12  <b>rapid</b> 122:19  <b>rapidly</b> 122:19  <b>ratepayer</b> 118:22  <b>raydon</b> 146:6  149:3 150:23,25  151:1</p>
<p><b>q</b></p>	<p><b>questions</b> 4:2 6:14  6:20,25 7:14,17,21  7:22,23 8:12,13,20  12:11,16 13:2,3,12  13:13,15,19,20,22  17:17,20 18:11  26:24 28:2 37:5  41:7 44:8 48:10  53:3 56:21 64:18  65:24 66:17,17  77:14,15 80:3,4  83:14,15 85:17  86:21,25 87:3,9,14  87:16,17,22,23  89:18,20,25 90:14</p>	<p><b>r</b></p>	<p><b>reach</b> 56:24  <b>reached</b> 106:4  <b>reaches</b> 33:4  <b>reaching</b> 15:11,12  <b>reactor</b> 38:3 96:16  118:10  <b>reactors</b> 33:2,3  37:25 130:10  137:4 148:24  157:4  <b>read</b> 12:15 87:25  112:9,15,16  140:23 155:11  <b>readily</b> 127:22,25</p>
<p><b>qualification</b> 51:6  51:9  <b>quarter</b> 1:3 2:1  23:24 88:23 101:5  109:24 110:3  <b>quarterly</b> 28:8  111:18  <b>quarters</b> 99:19  100:2</p>		<p><b>r</b> 121:20 131:1  <b>rad</b> 29:23 111:2,8  111:14,15,18  <b>radar</b> 113:25  <b>radiation</b> 20:4  21:2,16 27:9  28:14,18 29:15,22  29:24 33:10 72:1  74:24 95:12 96:12  96:18 110:11  111:11 115:17  118:14 127:16  132:1 137:2</p>	

[readiness - release]

<p><b>readiness</b> 60:23  <b>reading</b> 28:15,18  146:3  <b>readings</b> 21:17  111:11  <b>ready</b> 16:23,25  23:7 31:12 44:15  44:25 69:18 83:22  86:6 137:18  138:19 158:10,12  <b>real</b> 25:16,17 47:5  136:21,22 147:20  158:15  <b>realign</b> 49:1 76:14  <b>realistic</b> 138:6,21  <b>reality</b> 14:25  16:24 104:11  <b>realize</b> 86:9  120:16 157:18  <b>realized</b> 30:4,22  118:14  <b>really</b> 5:7,23 9:21  9:21 10:2,5,6,12  10:16 11:1 14:13  16:20 25:17,20  54:1,2 62:16  63:20,23,25 72:19  75:10 80:24 82:8  83:20 88:16 99:14  113:8,16 121:1,13  121:13 124:19  128:22 140:24  141:17 151:1,9  152:3,19  <b>realtime</b> 10:15  110:22 113:7  115:5 128:13  <b>rear</b> 146:12  <b>reask</b> 12:19  <b>reason</b> 16:11  68:22,22 129:8,13</p>	<p>141:7 148:2 150:1  160:15  <b>reasons</b> 161:8  <b>reassert</b> 49:2  <b>reassumes</b> 50:24  <b>reassure</b> 148:18  <b>reassured</b> 148:15  <b>recall</b> 89:1 148:12  <b>recalled</b> 134:23  136:13,13  <b>recchia</b> 9:17  <b>received</b> 51:8  107:1,11  <b>recenter</b> 24:17  <b>recentered</b> 66:7  <b>receptive</b> 128:19  <b>recess</b> 107:20  <b>recirculation</b> 83:5  83:8  <b>recognize</b> 21:7  25:20,22 62:5,16  63:16 78:17 89:10  <b>recognized</b> 21:4  21:16,17 22:11  25:17 69:6 76:15  124:14  <b>recognizes</b> 122:6  <b>recognizing</b> 63:6  <b>recommendations</b>  124:4,5  <b>reconsidered</b>  127:13  <b>record</b> 6:24 9:1,4  14:23 27:23 41:20  48:11 117:6  123:13 146:5,7  148:23  <b>records</b> 106:2  <b>recover</b> 97:4  <b>recreation</b> 128:11</p>	<p><b>recreational</b>  128:21  <b>recurrence</b> 45:4  <b>red</b> 6:8  <b>reduce</b> 56:14  145:19  <b>reduced</b> 55:3  96:17  <b>redundant</b> 73:21  74:16 78:6  <b>reelection</b> 15:23  <b>reference</b> 57:18  91:16 96:7 120:15  <b>referred</b> 124:20  <b>referring</b> 98:8  155:12  <b>reflects</b> 109:20  <b>reform</b> 98:16  <b>reforms</b> 70:21,22  98:12  <b>reg</b> 65:9,19,21  <b>regard</b> 7:14  132:22 139:17  <b>regarding</b> 49:14  113:3  <b>regards</b> 158:18  <b>regimen</b> 56:13  <b>region</b> 5:1,2 32:5  32:23 33:1,3  34:23 41:15 112:7  146:14,15 154:5,9  <b>regional</b> 4:25 5:6  32:23 33:13,14,16  34:18 41:5 46:15  <b>regions</b> 34:20  <b>register</b> 57:11  <b>regroup</b> 79:21  <b>regular</b> 1:4 2:2  50:8 141:8  <b>regularly</b> 91:6,12  94:9 103:19</p>	<p>105:14 111:12  133:22  <b>regulate</b> 33:7  148:22  <b>regulation</b> 38:13  55:7 146:22 154:4  <b>regulations</b> 34:10  36:6,8 101:23  105:10,16 130:9  130:21 154:22  155:16  <b>regulators</b> 130:5  <b>regulatory</b> 4:24  5:1,8 7:11 17:11  32:25 34:6 35:13  35:21 36:18 38:8  38:16 42:15,19  44:20 47:16 52:9  55:2 56:13 58:23  107:16 130:8  132:13 133:13,19  134:20 135:1,5,24  136:6,7 146:11  159:14  <b>reinforced</b> 145:14  <b>reiterate</b> 143:3  <b>reject</b> 92:5  <b>relate</b> 10:15  <b>related</b> 7:19 11:13  17:9 72:16 103:8  141:24 143:10  153:16  <b>relates</b> 51:10  <b>relationship</b> 7:6  10:7  <b>relative</b> 162:10  <b>relatively</b> 35:22  <b>relativism</b> 155:5  <b>release</b> 27:20 44:6  66:9 67:18 96:25  97:1 98:1 118:13</p>
--	--	--	--

[release - responsibility]

