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3RD QUARTER COMMUNITY ENGAGEMENT PANEL
(REGULAR MEETING)

REPORTER'S TRANSCRIPT OF PROCEEDINGS

Oceanside, California

Wednesday, August 9, 2018

Reported by:
Heidi Hummel-Grant
CSR No. 12556
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3RD QUARTER COMMUNITY ENGAGEMENT PANEL
(REGULAR MEETING)

Transcript of Proceedings, taken at 1938
Avenida Del Oro, Board Room, Oceanside, California,
beginning at 5:31 p.m. and ending at 9:05 p.m., on
Thursday, August 9, 2018, before Heidi Hummel-Grant,
Certified Shorthand Reporter No. 12556.

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Oceanside, California

Thursday, August 9, 2018, 5:31 p.m. to 9:05 p.m.

DR. VICTOR: -- there has been a lot of meetings 05:31

about San Onofre this week. And I know many of you
have been to many of them. Also, some people might be
on the highway still. I was just on the highway, along
with some large fraction of humanity. So thanks to
San Diego Planning for that traffic. 05:38

My name is David Victor. I'm chairman of the
Community Engagement Panel, and I welcome you to this
meeting tonight.

Just a reminder, if there is an emergency and
you need to evacuate the building, there are exits here 05:38
and here when you go back out the front door the way you
came in. There are also exists right behind me.

The Oceanside Police Department is here for
everyone's safety tonight. And I want to thank the
people of Oceanside for welcoming us back to this great 05:38
facility here. And Councilmember Jerry Kern is a member
of the panel that's not with us tonight, but I will make
sure to thank him, as it were, for his hospitality.

Also want to mention -- and we'll talk a bit
more about this later tonight -- as you -- those of you 05:38

1 who have been following us closely know, Edison has 05:38
2 established a team of experts to help them develop a
3 plan for the removal of the spent fuel from the site and
4 for accelerating the various things, including changes
5 in law, that will be needed to make removal of the spent 05:39
6 fuel from the site possible.

7 Tonight we have two members of that panel here,
8 one of them, Tom Isaacs. Tom, where are you? Right
9 there. Tom Isaacs, former Office of Policy of the
10 Department of Energy, who is chairman of that panel. 05:39
11 Tom and I had a chance to meet and discuss the work of
12 the Panel -- the work of the Community Engagement Panel
13 in some detail yesterday. And we are very much looking
14 forward to working with them and also bringing Tom's
15 panel back to future meetings over the course of the 05:39
16 next year or so.

17 Other member from the expert panel here with us
18 tonight is Gary Lanthrum -- right over here -- Gary is a
19 specialist on transportation of high-level nuclear
20 waste, among many other things. He was a director of 05:39
21 the National Transportation Program for Yucca
22 Mountain -- the Yucca Mountain Repository. He's going
23 to talk with us later tonight about the theme of
24 tonight's meeting, which is about current practices in
25 used fuel transportation. So, Gary, thank you very much 05:40

1 for joining us tonight. 05:40

2 There are a range of information booths, some
3 from Edison, some from other organizations. Hope you
4 had a chance to take a look at these. They will be open
5 also doing the break. 05:40

6 Want to remind everybody that the Community
7 Engagement Panel is a conduit set up between Edison and
8 the communities for two-way flow of information. So
9 it's not a decision-making body; we don't form
10 decision-making procedures. But the idea was, and is, 05:40

11 to help Edison understand what members of the
12 communities that are affected by the decommissioning
13 process are concerned about and hearing, and then to
14 help members of the community affected by -- the
15 communities affected by the process to learn more about 05:40
16 what Edison's actually doing with the decommissioning
17 process.

18 Want to review the agenda for tonight's meeting,
19 which is shown up on the screen here. We're in the
20 welcoming and opening comments phase of the agenda. 05:41
21 We're going to have a few general updates in just a
22 moment, then go to Tom Palmisano's update on
23 decommissioning, and then to Gary Lanthrum, and then
24 back to some questions before the break. We will, as
25 always, have a public comment period after the break. 05:41

1 We've shared -- thank you -- we've shared the 05:41
2 slide deck with the members of the panel, the Community
3 Engagement Panel, last week, and it's also, I believe
4 posted, on SONGScommunity.com. The agenda, along with
5 heard-to-read materials are all on you chairs. 05:41

6 Gary Lanthrum, I want to particularly thank you
7 for your slides, because you've also beaten Tom's
8 previous record of having hard-to-read slides. And so I
9 want to thank you for that contribution tonight. And as
10 all of you know, a couple of slides from Tom's 05:42
11 presentation, which will be just -- Gary's presentation,
12 which will be traffic.

13 The meeting, as always, is being live streamed
14 on SONGScommunitylive -- SONGScommunity.com.

15 For those of you watching the live stream and 05:42
16 also for the benefit of our court reporter, please
17 state -- members of the panel, please state your name
18 when you're making comments so that people know who's
19 making which comment. And if you want the floor to make
20 a comment or raise a question, raise your flag, like 05:42
21 that.

22 If a member of the public would like to make a
23 comment during the public comment period, please sign up
24 on the sheet that's outside as you walked in. And
25 there's already been 20 or so -- 25 people who have 05:42

1 already signed up. But that will remain open all night. 05:42
2 So if you want the floor, please do that so we have a
3 chance to get those comments.
4 And Dan Stetson and Steve Swartz will help us
5 collect some of those comments, get the responses, where 05:43
6 possible, tonight, and also help organize the list of
7 comments and responses that we, as is the custom, can
8 put up on the website. We'll talk a little more about
9 that tonight.
10 If you don't want to talk in public but you 05:43
11 still have a comment, you can send it to that email
12 address right there within five days of the meeting
13 finishing, and it will be part of the public record and
14 it will get responses. And along the way I will call
15 out various items that need action and so on so that the 05:43
16 process works reasonably efficiently.
17 So let's move now and first see if anybody on
18 the panel has any questions or comments? So far I
19 haven't made any major errors in summarizing the agenda.
20 So I just want to talk through a couple slides 05:43
21 with some updates about the Community Engagement Panel
22 before go to Tom Palmisano.
23 So first, I want to just give you a couple of
24 updates about things we've observed in the industry.
25 First, about -- about Holtec, which is the company, as 05:44

1 you know, that is -- has built the ISFSI, which is the 05:44
2 site where the spent fuel -- new spent fuel canisters
3 are being stored, it's providing those canisters. They
4 are also building a consolidated interim storage in
5 eastern New Mexico. That process is moving through the 05:44
6 Nuclear Regulatory Commission's licensing process. As
7 far as I can tell, all on schedule, from the application
8 that was filed in March 2017. And the preliminary
9 schedule suggests that the license will be issued in
10 July 2020. 05:44

11 I mean, as we've discussed many times at these
12 meetings, we don't see the licensing as the big issue
13 here. The big issue here is the needed change in
14 federal law to make it possible to move spent fuel to
15 such as Holtec's facility in eastern New Mexico or a 05:44
16 similar facility that is now being restarted in western
17 Texas.

18 I do want to mention there's a significant
19 change underway right now in the nuclear industry as
20 more plants are shut. That change is that firms are 05:45
21 emerging specialized in the decommissioning of nuclear
22 plants. One of the firms is the AECOM, a consortium
23 that has the contract for decommissioning the San Onofre
24 plant. We will, I think, within the next 12 months have
25 a chance to hear from them in some detail as to what 05:45

1 that process is. It's gearing up. Tom will talk more 05:45
2 about that.

3 And the other firm that is emerging in this
4 space is Holtec itself, which has purchased the
5 subsidiaries of three nuclear plants with the goal of 05:45
6 acquiring those licenses, title to the fuel, and
7 basically making a business out of effectively and
8 safely decommissioning plants.

9 And I think it's not surprising that in this
10 industry the people who build and operate the plant are 05:45
11 not necessarily the best people to shut down the plant.
12 So it's not surprising that consolidation or change is
13 going on inside the industry. It's also looking to
14 acquire and decommission ISFSI, the spent fuel pad at
15 Big Rock. And there certainly will be others in the 05:46
16 future.

17 I don't think that's material to what's going on
18 at this plant, but I thought I would mention this,
19 because if you're following the news in the industry,
20 you're seeing a lot of activity about this firm. And 05:46
21 the firm's health and the firm's activities are
22 certainly important to us because they're a key partner
23 for the spent fuel pad.

24 Next slide, please?

25 This will be fairly brief because nothing has 05:46

1 changed, really, with the appropriations process since 05:46
2 our last meeting. As you know, we need to have a change
3 in federal law that makes it possible -- almost certain
4 there needs to be a change in federal law to make it
5 possible to reliably ship spent fuel from decommissioned 05:46
6 sites like San Onofre to consolidated facilities like in
7 eastern New Mexico and western Texas. There have been
8 efforts, successful efforts, inside the House to frame
9 up that change in law. The Senate has been politically
10 much more difficult because -- and I would say in 05:47
11 particular because of the very close senate race in
12 Nevada with Senator Heller, that's even difficult, the
13 reelection campaign. And you can for or against
14 Senator Heller, but we have to face the reality that
15 that means that things what are advantageous to his 05:47
16 campaign are happening in the Senate, and that include
17 notes advancing legislation, not advancing
18 appropriations that in any way would be seen as
19 supportive of Yucca Mountain. And that's the reality
20 where we were at our last meeting; that's the reality of 05:47
21 where we are right now.

22 I've spent some time with folks on the Hill
23 trying to figure out what's going to happen. Nobody
24 knows. It's not surprising in Washington these days.
25 We have a variety of other dramas unfolding, including a 05:47

1 possible government shutdown. 05:47

2 There had been quite a lot of hope that during
3 the so-called lame duck sessions, after the election but
4 before the new Congress takes over in January, in that
5 period the legislation could advance, a variety of other 05:48

6 activities could advance. I'm now sensing growing
7 skepticism about that, in part because the list of
8 things that need to get done during the lame duck
9 session is very long. So I wish I had a better message,
10 more smiley faces to put on the message. But that's 05:48

11 kind of where we are right now. Meanwhile, these two
12 facilities in eastern New Mexico and western Texas are
13 soldiering on, doing their work.

14 I think one of the things that's going to be
15 interesting for us to ask the people at those facilities 05:48
16 at meetings, Such this one early in 2019 is how far can
17 they go before they really need the change in law,
18 because they continue to work, we can continue to
19 develop the railcar program -- we'll hear more about
20 later tonight. So that's the update that I have about 05:48

21 the appropriations process.

22 I just want to pause for a moment, see if anyone
23 has anything further to add about that?

24 Next slide, please?

25 The community asks lots of really good questions 05:49

1 at all these meetings, and they are gathered and 05:49
2 answered. And I just want to flag right now that six of
3 them in particular came up during our last meeting that
4 need some detailed answers. And you'll hear from
5 Tom Palmisano some answers to those questions. And Tom 05:49
6 will talk a little bit more about other questions that
7 have come up as well. But these six listed at the top,
8 starting with heat removal of canisters keep coming up.
9 They're really important and good questions -- people
10 have asked and done their homework, and I really 05:49
11 appreciate that -- so we're going to get some additional
12 readout on those questions in the public setting in this
13 meeting today.

14 And there's few other comments below where
15 people have asked questions, for example, can we share 05:49
16 notes from the visit to the Holtec factory -- two visits
17 to the Holtec factory we had just prior to the previous
18 meeting. And I believe we're in the process of
19 organizing those, and we'll get those put up on
20 SONGScommunity.com so if anyone wants to see what it is 05:50
21 we discussed, I'll be thrilled to make those notes
22 available. And thanks to Dan and Marni and others who
23 have been working on this.

24 Next slide, please?

25 So before we give the floor to Tom Palmisano, I 05:50

1 just want to see if anybody would like to make any 05:50
2 additional comments or updates that they think are
3 important for us to share with the community. Okay.

4 Tom Palmisano, the floor is yours.

5 MR. PALMISANO: Okay. Thank you very much. 05:50

6 And welcome everybody. It's good to see the
7 turnout, and we appreciate the interest in
8 decommissioning and the other activities.

9 I've got a shorter than normal presentation,
10 which is generally a good thing. Want to leave plenty 05:50
11 of room for Gary on the agenda. He's the true expert in
12 transporting nuclear fuel. So we want to make sure we
13 take advantage of him joining us tonight.

14 Thank you very much for joining us.

15 So I'll be brief. Our decommissioning 05:50
16 principles of safety steward engagement, we continue to
17 live those every day.

18 This is a new graphic. We've had our 20-year
19 timeline before that is always very difficult to read.
20 So we tried to simplify. So very simply, you see we're 05:51
21 in the pre-decommission work at this point, and we're in
22 the process of moving the spent fuel from wet to dry
23 storage -- and I'll status that in a minute.

24 And we're in the CEQA review process with the
25 State Lands Commission. Once that process is done, 05:51

1 hopefully in 2019, we will get started on the major 05:51
2 decommissioning work, which is about a nine-year window
3 to actually physically remove the plant and structures
4 and remediate the radioactivity. And during that
5 period, and extending beyond, all the spent fuel will be 05:51
6 in dry storage until there is an opportunity to transfer
7 it off-site. Whether that's the Department of Energy
8 under the Nuclear Waste Policy Act or an interim storage
9 facility or some combination. And then towards the end
10 of that period -- our plan runs out as far as 2051 -- 05:52
11 we'll transfer the fuel off-site, work with the Navy to
12 determine the end-stage -- remember, last year Tom
13 talked to us about what the Navy's ultimate plans will
14 be since it's their land -- we'll finish remediating the
15 site. This is the non-radiological part, any 05:52
16 substructures that the Navy wants removed, and then
17 eventually we'll turn the land back over to the Navy.
18 And then when the spent fuel's gone, we'll demolish this
19 dry fuel storage facility.

20 So that a simplified version. This is the 05:52
21 version we'll use in the CEP meeting from here out.
22 It's a little simpler to understand.

23 Fuel transfer status to passive dry cask
24 storage. Remember where we started. We have an
25 existing dry cask storage facility from earlier, Unit 1 05:52

1 and 2 and 3 operation. There's 50 casks for spent fuel 05:52
2 that's been on-site, was built in 2003. So fuel's been
3 stored there for a period of time. What is in the two
4 spent fuel pools? If you go back a year ago, we had
5 2,668 fuel assemblies; we are now in the process of 05:53
6 transferring those to the new facility. We will load 73
7 canisters. And at the end of the day, mid-2019, have
8 123 canisters with all the spent fuel stored on-site.
9 And the spent fuel pools will be emptied at that point.

10 This is a picture of the new facility. We now 05:53
11 have 20 canisters loaded. Each canister holds 37 fuel
12 assemblies. So we will load ultimately 73. So we've
13 made good progress. We do periodically stop. We
14 stopped over the week of Memorial Day to rest the crews.
15 We stop for crew rest, to do maintenance on our 05:53
16 equipment. And we're in one of those stops at this
17 point, and we completed Number 29 last week. I expect
18 we'll restart loading in a week or two. During this
19 time we do our maintenance, the crews get some time off,
20 and we look back and say, "How did it go? What did we 05:53
21 learn?" We're very deliberate and very cautious about
22 how do to this, and we're always interested in how we
23 could do this better, more safely, more effectively.
24 Areas that we've looked over the time of loading the 29,
25 how we do welding, how we dry the canisters with helium, 05:54

1 how we move the canisters, how we download the canisters 05:54
2 into the facility -- downloading is interesting because
3 it's a complicated evolution where you've got to
4 reposition the crane a couple of times -- so we continue
5 to look for ways to make sure the crews have all the 05:54
6 tools they need, all the instructions and all the
7 training. So that's what we do during these down
8 periods.

9 So we'll continue. And we're on track, as I
10 said, for mid-2019 to complete the offloading, at which 05:54
11 point you'll -- see there's 75 spaces there, you'll see
12 73 loaded with fuel canisters, you'll see one spare, and
13 you'll see one test location. You may remember I've
14 talked in the past that we committed to have a canister
15 that we will test so we can monitor how it performs and 05:54
16 inspect it without fuel in it so we can prepare to
17 inspect canisters with fuel in the future.

18 MR. QUINN: Ted Quinn.

19 I wanted to ask, Tom, could advise on the NRC
20 inspection practices during the current stage and 05:55
21 what's -- what you see coming?

22 MR. PALMISANO: Sure. And we've talked about this
23 before. The NRC inspects us quarterly. So they've got
24 a series of inspections they do for a decommissioning
25 site. So they're out quarterly. Then they come out 05:55

1 particularly to look at the fuel handling operations. 05:55

2 They looked at the start of it very closely. They will
3 come out periodically, generally during the quarterly
4 inspections.

5 MR. QUINN: Do they have any reports from those 05:55
6 inspections?

7 MR. PALMISANO: Yeah, they issue the reports
8 quarterly. The last report probably is the first
9 quarter report. They just completed the second quarter
10 inspection. It takes them about 60 days to get a 05:55
11 report out of their process. So those reports are all
12 posted on the NRC website relatively easy to find.

13 DR. VICTOR: And that sentence has never been spoken
14 before.

15 Is it possible to put them also -- to share -- 05:55

16 MR. PALMISANO: Yes, we can link them from our
17 SONGScommunity website so it's easier for you to click,
18 link and get to the SONGS.

19 DR. VICTOR: Because that NRC website is a maze.

20 Thanks, Ted. 05:56

21 MR. PALMISANO: Thank you.

22 So moving off the spent fuel, I want to talk
23 about environmental permitting. This is important and
24 it's very current. The State Lands Commission had two
25 public meetings this is week. Just as a reminder, 05:56

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1 there's two things we really need: First is a certified 05:56
2 Environmental Impact Report by the California State
3 Lands Commission under the CEQA act, California
4 Environmental Quality Act. The next thing we need
5 before we can start the major dismantlement, 05:56
6 decommissioning, is a Coastal Development Permit issued
7 by the California Coastal Commission. They cooperate on
8 this with the State Lands Commission as the lead agency,
9 they do their EIR. The Coastal Commission then will
10 rely on that EIR in addition to their other analyses to 05:56
11 make a decision on the Coastal Development Permit.

12 What is active right now is the first one. They
13 published the draft EIR for public comment at the end of
14 July. They will close the comment period -- I believe
15 they've changed this now to August 30th, in the meeting 05:57
16 this week. So my slide's a bit out of date. So I
17 believe that's August 30th. They held the two meetings,
18 one in Oceanside on the 7th and in San Clemente on the
19 8th. And then right now we anticipate they will
20 consider to final EIR in December 11th in a meeting in 05:57
21 San Diego. That's up to them, not us. That's just what
22 I believe their schedule is likely to be. It depends on
23 what they do with the comments they receive.