<p>118:16 137:1 141:8 <b>released</b> 17:13 32:6 45:8 66:11 67:2 <b>releases</b> 143:19 145:20 <b>releasing</b> 82:14 92:9 <b>reliability</b> 67:25 151:15,18,20 <b>reliable</b> 36:20,22 <b>relied</b> 116:8 <b>relief</b> 55:5 <b>relieve</b> 81:10 <b>reloading</b> 127:4 <b>relocation</b> 144:20 <b>rely</b> 61:21 <b>relying</b> 60:22 74:19 127:8 148:18 <b>remainder</b> 70:3 <b>remained</b> 22:5 <b>remaining</b> 105:18 157:20 <b>remains</b> 15:19,25 26:17 69:14 123:1 123:20 <b>remember</b> 32:13 76:10 115:14 <b>remembered</b> 116:15 <b>remind</b> 4:19 6:13 54:24 123:10 <b>reminded</b> 117:14 <b>reminder</b> 126:15 <b>reminiscent</b> 136:24 <b>removal</b> 83:1 153:24</p>	<p><b>remove</b> 67:6 82:21 127:7 156:4,6 <b>removed</b> 140:16 156:10 <b>remover</b> 141:19 <b>rendering</b> 145:7 <b>renewable</b> 11:5 <b>reorganization</b> 35:18 <b>repacked</b> 140:17 <b>repair</b> 96:2 97:16 97:24 127:25 134:1 <b>repaired</b> 134:16 145:17 <b>repeat</b> 82:4 <b>repeatedly</b> 80:25 <b>repeating</b> 95:25 <b>replace</b> 11:4 119:5 119:16 <b>replaced</b> 145:17 <b>replacing</b> 134:5 <b>replies</b> 139:15 <b>report</b> 17:13 25:18 32:7 41:21,22 42:11,23 45:15 46:24 58:22 91:2 91:4 98:23 100:2 100:4 101:10,17 109:14 111:20 119:14 123:24 129:12,14,20,22 129:24 130:3,14 130:16 132:5,19 133:23 134:9,13 134:16 137:9 138:13 139:22 159:7 160:4 <b>reportable</b> 91:19 <b>reported</b> 1:20 59:7 112:8 129:12</p>	<p>130:1 132:24 <b>reporter</b> 2:14 3:16 3:19 6:17 27:2 108:1 162:3,5,19 <b>reporter's</b> 1:13 <b>reporting</b> 90:25 91:11,22 110:11 130:11 <b>reports</b> 5:6 89:3,5 110:25 135:13 <b>repository</b> 49:25 122:20 144:13,23 <b>representation</b> 100:22 <b>representative</b> 125:19 <b>representatives</b> 9:14 97:8 <b>represented</b> 5:21 <b>request</b> 86:8 104:21,24 124:2 151:1 <b>requests</b> 123:25 128:19 <b>require</b> 14:12 38:13 64:24 121:11 153:14 155:13 <b>required</b> 43:1 51:16,17 52:17 73:20 82:16 89:6 91:2,15 111:3 121:8 130:1 153:16 <b>requirement</b> 51:21 111:4 155:16,19 156:9 <b>requirements</b> 34:6 43:21 55:1,5 69:15 91:12 101:22,24 102:5</p>	<p>102:19 103:12 154:9,14,15,19,20 154:20,25 155:3,4 155:7 156:1 <b>requires</b> 11:24 122:16 <b>research</b> 143:1 <b>reservist</b> 35:3 <b>residence</b> 148:6 <b>resident</b> 28:7 37:24 <b>resignation</b> 64:13 <b>resistant</b> 150:20 <b>resistance</b> 70:10 <b>resolution</b> 46:25 <b>resolving</b> 160:22 <b>resource</b> 50:17 <b>resourced</b> 34:20 <b>resources</b> 6:6 37:22,23 38:7 40:4 53:17 112:17 112:22 127:9 <b>respect</b> 4:23 19:1 43:6 44:18 51:2 100:4 146:10 160:14 <b>respond</b> 96:12 147:17 <b>responders</b> 113:12 147:2,16 <b>responding</b> 95:25 <b>responds</b> 65:13 <b>response</b> 34:4,13 36:14 39:7 40:1 54:11 124:4 136:19 <b>responses</b> 113:19 <b>responsibility</b> 18:6 19:5 32:25 60:6 63:1 126:17 136:2,23 157:8,11</p>
--	--	---	--

[responsible - sackett]

<p><b>responsible</b> 5:2 34:5 53:16 62:2 130:7 146:24 <b>responsibly</b> 146:25 <b>responsive</b> 107:4 113:8 <b>rest</b> 24:20 71:25 117:15 <b>restart</b> 5:5 14:6 22:19 60:14 79:23 85:22 86:6,6 95:17 101:12 103:8 137:4,15 158:4,5,9,12 <b>restarting</b> 79:24 <b>rested</b> 76:11 94:16 <b>resting</b> 74:9 <b>restrained</b> 20:6 24:25 26:12 69:4 69:11 <b>result</b> 25:20 47:17 55:23 102:9 138:15,15 <b>results</b> 14:3 51:25 52:14 96:5 111:19 128:16 139:4 <b>resume</b> 22:14 69:16 <b>resumed</b> 22:17 <b>resumption</b> 132:6 <b>retain</b> 127:2 <b>retaining</b> 104:10 104:16 <b>rethink</b> 116:4 <b>retired</b> 35:4 146:13 <b>retirement</b> 115:6 <b>retraining</b> 71:20 78:11</p>	<p><b>retrievable</b> 155:17 155:22,25 <b>retrieval</b> 127:4 <b>returned</b> 118:13 <b>reusing</b> 30:12 <b>revealing</b> 102:22 137:10 <b>revelations</b> 92:7 <b>review</b> 20:19 41:13 51:9 52:21 53:7 60:9,20 62:12 65:25 71:8 83:22 101:9 107:15 122:14 138:13 <b>reviewed</b> 22:10 39:24 65:4,4 107:2 <b>reviewing</b> 27:17 <b>revised</b> 77:25 <b>revocation</b> 104:21 104:24 105:5 <b>revoked</b> 119:1 134:23,25 <b>rewritten</b> 72:7,9 <b>rid</b> 153:17 <b>rider</b> 140:3 <b>ridged</b> 65:15 <b>rigged</b> 23:7 <b>rigging</b> 66:6 <b>right</b> 6:12 7:6 12:13 24:16 28:15 30:10 31:19 32:10 37:24 39:9 40:9 40:17,18 41:13 42:10 47:22 48:25 50:6,15 54:3,15 55:10,13 57:5,8 61:7,11,11,12 64:2 71:13,14 73:7 74:6 75:12 79:3</p>	<p>79:24 80:8,9 85:18 86:11 90:14 102:17,19 104:2 106:17,19 114:1 117:10 118:7 121:2 130:10 137:7 140:22 142:13 144:6 146:17 151:11,12 155:17 156:6 158:13 <b>ring</b> 20:24,25 23:21 24:1,6,9,17 24:20 25:10,10 30:20 70:1 73:10 76:13 88:2,13,13 88:16,20,22 94:17 94:18,20 124:20 157:15,20 <b>rings</b> 124:16,19,21 157:16 <b>rise</b> 120:21 128:4 128:6 143:10 144:17 145:4 <b>rising</b> 120:25 143:6 <b>risk</b> 22:23 37:20 37:23 38:1,5 50:13 55:2,2,8,13 55:13,16,21,21 66:9 96:17 127:10 128:12 137:11 150:15 <b>riskiest</b> 76:4 <b>rita</b> 146:6 149:3 150:23,25 <b>road</b> 7:12 11:6 17:15 33:18 48:13 110:3 145:10,11 <b>roadways</b> 144:25</p>	<p><b>robust</b> 37:6 51:24 51:24 52:13 86:18 88:13 128:10,20 <b>rockville</b> 34:14 <b>rods</b> 67:1 <b>roisman</b> 9:19 <b>role</b> 154:5,10 <b>room</b> 2:11 8:9 34:22 119:15 147:5 152:3 <b>root</b> 22:15 43:8 102:25 <b>rosy</b> 151:8 <b>rotate</b> 63:3,8 <b>rotated</b> 104:14 <b>rotation</b> 104:17 <b>rounds</b> 12:10 65:24 <b>routes</b> 11:23 16:13 <b>routine</b> 38:19 108:14 <b>ruin</b> 148:8 <b>rule</b> 105:12 <b>rules</b> 16:21 130:21 <b>run</b> 24:15 38:23 62:20 79:19 99:21 100:19,21 139:13 139:18 <b>running</b> 74:4 <b>runs</b> 38:20 53:19 62:13 73:8 78:14 78:21,22,23 79:2 79:14,19,22 85:20 99:17,21 <b>rupture</b> 96:1 <b>rush</b> 22:19 <b>russian</b> 151:5</p>
<b>s</b>			
<p><b>s</b> 114:13 126:6 <b>sackett</b> 123:15 124:2 126:4,7</p>			

[sadly - senate]