24 These are important meetings. And as part of
25 public involvement, we wanted to make sure we advertised 05:57

1 before the public comment meetings -- hopefully some of 05:57
2 you got there -- want to make sure you know when the
3 public comment period closes should you chose to make
4 public comments. So please, avail yourself of that so
5 you can be a participant in the State Lands Commission 05:57
6 process.

7 Moving on, David's already introduced
8 Tom Isaacs, the chair of our expert team, and
9 Gary Lanthrum, our expert team member. The other
10 members, Chris Cummings, background in nuclear 05:58
11 engineering and dry cask storage; Allison MacFarlane,
12 former chair of the Nuclear Regulatory Commission, has
13 done a lot of research on siting and geological
14 repositories; Rick Moore, another transportation expert;
15 and Dr. Joseph Picone, who's a radiation monitoring 05:58
16 expert. So it's a very robust panel. We are looking
17 forward to that panel interacting with our Community
18 Engagement Panel as a resource.

19 DR. VICTOR: Let me just report a little more detail
20 on the meeting Tom Isaacs and I had yesterday, which 05:58
21 was, in part, to identify people and places where we
22 can bring members of this is panel back here. In
23 particular, this -- I faithfully report -- with
24 Jerry Kern, Dan Stetson and I think which is we need to
25 have meeting in early 2019 to refresh on where we are 05:58

1 with consolidated storage with these two sites, 05:58
2 New Mexico and west Texas, and the strategy that's
3 emerging around that. So we very much look forward to
4 the expert team helping us talk about that.

5 Thank you. 05:59

6 MR. PALMISANO: Yeah, we're excited about the
7 intersection, both the expert team and Community
8 Engagement Panel, I think it's going to be a great
9 resource to us.

10 Moving on, I want to just tee up spent fuel from 05:59
11 transportation from a SONGS readiness perspective as we
12 get ready to hear Gary's view of what it takes to
13 transport spent fuel.

14 So this is -- nothing here is new. You've heard
15 me say this before, but it's always good to review it. 05:59

16 So what's important is the canister systems we
17 use are licensed for storage and transport. That is
18 important. There's some older plants that have
19 storage-only canisters, and that is a problem when an
20 opportunity to move fuel off-site arises someday. So 05:59
21 all of our systems are transportable and they're
22 licensed by the NRC.

23 We have three different systems. We have two
24 transnuclear systems -- sometimes you hear these
25 referred to AREVA, it's AREVA Transnuclear -- then we 05:59

1 have Holtec Systems. So all three systems have 05:59
2 transportation casks licensed by the NRC to transport
3 our fuel. That's an important factor.

4 The transportation requirements we've included
5 in our canister loading plans. What that means is in 06:00
6 the current canisters we're loading, we take 37 fuel
7 assemblies and put them in. So we had over 2,668 fuel
8 assemblies so we spent a lot of time picking 37
9 assemblies for each canister so they're transportable as
10 early as they can. So there's some science and 06:00
11 engineering behind how you pick which fuel assemblies.
12 So we factored that in.

13 The Department of Energy has been out -- and
14 you'll see that on a further slide. We actually have
15 very good rail access at San Onofre. There's a rail 06:00
16 spur on-site that expanded and it ties into Pacific sun
17 Railroad and the Burlington Northern Santa Fe. There's
18 some plants in the country that don't have ready access
19 to a rail site so that's problematic for them. So the
20 infrastructure to be able to someday move this fuel 06:00
21 particularly by rail is important.

22 I'm going to show a slide that shows you when
23 our canisters are going to be ready for transportation.
24 So let me show you that again. This is not a new slide.
25 One of the important things the CEP asked us to do is 06:01

1 characterize this issue, how it relates to SONGS. So a 06:01
2 couple of years ago we built this slide.

3 So the top two rows are the 50 canisters that
4 have already been loaded with fuel for a number of
5 years. And what I'm showing here is when the canisters 06:01

6 are eligible to be shipped off-site. In the dry cask
7 storage business there's two key times: One, you've got
8 to keep spent fuel in the water pool for a period of
9 time, typically five years. Then you can move it into
10 dry cask storage. Then ultimately you need to move it 06:01

11 over public roads or public rail, it's got to decay
12 another period of time, but then depending on the
13 canister design, shielding, the transportation casks.

14 So the Unit 2 and 3 spent fuel are in newer
15 AREVA canisters. As you can see 27 of the 33 canisters 06:01
16 are eligible to ship today. If there was a place to
17 ship it, they're eligible to ship today. The remaining
18 six will be eligible by the end of 2019.

19 You know, one is a different story. This is the
20 old Unit 1, which closed in '92. You can see its 06:02

21 canisters take much longer. The difference is the
22 material in the fuel rods. Unit 2 and 3 have more
23 modern fuel with a material called zirconium in the fuel
24 rods. They don't have to decay as long before they can
25 ship. Unit 1 has stainless steel and it has a higher 06:02

1 activation level, higher radioactivity. It needs to 06:02
2 decay 38 years before it can be shipped, which is why
3 you see Unit 1 -- or Unit 1, which operated -- closed in
4 1992 is all the way out to 2030 for the last nine
5 canisters. Then the new canister system you can see out 06:02
6 of 73 we'll load by the end of 2020, 67 of the 73 will
7 be eligible to ship. And then you see the remaining six
8 mature over the period of time by the end of 2028.

9 The message here -- we've talked about permanent
10 repositories, consolidated storages. We all want to get 06:03
11 a location to ship it to that's suitable and approved
12 and licensed and built. We're getting ready on-site
13 with the right type of canisters eligible to ship as
14 soon as something is available. So this timeline
15 matches up when you look a facility becoming available 06:03
16 in a practical time frame.

17 Now, my pointer's -- guys, will you advance the
18 slide, please?

19 A couple of other comments. The preparatory
20 work for transportation, I mentioned the DOE has visited 06:03
21 the site numerous times, particularly in 2015, looking
22 at our facilities, looking at our transportation casks.
23 They've documented that in the report. That website is
24 linked right there -- this is worth looking at. They
25 look at every closed nuclear plant in the country at the 06:03

1 time and write a pretty good report in terms of its 06:03
2 readiness to ship fuel. I think the last update was
3 2016. So this is why we urge you to look at just the
4 general background in terms of how they analyze these
5 sites readiness to ship. 06:04

6 DR. VICTOR: Can I ask you -- first of all, I want
7 to mention that Steve McHarris [sic] is in the audience
8 here -- just waive your hand -- Steve has been part of
9 the DOE effort and has been instrumental to us and this
10 panel in helping us get access to materials, put 06:04
11 questions back to the DEO. So I want to thank you
12 again, Steve, for all your contributions.

13 Tom, when do you expect DOE to do another site
14 visit? Or we just going to see kind of annual updates
15 to -- 06:04

16 MR. PALMISANO: I think the update is every one to
17 two years. We had a visit not long ago, which resulted
18 in a 2016 report. So I would expect either this year
19 or next yeah we'll see another site visit --

20 DR. VICTOR: Thanks. 06:04

21 MR. PALMISANO: -- but DOE management has changed
22 over with the administration. So don't hold me to
23 that.

24 And with that, that completes my brief overview
25 of the decommissioning status. I'll have more to say 06:04

1 later on a couple topics. 06:04

2 So thank you.

3 DR. VICTOR: Thank you very much.

4 So now I want to give the floor to

5 Gary Lanthrum, who's going to talk with us about the 06:05

6 main theme of tonight's meeting around transportation of

7 radioactive material.

8 Gary, the floor is yours.

9 MR. LANTHRUM: Thanks.

10 DR. VICTOR: While Gary's going up, does anyone have 06:05

11 any additional comments or questions to Tom about his

12 overview? I didn't see any agitation in chairs about

13 that subject.

14 So, Gary, the floor's yours.

15 MR. LANTHRUM: Okay. Thank you very much. 06:05

16 I graduated from Oregon State University with a

17 degree in nuclear engineering in 1975. So I've been

18 working in this arena for 43 years now. Unfortunately,

19 my work has been technical in nature. I've been

20 managing some of the engineering aspects, some of the 06:05

21 science aspects and some policy aspects. So I'm not

22 nearly as good a public speaker as David or Tom. So

23 bear with me, I'll stumble a bit, I've got my cheat

24 sheet notes here, and hopefully it will keep me on the

25 right path. 06:05

1 One of the questions I was asked is why people 06:05
2 should care about transportation of spent fuel. For me
3 personally -- it's not a bullet on the slide -- but I
4 like to know of all the hazards that can affect the area
5 I live in and what's being done to mitigate those 06:06
6 hazards. And that goes for all kinds of things: Storm
7 water runoff, transportation of other hazardous
8 materials, and it would go for spent nuclear fuel
9 transportation as well.