<p><b>sadly</b> 116:22 135:6  <b>safe</b> 20:5 58:1  122:23 123:1  141:14 158:25  161:19  <b>safecast</b> 111:8  <b>safeguards</b> 154:16  <b>safely</b> 4:20 27:14  58:1,6 122:8,15  144:22 161:18  <b>safety</b> 4:12 21:24  22:23,24 26:3  27:15 31:21 35:25  36:15 44:2 89:4  104:23,25 119:21  119:23 121:4  123:3,20 126:18  126:23 140:2,3  146:21 148:23  154:16  <b>salary</b> 117:15  <b>salt</b> 145:19 150:12  <b>saltwater</b> 127:24  <b>san</b> 3:17,18,20  5:14 11:12 32:14  35:8 43:10 51:15  53:20 66:3 97:15  101:24 109:3  111:13 113:15  115:25 119:21,23  121:6 122:2  129:17 131:9,25  142:23,24,25  143:3 144:2,3,12  146:17 147:7,8  <b>sand</b> 143:15  <b>sarah</b> 139:20  141:23 142:22  <b>sat</b> 9:16  <b>satisfaction</b>  103:10 154:8</p>	<p><b>satisfied</b> 60:18  61:6 64:2 79:4  94:20 103:9 158:6  <b>saving</b> 133:20  <b>saw</b> 5:15 29:23  61:8 116:9 125:6  147:21  <b>saying</b> 46:13 99:7  99:8 154:6  <b>says</b> 4:8 65:21  100:2,3,4 118:17  137:17 144:2  <b>scare</b> 116:24  <b>scared</b> 116:25  <b>sce</b> 57:19 89:2  94:5 95:2 104:4  114:24 124:23  133:12 134:9  156:25  <b>scenario</b> 65:2  128:6  <b>schedule</b> 28:8  59:21 62:18 79:17  <b>scheduled</b> 63:14  <b>scheduling</b> 60:3  <b>schematic</b> 19:22  23:19  <b>scheme</b> 55:2  <b>school</b> 5:14 35:8  <b>schools</b> 115:20  <b>science</b> 149:16  <b>scientist</b> 123:17  <b>scope</b> 40:1  <b>scott</b> 4:24,25 5:6  5:10,12 17:10,10  26:7 32:4,9 51:4  59:17 80:4 83:15  85:18 86:21  100:11 101:16  104:19 117:12  135:25 139:15</p>	<p>146:9 148:21  153:3,3,6,11  159:22 160:4  <b>scott's</b> 32:8  <b>scrape</b> 134:9  <b>scraping</b> 30:11,16  30:24 31:1 92:25  <b>scratch</b> 60:21  98:11 134:10  150:7,7  <b>scratches</b> 69:19  70:12,15 71:9  <b>scratching</b> 98:9  152:9  <b>scratchings</b> 98:10  <b>screen</b> 7:2 74:2,4,5  <b>screens</b> 74:3  <b>screw</b> 64:12  <b>se</b> 88:15  <b>sea</b> 120:21 128:3  143:6,10 144:17  145:2,4  <b>sealed</b> 69:2  <b>seas</b> 120:25  <b>season</b> 15:6  <b>seated</b> 81:24  <b>seawall</b> 117:5  <b>sec</b> 90:6  <b>second</b> 14:24  20:20 26:23 28:3  28:5 32:1 57:17  60:20 69:17 72:3  73:18,19 82:12  83:25 127:15  129:25 139:11  <b>secondary</b> 142:9  <b>seconds</b> 107:24  132:19  <b>secret</b> 129:18  149:15</p>	<p><b>section</b> 44:10  106:13  <b>secured</b> 26:12  <b>security</b> 34:3,8  36:1 144:8  <b>see</b> 12:7 13:19  17:3 19:22,25  20:1,2,12 21:1,12  23:5 24:12 28:21  29:22 36:15 39:2  39:8 40:7 42:1,23  45:14,16 46:23  47:17,17 49:19  50:23 52:23 71:4  81:23 82:3,3  83:20 87:6 98:9  112:25 114:2,9  117:9 118:23  124:16 125:24  138:24 139:1,2,3  146:3 150:14  155:10 158:15  <b>seeing</b> 23:10,11  55:23  <b>seek</b> 48:2 55:4  <b>seen</b> 41:14,15  43:21 129:8 133:4  <b>segment</b> 106:16  <b>segments</b> 7:18  8:20  <b>seismic</b> 21:23  <b>seismically</b> 20:6  26:12 69:4,11  <b>selected</b> 57:6  <b>selects</b> 57:25  <b>self</b> 58:8 70:21  102:22 148:22  <b>semipermanent</b>  49:8  <b>senate</b> 14:18 15:1  15:19,21,25 16:1</p>
--	--	---	---

[senator - site]

<p><b>senator</b> 14:19 15:22 131:18 <b>senators</b> 15:12 <b>send</b> 7:20 9:1 40:4 107:7 113:10 123:13 133:4,5 <b>sender</b> 118:13 <b>sending</b> 4:11 <b>senior</b> 41:15 45:20 111:13 <b>seniors</b> 114:18 <b>sense</b> 70:22 95:3 100:20 101:6 161:10,12 <b>sent</b> 12:17 13:2 16:22 17:22 89:23 <b>separate</b> 97:12 159:15 <b>september</b> 59:14 130:3 <b>series</b> 26:3 <b>serious</b> 22:19 88:24 150:7 152:3 152:4 <b>seriously</b> 19:5 126:21 127:13 <b>seriousness</b> 21:24 <b>serve</b> 36:3 93:8 126:10,15 <b>served</b> 77:8 <b>serves</b> 93:13 <b>service</b> 9:19 35:4 145:10,11 <b>session</b> 14:4,17 47:18 120:6 <b>sessions</b> 47:11 <b>set</b> 5:19 11:11 20:9 20:14 25:22 35:17 36:5 55:20 57:19 63:25 74:18 78:1 79:14,15 111:13</p>	<p>154:12 <b>seth</b> 3:19 <b>setting</b> 9:23 154:11 159:17 <b>settle</b> 107:25 <b>seven</b> 12:23 19:8 35:1 49:10 75:24 87:11 139:12 <b>severely</b> 123:25 <b>severity</b> 42:21 <b>shallow</b> 70:16 98:8 98:10,23 <b>shame</b> 77:6,10 90:4,8 91:10,10 132:12 <b>shape</b> 85:15 <b>share</b> 9:21 10:2 14:21 84:15 98:17 98:18 99:5 124:2 146:4 <b>shared</b> 6:4 10:3 37:12 <b>sharing</b> 84:9,22 124:13 131:7 <b>shark</b> 28:23 <b>shelf</b> 88:6 <b>shell</b> 88:2,14 <b>sheriff's</b> 53:1 114:21,24 <b>shield</b> 20:24 23:21 24:1 70:1 73:10 76:13 88:13,13,16 88:20,22 94:17,18 94:20 124:19 157:20 <b>shielded</b> 20:3,7 29:11 96:20 <b>shielding</b> 29:12,20 69:12 92:16 <b>shields</b> 20:4</p>	<p><b>shift</b> 28:11 59:25 71:15 72:18 73:24 74:2,5,6 75:9 <b>shim</b> 82:25 89:1 89:11 111:23,24 111:25 112:2,12 127:19 <b>shimkus</b> 15:16 <b>shims</b> 138:23 <b>ship</b> 68:20 <b>shop</b> 34:11 <b>short</b> 27:13 29:13 32:20 70:23 71:9 88:19 98:13 114:15 <b>shorter</b> 72:9 <b>shorthand</b> 2:14 162:3,5,19 <b>shortly</b> 124:3 <b>show</b> 23:22 24:19 61:19 77:18 79:16 99:6 <b>showed</b> 22:25 27:16 <b>shows</b> 19:23 23:19 66:21 74:4 96:10 <b>shut</b> 38:5 145:20 157:4 <b>shutdown</b> 136:24 148:24 <b>shutting</b> 149:1 <b>sic</b> 51:25 52:13 71:6 78:2 112:1 149:19 <b>side</b> 6:19 <b>sides</b> 21:3 134:10 <b>sight</b> 145:6 <b>signaling</b> 161:3 <b>signature</b> 162:17 <b>signed</b> 56:23</p>	<p><b>significance</b> 21:24 25:24 42:22 44:2 62:16 160:21 <b>significant</b> 25:19 30:24 38:7 42:15 42:20 45:13,17 58:8 75:6 81:25 96:25 157:19 <b>significantly</b> 72:7 72:10 84:15 96:17 <b>similar</b> 11:20 18:16 25:6 59:3 71:2 84:20 100:17 <b>simple</b> 131:22 <b>simply</b> 50:10 73:4 92:8 125:14 <b>simpson</b> 132:23 <b>simulator</b> 100:5 100:10 <b>single</b> 13:17 38:2,2 51:19 52:17 55:23 65:1 74:19 <b>sir</b> 136:3,15 <b>sit</b> 17:12 43:19 79:12 82:18,19 86:21 112:23 156:14 <b>site</b> 28:4,6 41:1,2,4 41:4 53:8 59:13 61:2 68:20,21,21 68:23 78:20 95:12 108:20 110:15,20 110:22 111:7 117:21 122:7,12 122:22 123:2,20 125:12,17,19 126:23 127:4,10 140:16 141:7 144:4,9 145:2,4,12 147:2,18,23 153:24 156:9</p>
--	--	--	--

[site - stainless]

<p>159:6  <b>sites</b> 11:22 16:12  84:9,10 122:23  128:11 157:24  <b>siting</b> 122:13  <b>sits</b> 24:5  <b>sitting</b> 29:21 49:16  103:2 119:18  132:4 143:15  <b>situated</b> 144:6  <b>situation</b> 16:8 28:3  49:5 54:17 62:5  89:3 97:21,24  98:2 121:1 125:4  131:9 137:5,25  <b>six</b> 62:21,24 82:17  87:11 110:2  <b>size</b> 99:22  <b>sized</b> 99:24  <b>skills</b> 40:18  <b>skin</b> 155:21  <b>slammed</b> 57:14  <b>sleep</b> 116:21  <b>slide</b> 6:3 8:22 9:5  12:2 13:25 17:6  108:16 112:22  161:4,5  <b>slides</b> 23:6 37:19  61:8 108:4 113:1  <b>sliding</b> 29:9 96:24  <b>slightly</b> 24:22  <b>slings</b> 20:11 23:12  23:14 25:13 61:21  73:13 74:8  <b>slip</b> 112:18  <b>slow</b> 138:17  <b>slowly</b> 145:9  <b>small</b> 35:22,23  <b>smaller</b> 95:10  99:19</p>	<p><b>smarter</b> 77:21  <b>smoothly</b> 13:8  24:18  <b>social</b> 37:6 133:4  <b>society</b> 137:11  <b>soft</b> 143:15  <b>soldier</b> 59:23  <b>solely</b> 61:21  <b>solution</b> 160:24  <b>solutions</b> 108:20  136:22 137:22  <b>solved</b> 134:11  <b>somebody</b> 33:1  37:24 72:4,14  93:17 101:5 105:5  119:20 130:8  131:23 150:17  <b>somewhat</b> 157:12  <b>songs</b> 38:4,4 65:5  108:19 128:11  <b>songscommunit...</b>  6:5 17:14 106:21  <b>soon</b> 37:16 110:7  122:9 152:18  <b>sophistication</b>  81:7  <b>sorry</b> 27:2 108:3,3  108:5 139:6  153:22  <b>sort</b> 97:3  <b>sound</b> 119:10  <b>source</b> 11:5  <b>sources</b> 33:11  <b>south</b> 115:25  121:23 135:20  136:1  <b>southern</b> 4:23  15:12 33:5 39:19  47:23 90:7 119:2  130:2,15,19 132:2  133:17,25 134:3,4</p>	<p>134:6,16,19,24  148:21  <b>southwest</b> 146:14  <b>space</b> 40:5 82:21  82:21  <b>spacers</b> 82:18,19  <b>speak</b> 6:20 46:2  53:25 106:18  <b>speaker</b> 8:5 46:3,7  46:10,17 47:5  48:7 50:20,21  52:6 58:13 59:16  63:8 64:4,6,11  66:12 67:11,12,19  67:22,25 68:3,6,9  74:10,13 76:18,20  76:22 77:1,6,7,9  77:17,20 79:7  80:13 83:11 85:4  85:12,14 86:19  88:23,24 89:13,14  89:20,24 90:2,4,6  90:9,18 91:10  92:11,14,22 93:2,3  93:6,10,11,13,17  93:19,24 95:18,21  98:19,22 99:6,15  100:2,15 103:3,20  104:20 105:8  140:21 156:24  <b>speaking</b> 77:10  146:16 151:11  155:14 156:12  <b>special</b> 26:7 32:7  40:10 43:9 68:19  <b>specific</b> 27:9 28:10  44:17 45:16 47:14  52:11 54:7 64:18  65:5 77:22,24  78:9,9 80:2,12,18  86:10 91:20</p>	<p>101:23  <b>specifically</b> 45:18  70:8 102:3 108:16  131:10,11  <b>speed</b> 148:8  <b>speeding</b> 129:6  <b>spell</b> 108:2  <b>spent</b> 11:3,22 14:7  18:25 19:7,8,16,18  34:15 35:7 43:18  81:8 113:9 127:1  127:3,6,7,10,18  137:21 153:24  155:8 156:3  <b>spewl</b> 127:3  <b>split</b> 35:20,21  <b>spoke</b> 59:8  <b>spot</b> 8:14 63:7,12  80:9 151:12,13  <b>spotlight</b> 106:13  106:16,18  <b>spotter</b> 71:23  74:22  <b>spring</b> 111:24  <b>sprinter</b> 120:10,12  <b>stable</b> 122:10  <b>staff</b> 62:2 71:22  78:8 82:5 104:4,5  104:7 112:18  123:17 133:21  134:11 135:10  161:3  <b>staffed</b> 79:22  <b>staffing</b> 49:1 61:11  72:6,16 134:13,18  <b>staffs</b> 15:10  <b>staggered</b> 36:3  <b>stainless</b> 69:23  70:9 149:14,14,18  149:24 150:18,19</p>
--	---	---	--

[stamped - suffering]

<p><b>stamped</b> 135:22  <b>stand</b> 82:15  <b>standdowns</b> 26:4  <b>standpoint</b> 71:8  152:10  <b>star</b> 146:13  <b>start</b> 24:15 49:11  73:9 79:12 81:3  87:20 102:25  107:24 118:9  130:6,9 137:17  142:11,19  <b>started</b> 3:5 112:9  <b>starting</b> 60:4  61:20 110:17  161:5  <b>starts</b> 3:6 19:8  159:5  <b>state</b> 6:14 16:4  96:22 109:13,18  109:22 110:8  128:5 131:15  135:25 136:8  144:6 152:23  162:6  <b>state's</b> 136:1  <b>statement</b> 94:7,10  <b>states</b> 9:15 10:18  16:19 33:1 35:2  36:8 101:17 121:7  135:10  <b>station</b> 61:24  122:3  <b>status</b> 69:15 95:7  109:11 161:12  <b>stay</b> 83:8 115:14  115:15  <b>stayed</b> 66:24 67:4  67:7  <b>staying</b> 115:18</p>	<p><b>stays</b> 83:8  <b>steam</b> 118:11,16  136:25  <b>steel</b> 69:23 70:9  149:18,24 150:18  150:19  <b>steels</b> 149:14,14  <b>steinmetz</b> 130:24  133:9,10,10  135:18 136:12  <b>stemming</b> 53:3  <b>step</b> 60:5 61:25  75:24 118:25  <b>stepped</b> 62:8  84:15  <b>steps</b> 39:8,16  44:11 48:13 73:1  119:20  <b>stetson</b> 8:19 9:7,10  13:11 27:24 28:13  28:14,18 29:6  30:5 56:21 57:18  89:1 91:14 94:2  94:22 95:23 96:6  97:7 99:17 103:24  104:19,21 106:1,7  153:9,19,21  157:13,14 160:4  <b>steve</b> 30:6 48:24  62:17 113:2  158:14  <b>stock</b> 127:11  <b>stockholder</b>  133:18  <b>stone</b> 115:10 117:2  117:11,12 136:4  <b>stop</b> 46:1 73:10  75:7 81:21 82:1,2  137:6 140:8 147:1  148:11</p>	<p><b>stopped</b> 26:2,2,19  69:5 112:3 137:4  <b>stopping</b> 137:5  <b>storage</b> 14:8,13  16:5,12,24 19:18  19:18,19,24,24  20:9,15,25 21:20  23:20 24:3 29:4  29:10 30:20 49:9  49:16 50:2 88:6  98:12 121:10  122:1,12,21,23  127:10 143:8,15  144:1,4,10,16,20  145:3 158:19  161:13  <b>store</b> 123:5 152:17  <b>stored</b> 144:22  <b>stove</b> 147:24  <b>straightforward</b>  81:15  <b>strategic</b> 36:24  <b>strategy</b> 16:11,15  40:7 93:21,24  <b>stream</b> 6:16  113:20,24  <b>streamed</b> 6:12  <b>streaming</b> 21:2  <b>stress</b> 69:21  149:15,19,25  150:2,6,8,9,20  161:9  <b>stresses</b> 150:3  <b>stressors</b> 152:7  <b>strict</b> 122:14  <b>strive</b> 91:1  <b>strongly</b> 121:25  <b>structural</b> 117:6  <b>structure</b> 10:1  19:19 38:16 65:5  65:15 69:25 74:9</p>	<p>83:4  <b>structured</b> 17:21  <b>stuck</b> 33:20  <b>student</b> 142:25  <b>studies</b> 99:6,7  <b>stuff</b> 82:15 108:15  137:10  <b>subcontractor</b>  85:2  <b>subcontractors</b>  104:8  <b>subcritical</b> 67:7  68:18  <b>subject</b> 17:13  41:12 62:11 65:19  91:7 110:12  <b>subjects</b> 6:2 7:7  <b>submarine</b> 35:3  <b>submit</b> 51:17 58:3  105:11 110:1  <b>submitted</b> 13:12  87:4,23 95:1  145:23  <b>subscribe</b> 162:12  <b>subsequent</b> 39:18  123:24  <b>substances</b> 126:14  <b>substantial</b> 115:16  <b>substantiated</b>  135:5,13  <b>substantiation</b>  160:18  <b>successfully</b> 21:19  21:20 62:14,15,23  63:5,18 73:16  78:18 94:16  <b>suffer</b> 66:5 149:19  150:11  <b>suffered</b> 66:23  <b>suffering</b> 121:2  150:1</p>
--	---	--	--