10 Spent fuel doesn't get shipped as much as it 06:06
11 used to be -- I've got another slide coming up; I'll talk
12 about the overall history of shipments. It's been being
13 shipped since the mid '60s. There's been a lot of
14 shipments that have been done. The peak throughput in
15 this country was back in the late '80s, early '90s, over 06:06
16 a hundred shipments a year were going on. Now we're
17 down to around between 10 and 20 shipments a year
18 typically. A significant portion of those are Navy
19 shipments, which are kind of invisible because they're
20 National Security shipments. But there's an awful lot 06:06
21 of research and development that's done on spent fuel
22 from power reactors. They do coastal radiation
23 examination of fuel rods, for example. So small
24 quantities of spent fuel does get shipped fairly
25 regularly. 06:07

1 I don't know the specifics about this area, but 06:07
2 I doubt there's been any shipments of note in this area.
3 A reason that you all might want to be engaged is
4 because things are changing, the landscape is shifting,
5 both Tom and David talk about the potential for 06:07
6 consolidated spent fuel storage sites, there's a lot of
7 shutdown reactors like SONGS. And there's a potential
8 in the next decade or so the number of shipments could
9 start moving from shutdown power plants particularly to
10 those consolidated storage sites. 06:07
11 The SONGS Day Coders have expressed interest in
12 getting the fuel moved off-site, and that can't be done,
13 obviously, without transportation.
14 Historically, like I said, shipments have been
15 going on since the mid '60s, 1964. Over 4,000 cask 06:07
16 loads of spent fuel have been shipped in this country.
17 Internationally it's been more than 25,000 shipments.
18 And those shipments haven't just gone by rail and by
19 truck, they've also gone by ship. There are a number of
20 countries like Japan that wants to reprocess their fuel 06:08
21 but didn't have the reprocessing capability. So they
22 shipped their spent fuel by ship to France, and it was
23 shipped from port by rail and by truck to a reprocessing
24 facility. And the reprocessed spent fuel, the
25 high-level waste, was then shipped back to Japan by 06:08

1 ship. So there's been a lot of international 06:08
2 transportation as well as the shipments in this country.
3 There have been accidents. There has never been
4 an accident involving spent fuel where the
5 transportation conveyance, the cask, was breached. And 06:08
6 this history of 4,000 cask shipments, this -- whoops,
7 can you go back a slide?
8 This book -- I've got a link here at the bottom
9 of the slide. It's a report that was put together on
10 the history of all the accidents that have taken place. 06:08
11 If you're interested in looking at details, it's a great
12 reference. It's got a lot of information about every
13 single accident that's happened.
14 The worst one that happened in this country was
15 back in the '70s, I believe. There was a shipment of 06:09
16 spent fuel headed to Oak Ridge National Laboratory by
17 truck. The truck was heading down the highway -- I
18 believe it was highway 25, it's a 55-mile-an-hour
19 two-lane road -- another semi coming the other way
20 veered out of its lane. The driver of the truck 06:09
21 carrying the spent fuel veered off the road to avoid a
22 head-on collision, went down an embankment. The truck
23 skidded for 300 and some feet, it overturned. The skid,
24 the -- basically the brace that holds the spent fuel
25 cask -- popped off the trailer. The truck overturned 06:09

1 with it's trailer and slammed into some trees. The 06:09
2 collision killed the driver. The cask was partially
3 buried in a ditch. It ran into the dirt. A team of
4 experts descended on the site fairly quickly. They did
5 radiation surveys. The cask was in good enough 06:09
6 condition -- even though the truck and the trailer were
7 destroyed -- they just cleaned it up and were able to
8 complete the shipment on a different truck to a bridge.
9 That's the most severe accident that's happened. There
10 hasn't -- haven't been other accidents that have come 06:10
11 anywhere near close to endangering the cask. So overall
12 that -- for spent fuel, it's got an enviable safety
13 record.

14 Here's a couple of pictures of the kinds of
15 casks that are used. This is called the M290 cask. 06:10
16 It's the most recent cask the Navy used to ship the
17 spent fuel. This was used to defuel the Enterprise
18 Aircraft Carrier. It completed its decommissioning in
19 Newport News, I believe, in 2016, the last of the fuel
20 was shipped. This is called the M290 cask it weighs 06:10
21 290 tons. It's a very large cask.

22 This cask and the picture around it is a TN Reg
23 cask. It was used to ship spent fuel from West Valley.
24 We did start doing some reprocessing of spent fuel in
25 this country. It was halted during -- I believe, 06:11

1 Johnson stopped it initially and then Reagan formalized 06:11
2 the halt with an Executive Order. And there was an
3 amount of spent fuel shipped to West Valley for
4 reprocessing that was never reprocessed. These casks
5 were used to ship that fuel from West Valley to Idaho. 06:11
6 And you can see the workers here -- this is a loaded
7 cask, it's got spent fuel in it -- these are emergency
8 responders and they're doing radiation surveys of the
9 surface. They're using a stick with a detector up
10 against the side of the cask to make sure it meets the 06:11
11 shipping limits before it leaves West Valley. That
12 shipment was completed successfully. In fact, it was
13 actually completed ahead of schedule.

14 This is an NAC -- it's called the STC cask.
15 There aren't many of these cask in this country because 06:11
16 there's not a lot shipments of these large volume
17 canisters going on. This is a cask that NAC sold to
18 China. I believe Holtec is in the process of
19 fabricating some casks that they are also sending to
20 China. China is already consolidating their spent fuel 06:12
21 and they're using U.S. casks for that work.

22 The one called -- this is called an LWT. That's
23 a fancy acronym for legal weight truck cask. It's a
24 much smaller cask. It only holds one fuel assembly.
25 Fits with its skid -- and this is the skid for this 06:12

1 cask -- you can kind of see the skid on this one -- and 06:12
2 the skid is really bolted to the railcar on the Navy
3 cask, but this fits inside a Conex box, and that box can
4 then be put on a ship or on a train or on a truck. It's
5 light enough to go by truck. Legal weight truck 06:12
6 shipments are limited to 80,000 pounds. And so none of
7 these large casks can go by legal weight truck. They
8 could go by heavy haul, which requires special
9 permitting, or by rail.

10 Back in 2016 the National Academy of Sciences -- 06:13
11 they have an R&D arm called the National Research
12 Council -- they did an in-depth study of the safety in
13 shipping spent fuel in this country. And they actually
14 published a book -- this is the book itself -- and a
15 group paid to have that available to the public. It's 06:13
16 on the National Academy of Sciences Library site -- and
17 that's web link to it so you can download an ecopy of
18 the book -- it's got detailed information about the
19 history of shipping.

20 Their conclusions were basically that there are 06:13
21 no fundamental barriers to the safe shipment of spent
22 fuel in the country and that current U.S. regulations
23 were adequate to provide that safety, and the safety of
24 spent fuel shipments, because of the structure, was
25 several orders of magnitude safer than shipments of 06:13

1 other common hazardous materials. 06:13

2 This is a graph from that book.

3 DR. VICTOR: This graph, I believe, is on your
4 chairs.

5 MR. LANTHRUM: So it's a bit of an design chart 06:14
6 challenge.

7 I didn't want to spend a lot of time on it, but
8 the basic idea is that -- risk is up on the vertical
9 line, and this is a logarithmic scale -- so each
10 horizontal line is ten times riskier than the line below 06:14
11 it. So it goes up by a factor of ten each time.

12 This is the risk associated with spent fuel.
13 This is the risk associated with shipping methanol.
14 This is the risk associated with shipping propane. And
15 the top one is chlorine. Which basically says that the 06:14
16 shipments of spent fuel has multiple orders of magnitude
17 increased safety over other common hazardous materials.

18 The second graph I have here is from the
19 federal -- actually from the Association of American
20 Railroads. This takes all the rail shipments of 06:14
21 hazardous materials -- and there's nine classes of
22 hazardous materials; spent fuel is part of Class 7,
23 which includes all radioactive materials -- and this
24 shows a large volume -- it's over a million shipments --
25 and that's railcars -- of flammable liquids, over 06:15

1 300,000 shipments of gases -- chlorine falls into the 06:15
2 gases classification -- the total radioactive shipments
3 was just 8,000. And if you break that down, that
4 includes medical isotopes; it includes industrial
5 isotopes; it includes a whole range of things that are 06:15
6 radioactive, not just spent fuel. Spent fuel only
7 accounted for 11 of those 8,000 shipments. And this is
8 dated from 2015. The data doesn't change much year to
9 year. The basic breakout for an industrial country like
10 ours is pretty much the same year after year after year. 06:15

11 So you have this converge of information where
12 each shipment of spent fuel is less risky than the
13 shipments of other hazardous materials and there are far
14 fewer of the shipments in this country. And that will
15 remain true, even if Yucca Mountain were to become 06:15
16 active and the plants across the country were shipping
17 fuel to dispose of to Yucca or just some other
18 repository.

19 There's three reasons for this. It's not an
20 accident that the safety record is there for spent fuel 06:16
21 shipments. The first pillar is really effective
22 regulations; the second one is really robust package
23 designs; and the last one is enhanced personnel
24 training -- it's not just given over to anybody to do.
25 So it's -- those are the three things that kind of 06:16

1 backup the safety record and provide the structure of 06:16
2 it.

3 The first bullet here -- again, this is a design
4 chart, this is what David kind of chastised me for, was
5 having too much information -- but spent fuel is the 06:16
6 only hazardous material where the packaging is required
7 not just to survive normal conditions of transport, it's
8 required to survive severe accidents without breaching
9 the package. It's the only one. Chlorine and hydrous
10 ammonia, a number of other volatile materials that are 06:16
11 poisonous, don't have that requirement. So that's a
12 very unique requirement.

13 It's not just because people are more worried at
14 spent fuel, most other hazardous materials have some
15 corresponding social benefit. If you live in a city, 06:17
16 you get chlorinated water out of your tap. That
17 chlorinated water is -- is produced by chlorine --
18 compressed chlorine gas in rail tanker cars. So it's
19 got some social benefit. There's a need to be able to
20 get a lot of that, move it around the country 06:17
21 constantly.