[sufficient - technology]

<p><b>sufficient</b> 22:15 61:18 78:16,16 104:15 119:5 141:13 <b>sufficiently</b> 47:20 48:15 69:8 76:15 <b>suggest</b> 81:15 138:22 159:15 <b>suggestion</b> 127:2 127:15 159:3 <b>suggestions</b> 126:20 <b>summary</b> 52:21 66:2 83:21 85:23 112:20 <b>summer</b> 135:21 <b>summit</b> 9:12 <b>sunday</b> 147:22 <b>superheated</b> 152:6 <b>superhot</b> 152:6 <b>supervision</b> 72:17 75:10 124:8 <b>supervisor</b> 125:17 <b>supervisory</b> 73:17 <b>supply</b> 10:20 <b>support</b> 34:18 41:23 43:12,12 44:21,25 88:12,16 <b>supported</b> 88:14 <b>supporting</b> 11:15 <b>supposed</b> 21:10 28:19 115:23 144:10 <b>sure</b> 6:19,25 7:25 8:25 9:2,3 10:14 26:19 28:5,17 40:17,20 48:4,12 48:17 55:17 57:1 57:1,18 61:4 63:15 64:19 68:12 73:12,18 79:4,19</p>	<p>81:25 87:8,25 91:11 97:7,25 104:10 107:8,12 107:23 108:11,18 110:7,9 111:20 118:9,11 123:13 141:17 146:4 153:2,9 159:24 <b>surf</b> 128:15 143:17 <b>surface</b> 150:6 <b>surfing</b> 142:24 143:22 144:2 <b>surfrider</b> 121:22 121:25 122:6 123:17 126:8 <b>surprises</b> 49:21 <b>surrounding</b> 49:7 96:3 147:3 159:10 <b>surveying</b> 108:20 <b>surveys</b> 96:12 109:6,9 <b>susceptible</b> 65:22 112:1 149:25 <b>susceptibly</b> 122:4 <b>suspect</b> 141:24 <b>swartz</b> 30:6,7,10 48:24,25 62:17 113:2,3 158:14,15 <b>sworn</b> 129:15 132:21 <b>system</b> 19:25 61:1 62:20 64:24 69:25 70:6 76:17,25 85:25 86:2,9,15,16 92:5,9,15 101:11 106:9 110:18 114:20 118:18 119:1,5 132:11 134:15,22 136:12 148:12,14 155:3</p>	<p><b>systems</b> 115:3 116:7 124:13 <b>t</b> <b>t</b> 114:13 126:6,6 <b>tab</b> 159:6 <b>table</b> 46:13 48:22 143:5,9 <b>tad</b> 103:14 <b>tag</b> 87:21 <b>take</b> 8:24 18:6,14 19:11 39:17 45:17 47:8,9,15,24 54:21 56:9,11 64:1 68:24 73:13 78:14 79:20 87:10 97:4 104:2 107:14 115:4 118:24 139:15 147:23 150:10 159:3 <b>takeaway</b> 9:24 <b>taken</b> 2:10 19:4 21:16 23:13 42:10 45:3 63:25 72:8 73:1 81:1 107:20 109:20 111:9 126:21 <b>talk</b> 4:22 9:7 13:6 17:8,11,15 18:13 18:17,19 19:6 20:20 21:25 22:7 22:8 25:2 26:7,18 27:12 31:24 32:1 32:8 38:18 45:10 52:2 53:15 60:3 64:9,14 71:16,21 79:11 95:10 97:18 101:1 105:23 108:1,4 110:6 114:16 119:15 139:16,21 140:11 147:11 148:6</p>	<p>153:6 161:8,12 <b>talked</b> 10:1 36:15 36:16 59:25 68:25 69:20 70:8 76:10 78:6 84:1 96:14 109:12 111:24 112:4 129:22 <b>talking</b> 12:24 19:20 54:1,2,23 58:20 64:21 97:13 99:23 104:7 106:6 107:25 132:20 135:11 140:13,18 152:16 160:11 <b>talks</b> 20:15 120:22 <b>tall</b> 24:5 <b>tamp</b> 17:19 <b>tape</b> 115:15 <b>target</b> 90:14 <b>task</b> 80:23 136:20 137:14 <b>taxes</b> 117:16 <b>tea</b> 130:11 <b>teach</b> 25:21 <b>team</b> 5:3,5 32:19 41:17 60:24 78:19 79:17,19 87:21 91:4 101:1 104:5 132:16 <b>tear</b> 119:18 <b>tech</b> 29:23 <b>technical</b> 37:14 <b>technically</b> 26:25 <b>technique</b> 127:7 <b>technological</b> 57:10 <b>technology</b> 31:20 31:21,22,24,24 57:23 61:9,17,22 127:8 131:16 138:13</p>
---	---	--	---

[techs - time]