22 Spent fuel has already given what it's got to
23 contribute to society with the power; it has no further
24 use. So you don't have to design transport conditions
25 to allow efficient shipment; you design them solely for 06:17

1 safety. It's probably the only hazardous material where 06:17
2 safety is the sole concern; there's no corresponding
3 social benefit trying to maximize through-good.

4 Other things that apply to the regulations is
5 that that communities that the shipments are going to be 06:17
6 passing through, states and tribes, are pre-notified,
7 they get advance notification so their safety officials
8 can be ready for the shipment and be prepared, know when
9 it's coming.

10 Shipments by rail are speed limited. They can't 06:18
11 travel at the same speed as other commodities. Most
12 hazardous materials travel at 80 miles an hour. Spent
13 fuel shipments are limited by rail to 50 miles an hour.

14 There are enhanced inspections of shipments by
15 truck. There's this inspection program called the 06:18
16 Commercial Vehicle Safety Alliance, Level 6 Inspections.
17 Some states require those inspections each time a truck
18 carrying spent fuel enters their jurisdiction. We stop
19 the truck, they pull over, a CVSA inspection team comes
20 up and does a multi-point safety inspection. 06:18

21 For shipments by rail there is a 27-point
22 criteria that the railroads are required to through to
23 evaluate the safety and security of those shipments.
24 That data has to be updated on an annual basis. It's
25 the criteria used to select routes that are used to ship 06:18

1 rail shipments of spent fuel. And again, that's 06:18
2 something that doesn't apply to all hazardous materials.

3 DR. VICTOR: Before you move on --

4 MR. LANTHRUM: Yes.

5 DR. VICTOR: -- a year or so -- a year and a half 06:19
6 ago, I think, the leadership of this panel wrote a
7 letter to the California Energy Commission asking the
8 Commission to begin the process of figuring out what we
9 needed to do in California to do the regional planning,
10 preparedness and so on, because of all the kinds of 06:19
11 things you're talking about here.

12 MR. LANTHRUM: Sure.

13 DR. VICTOR: And I would say our impact on the
14 California Energy Commission appears to have been zero.
15 So we'll try that one again. 06:19

16 But help us understand what the -- what the time
17 scale is to do the regional planning and coordination
18 and so on. I know later in the presentation -- I'm
19 talking about the time for the approvals is six months
20 to two years. But it seems like there is a larger 06:19
21 process that because nobody's moving commercial spent
22 fuel nobody's doing that planning. And how much -- when
23 does that process need to begin?

24 MR. LANTHRUM: It's an answer that has two parts,
25 because it depends on who's shipping it. 06:20

1 Under current regulations, private shipments of 06:20
2 spent fuel, there is no requirement for coordination or
3 preparation other than what states -- all states have
4 emergency preparedness groups that deal with a wide
5 variety of hazardous materials. And states get funding 06:20
6 through DHS to pursue a wide variety of hazardous
7 material training exercises.

8 Department of Energy has a special set of
9 training for spent fuel. It's the TEPP, Transportation
10 Emergency Preparedness Program, and it's run out of the 06:20
11 Department of Environmental Management, the Department
12 of Energy. And they've done a full sweep -- I've got a
13 link to that later in the slides -- of training
14 information that can be used by states and local
15 communities to prepare for these shipments. 06:20

16 When the Nuclear Waste Policy Act -- Amendments
17 Act was passed, it included a requirement -- it's
18 Section 180(c) -- that the federal government had to
19 provide funding to states -- and it's been amended to
20 include tribes because of their sovereign nature -- to 06:20
21 provide for specific emergency response training for
22 spent fuel shipments. And there was a commitment in a
23 draft ruling that that funding would flow three to five
24 years before the shipments took place.

25 There is not a similar corresponding requirement 06:21

1 for private shipment of spent fuel. And so what is done 06:21
2 is somewhat up to the shippers. They can work with
3 states and encourage states to tap into things like
4 TEPP, this Transportation Emergency Preparedness
5 Program, to get the information that's available. And 06:21
6 it's also incumbent on the states. If a state knows
7 there's going to be shipments of spent fuel through its
8 jurisdiction to maybe shift some of its hazardous
9 material funding over to look at spent fuel rather than
10 focusing on other commodities. 06:21

11 DR. VICTOR: Can I suggest as an action item for
12 Edison, maybe with us, Gary, to sharpen up what the
13 time horizon is here? Because we've been operating
14 with kind of the three- to five-year concept. But, you
15 know, meanwhile time goes on. And in theory those two 06:22
16 facilities could be open in 2022 or 2023 to take spent
17 fuel shipments. So that suggests that it's really five
18 years that -- that's today. So maybe we can sharpen
19 this up and figure out whether we need to talk more
20 about this. 06:22

21 MR. LANTHRUM: I can say that those 10 to 20
22 shipments a year that are going on currently are being
23 done without any specific funding target event. So
24 each new shipment program that comes up, there is a
25 degree of coordination to be done to make sure all the 06:22

1 parties understand what their roles and 06:22
2 responsibilities and expectations are.

3 DR. VICTOR: Any other comments or thoughts on this
4 slide? Danny?

5 MR. STETSON: Sure. Thank you very much, Gary. 06:22
6 So with reference to the authority, if this
7 particular city our county doesn't want it to go through
8 there, do they have the authority to stop the shipment?

9 MR. LANTHRUM: The cities and counties don't.
10 States have some jurisdiction for highway shipments 06:22
11 under the Department of Transportation Rules, under
12 49 CFR. States can propose alternate routes within
13 their jurisdiction, but they can't block a shipment.
14 And the ultimate shipments that they propose will have
15 to meet all the safety criteria that exists for any 06:23
16 shipment. And so you can just propose an alternate
17 shipment. It would be difficult just to block a
18 shipment. It has to meet all the safety criteria.

19 MR. STETSON: So what agency has final authority
20 over shipments? 06:23

21 MR. LANTHRUM: The Nuclear Regulatory Commission
22 has -- ultimately approves the shipments. They have to
23 approve the security plan for the shipments. And the
24 shipment has to be in compliance with DOT requirements.
25 And so there's kind of a split responsibility: The NRC 06:23

1 approves the security plan, the Department of 06:23
2 Transportation sets forth the base requirement you have
3 to meet; and then the package requirements are governed
4 by the Nuclear Trade Commission again. If you meet all
5 those requirements, there's -- there's not a provision 06:23
6 for blocking a shipment; it's interstate commerce at
7 that point.

8 MR. STETSON: Thank you.

9 MR. LANTHRUM: Any other comments, questions on this
10 topic before I click? 06:24

11 DR. VICTOR: Thank you.

12 MR. LANTHRUM: Okay. The other thing, next part of
13 the safety protocol is the hardware. Again, unique to
14 hazardous material shipments, shipments by rail of
15 spent fuel require special railcars. Those -- there's 06:24
16 only one of those cars currently operating.

17 I showed a picture of the Navy's spent fuel cask
18 a few slides ago. That was one of the new railcars that
19 meets the Association of American Railroads S2043
20 Operation Standard. There's a whole bunch of things in 06:24
21 the standard. It provides realtime tracking of
22 important factors affecting the health of the railcar.
23 Varying temperature. The suspension system under
24 railcars are called trucks. I don't know why they call
25 them trucks, I guess every industry has to have its own 06:24

1 set of terminology, and the suspension on railcars are 06:24
2 called trucks. The rail in this country is not really
3 great. It's not always perfectly aligned. So as trains
4 move down the track, the suspension under the railcars
5 wobbles back and forth with irregularities in the track. 06:25
6 And that is called truck hunting. And so railcars that
7 ship spent fuel have to have monitoring for truck
8 hunting. If the truck hunting gets severe, they have
9 provisions for stopping the train or slowing the train,
10 because that contributes to a tendency to derail. So 06:25
11 they track a lot of factors that can effect the ability
12 of the train to stay on the track. Again, that's unique
13 for any hazardous material moved in this country.
14 There were provisions for reduced stopping
15 distance. They had a provision for electro pneumatic 06:25
16 brakes. So when you hit a brake signal, electricity
17 would send that signal to all the cars in the train
18 simultaneously. So if you had a hundred-car-long train,
19 you didn't have to wait for a compressed air signal to
20 travel down a hundred cars. They removed that 06:25
21 requirement because the length of spent fuel shipments,
22 the trains, for security purposes, will be three to five
23 cask cars at most, short enough that you don't get any
24 benefit from electro pneumatic brakes. And there are
25 not many engines out there to pull the railcars and the 06:26

1 signaling structure for tripping for electro-pneumatic 06:26
2 brakes. So they use just the standard compressed air
3 brakes.

4 But the realtime monitoring of things was a big
5 deal. There is a requirement to do actual surveys of 06:26
6 the track that the train will travel down before it goes
7 down for a shipment. That's, again, unique to hazardous
8 materials shipment. And then there's that 27-point
9 safety security criteria that railroads have to go
10 through to approve the shipments before they're done. 06:26

11 And this particular railcar that's on the slide
12 is a depiction of the Atlas railcar that was being
13 developed -- is being developed by the Department of
14 Energy. It's a 12-axle car; it's a really big railcar.
15 The thing is, I believe, 70-some feet from end to end -- 06:26
16 73 feet long. It can't be accommodated on all tracks.
17 Some track has curves that are too tight for the railcar
18 to go down. This car has been designed; they've got
19 prototypes built; and they are planning to start testing
20 for those railcars, I believe, in 2019, if the 06:27
21 appropriations provides the funding for it.

22 To fully qualify a railcar to ship spent fuel,
23 to complete the qualification process, a hundred
24 thousand miles of use is required. And so it's an
25 extensive test program. And they don't require just 06:27

1 qualification of the cars, you have to qualify the 06:27
2 dynamics of the whole train. So if you've got three
3 cask cars, two buffer cars, and a security escort car
4 and train shipment of spent fuel, you have to qualify
5 that -- they call it a consist, the arrangement of all 06:27
6 the railcars together. That makes -- again, it's a
7 requirement above and beyond what exists for other
8 hazardous materials.

9 DOE is looking at designing an eight-axle car,
10 which would be shorter, that you can get into more 06:28
11 sites, but I don't believe there will be any challenge
12 to the 12-axle car in the SONGS with the straight track
13 they've got coming into there.

14 DR. VICTOR: It's my understanding they have a
15 multiyear appropriation already in place for the 06:28
16 railcar testing program? Or do they still need an
17 appropriation for that?

18 MR. LANTHRUM: I can't answer that question.

19 DR. VICTOR: I think we'll come back on that. I
20 think they have the appropriation for that but just for 06:28
21 testing.

22 MR. LANTHRUM: In January of this year Pat --
23 Pat Schwab is the fellow at the Department of Energy
24 that's been heading up the railcar development program.
25 He gave a presentation and seemed to indicate that the 06:28

1 testing in 2019 was contingent on funding. I think 06:28
2 they had a plan in place, but I don't believe they had
3 money appropriated.

4 DR. VICTOR: We'll get to the bottom of that. And
5 I'll make sure the next step that we, as a panel, has 06:28
6 an update on that. You know, there's so many things
7 that delay, have the testing delayed, because they
8 don't have money in the measurement of millions. It
9 would be nice. So --

10 MR. LANTHRUM: I don't disagree. 06:29

11 The good thing is that the Navy has cars that
12 they've been using and there is potential for borrowing
13 cars from the Navy that have already been qualified.
14 And those also 12-axle cars. They're very large cars.

15 I've got a link on here. I'm going to ask 06:29
16 Manuel in just a minute to click it and see if I can get
17 a movie to show. But if it doesn't work, I wanted to go
18 over these pictures.

19 Back in the '70s, which was quite a while ago --
20 and I think maybe one of the tests in England was done 06:29
21 later -- a series of crash tests were done with actual
22 spent fuel casks. These tests weren't done to prove the
23 cask could survive a crash -- they already knew they
24 could -- the tests were done to validate the models used
25 to predict what would happen in a crash. So they were 06:29

1 for benchmarking tests. They want to make sure the 06:29
2 models actually predicted real-world performance so as
3 they developed new casks they could rely on the data the
4 model showed.

5 The tests are impressive, you know. And so I'm 06:29
6 going to ask Manuel to go ahead and click it.

7 The first one is actually a test in England.
8 And the cask looks very different than the casks we use
9 here.

10 Bear with me. And, Manuel, could you click the 06:30
11 link? And everybody keep your fingers crossed.

12 "Only a full-scale rail cask will really prove
13 the point. So in July 1984 the CPTP organized Operation
14 Smash Hit. The same flask as was used at Checker was
15 fitted with a new lid, filled with a ton of water, 06:30
16 200 steel bars -- once again, to simulate the uranium
17 fuel rods -- festooned with measuring instruments and
18 mounted on a British Rail flat rail, the kind of wagon
19 used for transpiring operational flasks.

20 "This was then derailed and turned on its side 06:30
21 on a stretch of British Rail test track at -- in
22 Leicester as if it were a real accident. The train was
23 set in motion without the driver. Eventually it reached
24 a hundred miles an hour. It plowed headlong into the
25 derailed flask. 06:31

1 "The draw hook on the front of the locomotive 06:31
2 hit the edge of the cask, but the lid stayed bolted in
3 position. There was some scarring of steel and buckling
4 of the outside cooling thickness, but the flask had been
5 pressurized to a hundred pounds per square inch before 06:31
6 the test, and measurements taken afterwards showed that
7 only 0.26 of one pound of pressure had been lost. Proof
8 that it had remained intact and totally safe for the
9 public had it contained actual radioactive materials."

10 The next test -- 06:31

11 "The first test: A truck generated 22 tons
12 spent fuel cask impacted a 690-ton concrete block at
13 60 miles per hour. It was cleaned up and impacted a
14 second time but at 84 miles per hour. The cask also
15 survived this more violent crash with only minor 06:32
16 damages."

17 MR. LANTHRUM: I'm hoping that Manuel can stop --
18 good. Thanks.

19 The piece that he pulled off was an impact
20 limiter. They put -- basically like crumple zones in a 06:32
21 car -- they put pieces on the ends of the cask to absorb
22 the impact. That's a sacrificial piece. So it was
23 pulled off. This is the actual end of the cask.
24 There's some deformation, but the bolts are all still in
25 place; the steel isn't ruptured; the cask is intact. 06:32

1 Go ahead and continue it, Manuel? 06:32

2 "In the third test a diesel locomotive crashed
3 into a truck at 81 miles per hour. The stalled truck
4 carried a 25-ton shipping cask."

5 They had to use rockets to get the locomotive 06:32
6 accelerated to speed on this short --

7 "Cask deformation was not all [sic]. And the
8 ability of the cask to contain and shield its
9 radioactive contents was not compromised.

10 "The final impact test had a 74-ton shipping 06:33
11 cask carried by a cask railcar crashed into the concrete
12 block at 81 miles per hour.

13 "This same cask and railcar were positioned over
14 a pool of jet fuel and subjected to an engulfing fire,
15 much more severe than the fire that might occur in a 06:33
16 train wreck.

17 "After 90 minutes, three times the duration of
18 current qualification test criteria, surface
19 temperatures exceeded 1400 degrees Fahrenheit. But
20 inside the cask where the spent fuel rods would be 06:33
21 contained, temperatures were below 300 degrees, not
22 enough to melt the spent fuel rods."

23 MR. LANTHRUM: Again, these tests were done not to
24 demonstrate the safety of the cask but to validate the
25 models used to design the casks. And the models were 06:34

1 tweaked a little bit to reflect real-world results. 06:34

2 In the railcar test they showed the train
3 running into the brick wall and then the locomotive
4 running into a cask at over 80 miles an hour. Remember
5 the trains carrying this fuel are speed limited to 06:34
6 50 miles an hour. So the level of safety is, again,
7 unparalleled in any of the hazardous material
8 transportation in this country.

9 Here's a -- just a comparison. And I was
10 cautioned to not say: Don't worry about spent fuel, 06:34
11 worry about chlorine. I don't want to pick on
12 chlorine -- chlorine is a hazardous material, it's a
13 gas, and it's a poison by inhalation -- but it does have
14 lots of beneficial uses; you need lots of chlorine to
15 provide general health for water and other things in the 06:34
16 country. So chlorine's an important industrial material
17 as well as being a hazardous material.

18 The wall thickness of the tanker car for
19 shipping chlorine is less than an inch thick. The
20 tip-over requirement for a chlorine tanker car for 06:35
21 surviving is nine miles an hour. So it's way less than
22 what you have for spent fuel.

23 A spent fuel cask has got 14 inches of
24 material -- this is a generic 150-ton cask; I can't show
25 detailed descriptions of any of the vendors' casks 06:35

1 because they're all proprietary designs -- this is 06:35
2 something from the Nuclear Regulatory Commission, but
3 it's basically a 14-inch-thick wall. This 150-ton cask
4 is used to ship roughly 12 tons -- a little less than
5 12 tons of spent fuel. 06:35

6 The chlorine tanker car, you've got, I believe,
7 70-some thousand pounds of railcar shipping 90-tons of
8 chlorine, 180,000 pounds of chlorine. So again, you've
9 got economic reasons to want to be able to move lots of
10 hazardous materials for other beneficial use. For spent 06:35
11 fuel the only concern is safety. It's not an efficient
12 transportation system; it is a safe transportation
13 system.

14 The last pillar of the safety is personnel
15 training. All nuclear work is done under what they call 06:36
16 a SCWE structure -- it's a safety conscious work
17 environment. Everybody that does nuclear work is
18 trained over and over again that raising concerns about
19 the way work is done is part of your job and something
20 that you have to pay attention to. If you feel there's 06:36
21 a safety concern, you are encouraged to raise it.
22 That's part of the culture working in the nuclear
23 industry. And again, it's one of the few industries
24 that actually encourages -- openly encourages
25 notification, raising concerns, raising issues. So 06:36

1 that's a key pillar of part of this. 06:36

2 The other thing is that all spent fuel shipments
3 are required to travel with a security escort, whether
4 it's a railcar or a truck shipment. For trucks they
5 typically work with state police from the states they're 06:36

6 traveling through, the state police cars travel with the
7 truck. For railcars they actually have an escort car.
8 It's a modernized fancied-up caboose, basically, that
9 has communications equipment and a safe place for
10 guards. Guards travel with the trains. Again, that's 06:37

11 unique to hazardous material transportation. There's
12 alcohol and drug testing for the crews that work on the
13 trains or the drivers for the trucks that ship spent
14 fuel.