<p><b>techs</b> 81:20  <b>ted</b> 27:3 48:24  51:1  <b>telephone</b> 116:8  <b>tell</b> 47:10 52:10  63:22 64:4 115:19  142:20 158:9  159:2 160:7  <b>telling</b> 45:5 60:12  155:1  <b>tells</b> 130:17  <b>temperature</b> 83:9  127:16 149:20  <b>temperatures</b>  150:12  <b>temporary</b> 144:11  144:20  <b>ten</b> 14:16 35:7  39:5,5 56:23  151:14  <b>tendency</b> 105:10  <b>tennessee</b> 84:12  <b>tentative</b> 79:16  132:6  <b>term</b> 20:16 69:22  70:23 71:3,9  98:13,14 110:18  122:1 157:22  <b>terminate</b> 47:21  <b>terminology</b> 78:23  <b>terms</b> 23:18 36:3  60:13 61:13 64:10  72:10 79:10,11  81:16 90:24,25  98:15 100:18  101:20 121:5  131:22  <b>terrific</b> 6:17  <b>territory</b> 33:4,4  <b>terrorist</b> 144:8  145:7</p>	<p><b>testified</b> 11:12  <b>testimony</b> 135:19  <b>texas</b> 16:6 32:24  45:19  <b>text</b> 146:4  <b>thank</b> 3:21 4:10,13  4:17 5:10 9:10  11:7,8 17:5,25,25  30:5 32:3,11  51:12 52:5,25  53:18 56:2 59:17  59:24 64:17 80:1  83:24 106:15  108:9 114:12,13  115:8,11 117:1  118:1,2 119:24,25  121:16,17,21,23  123:7,8 126:1,3,7  128:24 129:1  130:22,23 133:2,3  135:17 136:10,15  136:18 137:13  139:7,10 141:21  141:22 146:2  148:25 149:1,2,5  150:22 152:12,13  152:24,25 153:10  161:2,17,20  <b>thanks</b> 3:15 49:22  51:2 57:1 154:1  160:9  <b>thick</b> 70:12 100:9  121:8  <b>thicker</b> 70:11  153:14  <b>thickness</b> 100:9  <b>thin</b> 152:5  <b>thing</b> 11:24 14:12  16:3 21:4 24:3,16  37:17 41:22 42:2  53:24 62:15 87:2</p>	<p>134:8 141:20  158:3  <b>things</b> 7:5,13 9:6  11:18 14:2,24  25:4 49:19 51:5  58:21 60:13 62:2  63:14 64:2 80:15  80:20 86:5 91:21  96:21 97:16 107:4  108:10 109:7  114:1 136:4 137:9  137:21 139:16  149:21 160:12,22  161:8  <b>think</b> 5:22 7:22  9:2 16:7 23:5  28:11,23 42:18  43:17 48:3 49:2  50:3,3,16,18 53:8  53:9 54:8,21,23  57:11 63:13,20  82:5,7,13 86:8,11  86:11,13,15,20,24  93:20 95:9,24  98:7 100:13,18  101:16 102:15  105:4 107:1,5,8,9  111:4 112:10  115:17 116:1,3,4  116:20,23 117:20  119:3 120:2,25  136:20 139:22,23  140:2,11 141:9  148:19,21 149:9  149:11 150:1  151:9 158:9,25  159:1,8,20  <b>thinking</b> 9:23 21:8  55:22 57:8 74:24  <b>third</b> 16:3 47:1,6  60:18 71:7 110:3</p>	<p>127:22 142:23  <b>thirdly</b> 10:11  <b>thorough</b> 45:3  60:9 72:13 127:24  <b>thoroughly</b> 65:11  <b>thought</b> 48:25  57:13 143:14  <b>thoughts</b> 10:3 12:6  <b>thousand</b> 37:1  130:16  <b>thousands</b> 115:4  116:13  <b>threat</b> 27:15 34:7  104:25  <b>threaten</b> 144:17  <b>three</b> 9:3 14:2,24  19:13 24:8 37:2  38:22 42:21 61:2  90:16 99:19,19  100:2 101:5  103:23 142:4,5,12  142:20  <b>threshold</b> 91:22  91:24  <b>thursday</b> 1:15  2:13 3:2  <b>ticket</b> 129:6  <b>tied</b> 153:12  <b>tight</b> 21:5 23:23  24:9 70:2 92:17  <b>tightly</b> 24:23,23  <b>tile</b> 72:5  <b>till</b> 59:13  <b>tilt</b> 6:18  <b>time</b> 14:5 15:17  24:25 28:2,10  29:13 39:21 41:9  43:19 48:4,22  50:5 69:9 72:12  74:6 76:1 82:4  91:24 94:4 103:2</p>
--	---	---	---

[time - trying]

<p>107:23 108:18  113:9,18 114:8,15  115:14 117:24  119:14 120:7  122:24 124:3  125:8 129:7 137:3  137:21 139:14  141:5 142:2,6,7,11  142:15,16,25  143:6 153:1  156:17 157:10,12  157:12 159:25  <b>timeline</b> 44:22  79:10,11 122:14  144:11  <b>timely</b> 124:25  <b>times</b> 20:17 25:10  31:15 76:14 82:7  126:16  <b>tiny</b> 147:8  <b>today</b> 19:20 22:17  26:17 61:23 112:8  112:13,20 128:1,2  129:19 150:4  159:1  <b>today's</b> 161:7  <b>told</b> 30:2 34:24  66:19 115:14  116:12  <b>tolerance</b> 92:17  <b>tolerances</b> 70:6  88:18  <b>tom</b> 4:22 10:4  12:18 17:8,15,24  27:1,5 28:2,14  31:9 39:19,19  43:17,18,23 59:18  63:9 66:12 67:21  68:14 77:3,19  79:9 80:3,4,18  85:12 87:14,15</p>	<p>88:9 89:1,14,14  91:10,14 94:2,22  95:23 99:9,17  103:4 104:3 108:4  108:8 113:1  117:12 118:13  119:10 124:18  131:10 140:11  151:16 153:3,6  156:24 157:14  <b>tom's</b> 12:25  105:19 151:3  <b>tomorrow</b> 87:8  <b>ton</b> 75:5  <b>tonight</b> 4:11 7:10  7:18 8:1 11:11,14  12:7 33:20 37:18  41:23 44:23 45:5  87:23 95:1 110:12  116:20,23 121:24  124:7,15,18  126:21 131:7  137:20 139:9  140:19 142:1  150:24 159:4,13  <b>tonight's</b> 87:13  114:2  <b>tool</b> 100:7  <b>tools</b> 82:8  <b>top</b> 19:23 20:9,11  21:10,12 24:20,21  24:23 30:20 49:16  61:22 71:24 74:23  74:25 75:3 81:9  94:18 138:3 139:1  <b>topic</b> 4:3 7:9,23  87:12 161:6  <b>topics</b> 5:18 6:24  161:6  <b>torgen</b> 146:8</p>	<p><b>total</b> 24:4 31:11  120:18  <b>touch</b> 149:22  <b>touched</b> 12:9  81:18 104:3  <b>tours</b> 95:13  <b>toxic</b> 128:12,13  <b>track</b> 7:24 8:19  69:11  <b>trade</b> 142:7  <b>train</b> 62:22 78:12  <b>trained</b> 61:5,12,16  72:11 73:15 79:22  <b>training</b> 43:12,21  57:18,20,22 58:3  61:3,9,10 63:17  71:19,19 72:7,8,10  72:13,15,15,23,25  75:18 77:24 78:10  78:14,15,20,24  79:13 80:21 81:4  84:16 85:9 92:19  101:3,8,14 104:15  124:6,8,10 131:10  131:11,17,19  132:24  <b>transcribed</b> 162:7  <b>transcript</b> 1:13  2:10 6:17  <b>transfer</b> 20:3,8,9  20:13 23:3,8,19  24:21 26:3,12,17  29:4,10 30:8,13,15  30:17,24 49:15,20  69:4,13 123:5  125:18  <b>transferred</b> 49:10  <b>transit</b> 81:14  131:12  <b>transition</b> 49:7</p>	<p><b>transmission</b>  116:6  <b>transparency</b>  124:24  <b>transparent</b> 36:25  46:17 47:5 48:15  99:11  <b>transport</b> 68:19  69:7  <b>transportation</b>  11:23 16:13,16,23  131:8,11,16  <b>transported</b>  145:10  <b>transporter</b> 20:1  23:2 31:23 61:17  <b>travels</b> 148:9  <b>treat</b> 109:6  <b>trial</b> 85:20 100:6  <b>triangular</b> 88:12  <b>trickling</b> 57:13  <b>tried</b> 10:2 90:19  <b>trillion</b> 89:15  148:3  <b>trouble</b> 25:9  <b>true</b> 59:16 63:23  <b>truly</b> 4:18,20  22:15,20 125:22  <b>trust</b> 85:6,12,14  132:15 138:18  <b>trusting</b> 10:7  53:23  <b>truth</b> 119:23 138:6  151:13  <b>try</b> 12:10 13:8,16  15:2 16:12 17:18  39:5 87:17 154:11  158:1  <b>trying</b> 10:13 13:17  13:21 16:18 37:15  64:7 77:9 89:24</p>
--	---	---	---

[trying - utility]

<p>90:2,4 108:13 118:9 119:9,9 133:17 136:23 138:3 152:9 <b>turn</b> 25:2 26:21 155:14 156:12 <b>turning</b> 18:2 <b>turnout</b> 37:11 <b>turnover</b> 62:24 82:5 104:3,11 <b>tva</b> 84:11 <b>twitter</b> 37:7 <b>two</b> 4:8,11 5:20 7:18 8:9 9:21 12:10 13:5 16:4 19:13 28:2 33:23 38:22 42:12 45:12 56:21 57:11 58:16 62:8 71:23 80:20 90:19 94:23 103:24 105:15 116:16 117:18 118:10 123:19 141:24 146:13,19 148:10 149:12 157:10 <b>type</b> 10:6 <b>types</b> 36:6 <b>typical</b> 46:14 62:19 70:5 <b>typically</b> 41:20 62:10 70:6 72:20</p>	<p>69:7,18 71:5 96:19 124:22 148:12 <b>unacceptable</b> 18:24 21:15 60:6 <b>unanalyzed</b> 62:7 <b>undergrad</b> 142:25 <b>underlying</b> 102:10 <b>underneath</b> 36:5 63:19 145:11 <b>underscore</b> 113:6 <b>underscored</b> 11:18 <b>undersigned</b> 162:5 <b>understand</b> 18:19 22:15 26:15,19 44:3 48:15,25 60:10,15 69:9 82:1 83:17 86:1 86:16 93:12 95:14 99:18 100:25 106:24 109:18 125:11 149:16 151:18 152:10 159:13 <b>understanding</b> 56:23 59:19 88:6 <b>understands</b> 111:21 158:4 <b>understood</b> 76:15 <b>underwater</b> 19:9 <b>underway</b> 11:17 <b>unexpected</b> 10:14 10:15 <b>unfathomably</b> 126:17 <b>unfolding</b> 11:16 <b>unfolds</b> 13:24 <b>unfortunately</b> 10:22 33:17</p>	<p><b>uninsurable</b> 89:15 <b>uninsured</b> 148:4,5 <b>union</b> 58:17 <b>unique</b> 13:13 50:9 <b>unit</b> 26:13 69:5 <b>united</b> 9:15 10:18 33:1 35:2 36:8 121:7 135:10 <b>units</b> 26:10 109:3 <b>unjust</b> 144:16 <b>unknown</b> 8:5 46:3 46:7,10,17 47:5 48:7 50:20,21 52:6 58:13 59:16 63:8 64:4,6,11 66:12 67:11,12,19 67:22,25 68:3,6,9 74:10,13 76:18,20 76:22 77:1,6,7,9 77:17,20 79:7 80:13 83:11 85:4 85:12,14 86:19 88:23,24 89:13,14 89:20,24 90:2,4,6 90:9,18 91:10 92:11,14,22 93:2,3 93:6,10,11,13,17 93:19,24 95:18,21 98:19,22 99:6,15 100:2,15 103:3,20 104:20 105:8 140:21 <b>unload</b> 61:20 <b>unloaded</b> 68:21 <b>unnecessary</b> 125:13 <b>unquote</b> 131:20 132:6 <b>unrealistic</b> 104:18 152:11</p>	<p><b>unrecognized</b> 72:4 <b>unrelated</b> 13:15 <b>unsafe</b> 130:20 144:16 <b>unsecured</b> 129:12 <b>unsupported</b> 21:14 25:7,11 62:7 75:8 76:11 <b>unusual</b> 108:25 157:5 <b>unveil</b> 128:23 <b>unwarranted</b> 126:13 <b>upcoming</b> 111:20 <b>update</b> 13:25 17:4 110:13 111:23 <b>updated</b> 108:11 109:10 128:8 <b>updates</b> 6:7 7:3,4 7:8 9:6 17:1 113:20 <b>upgrades</b> 34:9 <b>upgrading</b> 43:21 <b>uranium</b> 33:8 152:6 <b>urge</b> 161:18 <b>use</b> 20:16 30:16,17 38:6 40:8 60:18 73:25 76:17,24 92:9 99:17 100:21 107:19 119:16 121:8 137:23 138:22 141:16 142:6,15 153:14 <b>users</b> 84:14 <b>usually</b> 131:20 <b>utilities</b> 50:1 135:20 <b>utility</b> 9:20 10:8 10:12 60:24</p>
<b>u</b>			
<p><b>u.s.</b> 121:12 122:18 132:2 146:10,14 <b>uc</b> 142:25 <b>ultimately</b> 40:8,23 47:8 57:6 58:6 155:24 <b>umax</b> 19:24 51:15 60:25 64:21 65:5</p>			

[v.c. - wanting]

<p style="text-align: center;"><b>v</b></p> <p><b>v.c.</b> 135:21</p> <p><b>vacuum</b> 154:24</p> <p><b>validate</b> 60:16 78:24</p> <p><b>validation</b> 60:18</p> <p><b>valuable</b> 52:3</p> <p><b>variance</b> 134:1</p> <p><b>variant</b> 151:19</p> <p><b>variety</b> 5:17 6:5 33:25 34:2</p> <p><b>various</b> 6:22 124:14 128:14,15</p> <p><b>vary</b> 70:6</p> <p><b>vast</b> 50:3</p> <p><b>vault</b> 19:20</p> <p><b>vaults</b> 98:12</p> <p><b>vehicle</b> 102:16,17 105:13 131:14</p> <p><b>vein</b> 55:13</p> <p><b>vendor</b> 37:15 62:10</p> <p><b>vendors</b> 62:11 84:19</p> <p><b>venture</b> 132:18</p> <p><b>vermont</b> 9:18,20</p> <p><b>vernon</b> 31:9,15,19</p> <p><b>versa</b> 11:16</p> <p><b>version</b> 123:12</p> <p><b>versus</b> 49:3</p> <p><b>vertical</b> 19:24,25 23:2 31:23 61:17 69:24 70:5</p> <p><b>viability</b> 71:3 132:1</p> <p><b>viable</b> 11:23</p> <p><b>vice</b> 11:16</p> <p><b>vicinity</b> 29:12,19 29:24</p> <p><b>victor</b> 3:5,18,20,22 5:15 8:6 11:8</p>	<p>13:10,18 26:23 27:3,24 28:13,23 30:6,25 31:5 32:3 46:5,9,19,21 48:4 48:9 50:22 52:2,8 52:19 55:18 56:17 57:17 58:14 59:11 59:15,17 64:5,7,14 66:14,16 67:13,21 67:24 68:2,5,7,12 71:10,14 74:11,14 76:19,21,23 77:3 77:12,19 79:9 80:1,15 83:13,24 84:18,21 85:13,16 86:11,20 89:16 90:3,11,21 91:20 92:24 93:5,8,15,20 94:1 95:15,20 98:17,21 99:5,10 100:11 101:10 103:4,21,25 105:4 105:15,23 106:12 106:20 107:21 108:3 112:25 113:5,16 115:8 117:1 118:2 119:25 120:4 121:17 123:8 126:3 129:1 130:23 131:3 133:3,9 135:17 136:3,10,15 139:7 139:10 141:22 142:4,7,17 146:2,8 148:25 149:2 150:22 152:13,25 153:24 156:19,22 157:10,24 158:2 158:14 159:12 160:2 161:2</p>	<p><b>video</b> 37:13 94:22</p> <p><b>view</b> 14:10 15:20 24:2</p> <p><b>viewed</b> 94:18,18</p> <p><b>viewers</b> 6:15</p> <p><b>views</b> 68:12 100:12</p> <p><b>vigilance</b> 126:16</p> <p><b>violated</b> 129:9,11 132:15</p> <p><b>violations</b> 42:16 42:22,25 45:11,12 62:8 91:8 101:19</p> <p><b>virtually</b> 83:21</p> <p><b>visible</b> 145:5</p> <p><b>visibly</b> 21:10</p> <p><b>visions</b> 14:5</p> <p><b>visited</b> 111:7</p> <p><b>visits</b> 110:16</p> <p><b>visual</b> 74:25 81:12 96:13</p> <p><b>visually</b> 31:25</p> <p><b>voltage</b> 131:13</p> <p><b>volume</b> 50:12</p> <p><b>voluntary</b> 145:2</p> <p><b>vote</b> 68:3</p> <p><b>vu</b> 118:8</p> <p><b>vulnerability</b> 128:4</p> <p><b>vulnerable</b> 132:4 144:7</p> <p style="text-align: center;"><b>w</b></p> <p><b>w</b> 114:13</p> <p><b>wade</b> 150:23,24 152:14,15</p> <p><b>wait</b> 98:19</p> <p><b>waiting</b> 125:13</p> <p><b>wake</b> 126:11</p> <p><b>walk</b> 115:6 120:13</p> <p><b>wall</b> 100:9 139:1</p>	<p><b>walled</b> 152:5</p> <p><b>walls</b> 83:4</p> <p><b>walnut</b> 149:12,12</p> <p><b>want</b> 3:7 4:10,13 4:17,21,23 5:10 6:18 7:16 8:8,15 8:22,24,25 9:5 10:7 11:9 12:5 13:10 14:2,24 15:9 16:3 17:2,6 28:9 29:3,7 31:7 32:4,5 36:18,25 39:1,4 42:13 48:4 48:9,10 50:23 51:4,7 52:11,23 53:24 57:4 58:14 58:15,21 59:17 64:19 68:10 75:9 75:23 77:10 80:2 82:22 83:13 85:17 86:20 89:25 93:10 105:23 106:23 107:18,22,22 108:11,17 109:11 110:7,12 111:20 112:25 113:6 114:6 116:14,15 119:1 123:12 133:11 141:5 142:10 143:3 146:19 149:11 150:5 153:1,2,5,6 153:10 154:2 158:21 160:12,17 160:19 161:4</p> <p><b>wanted</b> 26:19 27:7 30:25 40:17 71:10 114:16,23 154:12</p> <p><b>wanting</b> 98:4 158:24</p>
---	--	---	--