15 And as I mentioned earlier, for states that want 06:37
16 to bring their emergency responders up to speed, there
17 is this Transportation Emergency Preparedness Program
18 that's run by the Department of Energy that provides
19 extensive training about what roles and responsibilities
20 are and what skills are needed to deal with these 06:37

21 shipments.
22 And the last slide I believe I have is current
23 status. You can't ship this fuel off of the power plant
24 sites until you have a licensed place to ship it to.
25 Right now there isn't one. There is work being done on 06:37

1 two commercial sites for consolidating spent fuel 06:37
2 storage -- and that was mentioned by the speakers -- one
3 in southeast New Mexico and one in northwest Texas.
4 There's also the potential for a repository being
5 started up again. At some point this fuel is going to 06:38
6 be moved to another location, and it looks like we're
7 getting closer to where that point might be.

8 Special railcars that meet the S2043
9 requirements have been designed. One of them has gone
10 through the testing and qualification program; the other 06:38
11 is expected to start its testing in early next year.
12 Keep our fingers crossed for that.

13 The casks that will be used to transport this
14 equipment have been designed and have been licensed by
15 the Nuclear Regulatory Commission. Hardware doesn't 06:38
16 always exist in this country to actually do the
17 shipments. There's about a two- to three-year lead time
18 to buy the casks, to get them fabricated. But the
19 designs are there and they're approved.

20 Approval of the routes. The railroads have 06:38
21 their responsibilities. They update their data for
22 safety and security on an annual basis. When you submit
23 a request to ship from Point A to Point B, they have to
24 find what routes meet that criteria, and then that route
25 is then submitted to the Nuclear Regulatory Commission 06:39

1 for security approvals. 06:39

2 Similarly for truck shipments, there's an
3 approval process for truck shipments, also approved by
4 the Nuclear Regulatory Commission, that can range for a
5 new route six months to a year depending on 06:39
6 complications, the length of the route, how remote the
7 area that it's either being shipped from or to is and
8 what kind of access there is.

9 Who will own the fuel when it leaves the power
10 plant is another big stumbling block on shipping. That 06:39
11 has lots of ripple effects in terms of liability. The
12 original expectation from all utilities was that the
13 Department of Energy would pick up the fuel and take
14 title to it when it picked it up and moved it to a
15 repository location for ultimate disposal. If it winds 06:39

16 up going to a private storage facility, roles and
17 responsibilities for fuel ownership is something that
18 has to be waded through, what that means for liability
19 has to be understood.

20 The good thing is that SONGS is actively engaged 06:39
21 in understanding all the aspects required to prepare the
22 fuel from a nuclear engineering perspective, from a
23 safety perspective and a transportation perspective, to
24 be able to move it off-site when there's an opportunity
25 to so. 06:40

1 I believe -- last conclusions. The safety 06:40
2 record for these shipments is unparalleled in the
3 hazardous material world. It's currently being shipped
4 every year. Like I said, currently it's 10 to 20
5 shipments a year. And SONGS is, in fact, preparing 06:40
6 itself to do this responsibly if and when an opportunity
7 arises.

8 I think I had a slide for questions. But I
9 believe you'll take care of that later?

10 DR. VICTOR: Thank you very much. 06:40

11 So first to Ted Quinn.

12 MR. QUINN: So I'd like to go back to Slide 36, if
13 we could. I think it's got the reverse -- okay. I
14 think from the public -- I think this slide, first,
15 could be turned into a schedule. Each item is related 06:40
16 to a critical path that relates to the Number 1
17 question from this audience, and all of our audiences:
18 When can the fuel move?

19 And each of these -- I'll take the first three.
20 We'll take the first three. 06:41

21 It's important to know a timeline -- and I think
22 your special committee can address this -- that address
23 to the rail cars in this -- not just the qualification,
24 but then the procurement and then the procurement by
25 Edison. The potential of what is the earliest date, 06:41

1 what's the potential. Because it seems like there will 06:41
2 be a significant number of -- will we own the railcar?
3 Will it be owned by the government and then just rented
4 or loaned to do the actual shipments when they're ready?

5 The same goes for the transportation casks. I'd 06:41
6 like to understand for the three different vendor
7 designs we have -- and maybe these answers aren't
8 something for today, but I would like to recommend to
9 the chair that -- first, he answer today, but that we
10 look at this as a critical path timeline, because we 06:41
11 need to answer this public of when we can move the fuel.
12 And it's not just about when a site will be ready.

13 MR. LANTHRUM: That's true.

14 There are multiple options for procuring the
15 hardware. When I was the transportation director for 06:42
16 Yucca Mountain, I had a number of companies come to me
17 and propose that in exchange for a sole-source contract
18 giving them the funding to move all the spent fuel, they
19 would buy all the hardware themselves and just operate
20 on a contract to actually do the movement. That's an 06:42
21 option that may be still out there, particularly as
22 these two sites get developed. There's also the option
23 of directly procuring both the casks and the railcars.
24 So there's a range of things. And each option you
25 pursue would have a different timeline associated with 06:42

1 it. 06:42

2 DR. VICTOR: Can I just -- I'd very much like Ted's
3 comment -- and maybe this could be part of the expert
4 report or reports -- we've also spent a little bit of
5 time on that in this group. 06:42

6 The scenario that most people have been talking
7 about is the federal government procures these railcars
8 and thus they begin with the testing program, and then
9 they buy what goes through the testing program in larger
10 numbers, for which there's no appropriations right now. 06:43

11 It would be helpful in this kind of
12 critical-path approach to understand if for some reason,
13 say Congress is not able to agree on anything -- not
14 implausible -- that the federal government can't do
15 this, that then what is time horizon for which -- over 06:43
16 which a private company could procure, test, meet S2043
17 and then bring in the service, private rail cars? Would
18 that be seen as illegal under existing law? I think
19 that's an ambiguity about the legality. But then most
20 importantly it's some questions about what the timing 06:43
21 would be for that --

22 MR. LANTHRUM: Sure.

23 DR. VICTOR: -- so we can understand what the
24 real-world time path might be.

25 Tom Palmisano? 06:43

1 Oh, I'm sorry, Marni. On this same thing? 06:43

2 MS. MAGDA: Yes, I'm just concerned about the
3 need -- oh, thank you.

4 DR. VICTOR: Marni Magda.

5 MS. MAGDA: Marni Magda. 06:43

6 I'm just concerned on your Slide 34 with you're
7 giving us all, you know, the -- how safe the shipment
8 will be. The generic 150-ton cask for spent nuclear
9 fuel transport does not look like it's the
10 specifications of what we're used to seeing for Holtec 06:44
11 with its canister in a cask. And I just would like to
12 understand how close this is.

13 MR. LANTHRUM: Sure. Generically they're very
14 similar. What you see in this one -- this is what
15 would be called a bare-fuel cask. Right now SONGS is 06:44
16 loading all their spent fuel into canisters, and the
17 canisters are going into dry storage.

18 There's a basket arrangement in this transport
19 cask that is actually in the canister that SONGS is
20 currently loading. And so in a SONGS configuration what 06:44
21 you would have is another two inches of steel inside
22 this around that basket. And so it actually adds even
23 more layers of protection, another layer of.

24 Most of the casks that are being designed now
25 are being designed so they can ship either bare fuel 06:45

1 with this basket in the transport cask, or they can ship 06:45
2 the canister by pulling the basket out of the transport
3 cask and loading a canister in. But the canister has
4 the basket inside it.

5 MS. MAGDA: Thank you. 06:45

6 MR. LANTHRUM: You're welcome.

7 DR. VICTOR: Tom Palmisano?

8 MR. PALMISANO: Yeah, a couple of comments. Okay.

9 Thank you. I have a couple of comments.

10 But just following up on that, we know the 06:45
11 canister system we're using, we know the specifics of
12 the three transportation casks, the two by AREVA, one by
13 Holetec. In a future meeting I can bring you at least
14 the nonproprietary information.

15 The two other comments I want to make, SONGS 06:45
16 actually shipped 270 spent fuel assemblies in the late
17 '70s and early 1980s to a GE facility in Morris,
18 Illinois. This, again, was back when spent fuel was
19 going to be reprocessed. Now, those were shipments done

20 by trucks. So one picture you showed, spent fuel has 06:45
21 been shipped out of our specific facility, again, by
22 truck, to Morris, Illinois.

23 The other thing you mentioned, the 12-axle
24 railcar. We have used 12-axle railcars on-site most
25 recently in 2014. Some of you may remember I showed a 06:46

1 picture if it, actually. We shipped out the Unit 2 06:46
2 generator rotor after the plant was closed and sold.
3 It's heavier than any of our spent fuel canisters or
4 shipping casks, and it fits on our site. We are
5 fortunate with our rail spur and our rail access that 06:46
6 can handle that long 12-axle railcar.

7 MR. LANTHRUM: Excellent.

8 MR. PALMISANO: So I just wanted to add those
9 comments.

10 DR. VICTOR: Thank you. 06:46
11 Mel Vernon?

12 MR. VERNON: Good afternoon. The question that
13 entered my mind is: Are those canisters, these
14 transportation canisters, are they reusable?

15 MR. LANTHRUM: Yes, the casks are reusable. The 06:46
16 terminology -- the canister is what SONGS is loading
17 and putting into storage. That canister goes inside --
18 this is called a cask. And these casks have bolted
19 lids, whereas the canisters that SONGS is loading have
20 welded closures. And so you put the canister inside 06:47
21 the cask and bolt a lid on the cask, move the canister
22 to where it's going to go, unbolt the lid, pull the
23 canister out, bolt the lid back on and move the
24 transport cask wherever you want to use it next. So it
25 is reusable. 06:47

1 MR. VERNON: Thank you. 06:47

2 DR. VICTOR: Any other comments? Questions?

3 I think it's been exceptionally helpful
4 informing us. Thank you very much for spending the
5 evening with us and telling us about why we should be 06:47
6 worried about chlorine.