[wants - worried]

<p><b>wants</b> 116:20 119:3 134:13 135:8 <b>warnings</b> 146:25 <b>warranty</b> 92:8,21 <b>wary</b> 159:17 <b>washington</b> 15:5 58:16,23 92:2 154:3 158:19 161:15 <b>waste</b> 49:25 116:13 122:1,6,9 122:15 123:1,6,20 123:22 127:4 130:16 138:13 141:8 143:4,15 144:12,13,20 152:18 <b>watch</b> 21:9,10 34:15 37:16 49:19 61:22 71:24 74:3 110:8 133:24,25 134:7 <b>watchdogs</b> 129:4 129:16 131:6 <b>watching</b> 6:15,15 61:2,3 73:18 74:22 <b>water</b> 19:12 138:24 139:3 141:9,16,17 143:5 143:9,11,16 <b>way</b> 5:20 8:5,6,11 14:11 33:5 39:7 50:11 56:14 74:24 80:14 82:6 85:14 119:7 130:21 132:10 138:1,11 151:13 153:1 156:4 159:9</p>	<p><b>ways</b> 37:8 136:7 155:22 160:21 <b>we've</b> 5:22 7:20 12:2 16:11,16 18:8,19 19:9 23:7 31:2 37:6 45:7 57:9 60:1,23 63:25 64:2 65:3 65:10,23 67:2 69:20 70:7,8,8,10 70:15 71:6,6,7,10 71:21 72:5,6,7,9 72:25 73:1,13,14 73:16 75:24 76:6 79:17 80:16 81:24 90:19 91:21 95:11 95:13 96:13 97:22 98:15 101:2 105:15 109:12 110:16,24 111:7 112:4 113:14 116:24 118:19 123:18 126:23 127:5 129:8,15,21 133:4 141:12 147:15,17,17 <b>weaknesses</b> 43:6 <b>wear</b> 140:3 <b>weather</b> 4:18,20 <b>web</b> 13:16 111:10 <b>webinar</b> 37:10,12 37:13 56:22,25 57:6,11 120:19 <b>website</b> 6:6,12 12:22 37:6 41:25 66:3 87:12,22 92:5 106:11,13,14 107:11,13 110:9 110:10 111:17 112:10,14,20 129:20</p>	<p><b>wedge</b> 73:13 <b>wedged</b> 20:24 21:3 21:5,6,12,13,22 22:5 24:21,22,23 29:16 30:21 62:5 70:14 74:9 76:11 94:14 <b>week</b> 14:16 49:12 79:13 83:23 143:18 <b>weeks</b> 5:8 34:15 37:11 57:11 58:16 61:2 120:19 150:11 <b>welcome</b> 4:21,24 5:13 13:22,23 15:9 84:21 <b>welcoming</b> 4:15 <b>weld</b> 97:10,16 <b>welded</b> 19:13 65:15 69:3 88:14 <b>welding</b> 19:15 26:10 76:2 <b>welds</b> 65:16 <b>went</b> 9:8 11:12 72:4 142:22 <b>western</b> 16:19 32:25 132:2 <b>wherefores</b> 57:5 <b>whereof</b> 162:12 <b>whistleblower</b> 135:2,4,8 137:12 160:5,8,19 <b>whistleblowers</b> 135:14 137:13 <b>whiston</b> 107:24 114:4,11,12,12 117:4 <b>white</b> 6:9 <b>whys</b> 57:5</p>	<p><b>wide</b> 124:12 <b>wind</b> 62:4 72:14 75:7 148:9,10 <b>windows</b> 115:15 <b>wise</b> 126:25 <b>wish</b> 32:13 147:4 <b>withstand</b> 65:6 <b>witness</b> 162:12 <b>wonderful</b> 37:11 151:8 <b>wondering</b> 152:19 <b>word</b> 147:6,7 <b>words</b> 24:12 128:6 <b>work</b> 10:3,6 12:4 15:9 22:11 29:1 33:15,19 36:9 50:12,13 56:9 90:15,18 95:2,4,10 97:2 102:25 110:17,24 113:11 115:18 116:10 131:8,10 134:1 154:17 155:1 <b>worked</b> 34:1 68:18 <b>workers</b> 20:5 29:14,25 79:7 96:3,7,7 123:4 147:2,17 <b>working</b> 13:23,24 15:8 16:2 26:9 28:22 52:6 110:21 161:14 <b>works</b> 10:2 27:1 28:1 39:9 103:6 <b>workshop</b> 99:14 113:20,24 <b>world</b> 6:12 9:16 56:9 104:13 152:23 <b>worried</b> 134:2</p>
---	---	---	--

[worry - zone]

<p><b>worry</b> 69:22 97:15 120:14</p> <p><b>worst</b> 138:19 148:23</p> <p><b>worth</b> 139:11</p> <p><b>wound</b> 21:13 25:11 63:6 64:25</p> <p><b>wrap</b> 158:22</p> <p><b>wrestle</b> 37:15</p> <p><b>write</b> 12:14 89:25 107:6 147:5</p> <p><b>writers</b> 154:4</p> <p><b>writing</b> 43:2 51:8 153:18 155:11</p> <p><b>written</b> 43:14 72:25 87:15 123:11,12</p> <p><b>wrong</b> 86:12 159:19</p> <p><b>wyatt</b> 80:19,20 82:2,12,19</p>	<p>118:9 123:19 133:25 134:7 150:10 151:14</p> <p><b>yell</b> 138:3 149:7</p> <p><b>yellow</b> 8:17,17 23:21 42:3 107:6 107:17,19</p> <p><b>yesterday</b> 6:4 32:6 41:25 45:15 129:14,22</p> <p><b>yesterday's</b> 119:14</p> <p><b>yield</b> 52:1</p> <p><b>yucca</b> 14:10,10,12 121:10 152:18</p>
	<b>z</b>
	<p><b>zachy</b> 149:11</p> <p><b>zero</b> 131:12 135:6 135:13</p> <p><b>zirconium</b> 146:1 147:13</p> <p><b>zone</b> 128:15 152:1</p>
<b>y</b>	
<p><b>y</b> 123:16</p> <p><b>yeah</b> 12:8 26:25 30:7,15 31:17 46:10 49:22 52:6 52:11 56:1,21 57:15 63:11 77:9 82:11,18,19 88:11 89:8 93:19 101:8 106:12 158:1,13</p> <p><b>year</b> 15:1,2,3,21 36:3 37:1 38:4 49:12,14,18,20 62:21 71:11 81:2 82:24 117:25 139:17 143:12 144:3 161:6</p> <p><b>years</b> 5:23 11:1 35:1,3,4,7 109:8 109:13 116:13,13</p>	