7 I am still mystified as to how the British Rail
8 System is unable to get people to safety before they can
9 go, it seems if they'd be able to deliver on spent
10 nuclear fuels. But that's a question for another 06:47
11 meeting, another group.

12 Tom Palmisano, we had asked you to follow-up on
13 a handful of big questions and comments that were made
14 last meeting, in particular. And so why don't you have
15 the floor to talk about that? 06:47

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

17 And again, Gary, I'd like to echo the thanks for
18 supporting us, not only tonight but on the expert team.
19 Your experience and insights have been very valuable in
20 helping to answer some of the questions we have. So 06:48
21 thank you.

22 So I'm going to follow-up on a couple -- I think
23 we had -- there's six questions to follow up on. I'm
24 going to keep this brief so we have adequate time for a
25 break and public comment. These were the topics. So 06:48

1 today I'm going to just touch briefly on these six: 06:48
2 Heat removal from canisters, just to show you our
3 defense-in-depth slide, talk about radiation monitor
4 reporting, discharges via the ocean conduits, there was
5 a question on the warranties for the canisters we're 06:48
6 using, and then what we're doing on the extreme events
7 workshop plan. Then, as David said earlier, in the
8 future we'll come back to these topics and keep a
9 running list of topics for report back.

10 DR. VICTOR: Can I say of couple words about -- this 06:48
11 it not the totality of the things raised in the last
12 meeting. Can you just remind us all of what happens to
13 all the questions that come up at these meetings?

14 MR. PALMISANO: Sure. Sure. We take all the
15 questions, and if we don't discuss them in the 06:49
16 meeting -- or either way, try to write up an answer,
17 post it on the website. And we've tried to improve the
18 website so things are more readily available and easier
19 to find the answer to. So we keep a running list of
20 those questions and answers. 06:49

21 DR. VICTOR: If people have feedback on the new
22 website that would be helpful. The old website was NRC
23 worthy.

24 MR. PALMISANO: Thank you. Thank you.

25 Our web design people are really excited about 06:49

1 the new website. So we are looking for feedback. 06:49
2 Again, we want to make it easy for you to find out
3 information.
4 Question about temperature monitoring and heat
5 removal. We've talked before about that these canister 06:49
6 dry storage systems are passive. Basically you need no
7 electricity, you need no water flow, et cetera, it's
8 just natural air circulation outside the canister. The
9 spent fuel inside the welded and sealed canisters is
10 surrounded by helium. Heat dissipates through the 06:49
11 helium and canister walls and air just circulates
12 around. It's just sort of a convection system. All the
13 dry cask systems basically work that way. And we have
14 both horizontal and vertical.
15 So a question came up: We do monitor outlet 06:49
16 vent temperature. The current AREVA system, the
17 50 systems, has the permanent temperature monitors
18 installed. The Holetec system will install the
19 permanent monitors once we finish all 73. We check
20 these as we load them and confirm they're working 06:50
21 properly.
22 The question: What is sufficient? So with
23 these systems basically once you know you've got the
24 right temperatures, your inlet temperature, your outlet
25 temperature, you make sure the ventilation openings are 06:50

1 free of obstructions, the system just works by 06:50
2 convection and naturally. So across the domestic
3 industry we have 30 years of experience monitoring this.
4 We specifically ask 15 years experience.

5 What prompted this question, would it make sense 06:50
6 to put temperature monitors on the shell of the
7 canister? We've looked at that, and that is not needed
8 to understand if the system's working properly, really
9 doesn't add information, doesn't tell you anything about
10 the fuel temperature inside. The key thing is the 06:50
11 free-flow of ventilation and monitoring the outlet
12 temperatures, which we do. So that's the basic answer
13 to that question.

14 And it was kind of linked: Would you detect a
15 leak in a canister? We've talked before about the 06:51
16 degradation mechanism concerned the chloride stress
17 corrosion cracking. Temperature isn't going to identify
18 a type through-wall microscopic crack. So it's a time
19 useful event.

20 DR. VICTOR: We're going to talk in a just a little 06:51
21 bit about radiation monitoring. I know a lot of people
22 have --

23 UNKNOWN SPEAKER: While you're doing this one, can
24 you talk about the research that's occurred and are any
25 of the results similar to what we're doing here? 06:51

1 MR. PALMISANO: I can talk -- every single one -- 06:51

2 UNKNOWN SPEAKER: Temperature monitoring and sensor
3 position?

4 MR. PALMISANO: Well, yeah. I think what I'm
5 familiar with -- and I didn't come in prepared to talk 06:51
6 about that in depth -- but EPRI is involved in
7 basically confirming the thermal analysis models that
8 are used to design the canisters. But what they have
9 found, and what the industry has found, is we're pretty
10 conservative. In other words, the canisters function 06:51
11 more effectively for heat removal and fuel's actually
12 kept cooler than the models we predict. That's the
13 research I'm familiar with.

14 UNKNOWN SPEAKER: Just in future meetings, can we
15 hear what is the results you're publishing? 06:52

16 MR. PALMISANO: Sure. Yeah. Okay.

17 So again, we'll capture that as action, come
18 in -- where I can come in or we can invite EPRI, who
19 comes out periodically, help talk about the work they're
20 doing. 06:52

21 Next one, I'm not going to spend a lot of time.
22 We created this slide to continue to circle back through
23 topics where we talk about defense-in-depth, how these
24 systems are designed, how they're fabricated. You heard
25 a couple this evening, members talking about peening of 06:52

1 the canisters that Holetec is doing on the new 06:52
2 canisters -- that was a direct result of public comment,
3 CEP comment -- to make them more resistant to
4 corrosion -- chloride stress corrosion cracking. What
5 we do from operations, maintenance and security, future 06:52
6 inspection activities and future remediation. These are
7 the dates where we have discussed these and will
8 continue to discuss these. So that's what I'd like to
9 show on this slide here.

10 DR. VICTOR: This was a result -- I had the feeling 06:53
11 that we had slides everywhere and it was hard to know
12 what the current state of play was. And we've asked --
13 this panel has asked Edison to keep coming back and
14 layer in additional information and insight about what
15 defense-in-depth really means in practice, in plain 06:53
16 English. And so thank you for putting this together
17 and for keeping it evergreen.

18 MR. PALMISANO: Good. Thank you.

19 Radiation monitoring and reporting. Now, this
20 is a very important topic, and there's been a lot of 06:53
21 good dialogue with members of the public in terms of
22 what is done currently to monitor the dry cask storage
23 system at SONGS or what could be done -- or what could
24 be publicly available.

25 So first I want to tell you what we do 06:53

1 currently. You've heard this before, but it's going to 06:53
2 summarize it. Both our systems, the older system and
3 the one that is now being filled, continuous security
4 monitoring, 24/7, all weather conditions monitored
5 visually and electronically. We do daily inspections of 06:53
6 the facility, particularly in the air vents, making sure
7 the heat removal systems are working properly. We have
8 24/7 radiologic monitoring in the ISFSI that's currently
9 as we're loading fuel and moving fuel into the facility.
10 And I'll talk more about that. 06:54

11 On a regular basis we perform surveys throughout
12 the fuel transportation process. So if some of you will
13 visit us on-site, we would load fuel in the building
14 into the canister, weld the canister, we then move it
15 outside and put it in the facility, we monitor radiation 06:54
16 levels through the whole process until it's placed into
17 the facility, then we monitor the facility.

18 We do temperature monitoring, as I've just
19 talked about, biweekly we survey the lids of each of the
20 new loaded modules to make sure the radiation shielding 06:54
21 is performing as expected.

22 And I should mention that SONGS, because of the
23 high seismic design, has a very heavily shielded system.
24 We have more shielding than you would find elsewhere in
25 the country on similar systems. The radiation levels at 06:54

1 these systems are very, very low. They do a good job of 06:55
2 shielding the radiation.

3 We do regular quarterly radiation surveys. We
4 have thermal residue volcimeters [sic]. These are
5 basically the badges that measure the radiation exposure 06:55
6 somebody may be exposed to. They're in hospital
7 situations -- you'll see a radiologist or radiologist
8 technician wear a little badge that measures radiation
9 they're exposed to -- these are monitored all around the
10 facility. And we read these monthly so we understand 06:55
11 what's going on.

12 And we do additional surveys as needed.

13 DR. VICTOR: Okay.

14 MR. PALMISANO: Now, one thing, on permanent
15 systems, our original 50, does not have continuous 06:55
16 online radiation monitoring. We've surveyed all the
17 installations in the country, and virtually nobody has
18 continuous online monitoring. Quite frankly, because
19 it hasn't been found to be needed. We all do periodic
20 surveys to confirm radiation levels. There's two 06:55
21 plants in the country -- and I happen to manage both of
22 those plants -- in Minnesota that do have some sort of
23 online radiation monitoring that are fed to the state
24 of Minnesota, not publically available. Those are the
25 only two that really have that kind of system. 06:56

1 So basically the way the system works today, 06:56
2 once you've got the system loaded, you inspect it, you
3 confirm everything's operating properly, you
4 periodically measure radiation levels to make sure
5 nothing's changed. 06:56

6 Then should an event occur -- let's go to the
7 Midwest -- let's say a tornado rips through a power
8 plant in the Midwest or an earthquake occurred at the
9 North Anna Power Plant in Virginia -- should an event
10 occur like that, you then go immediately monitor to make 06:56
11 sure nothing has changed and nothing is damaged --
12 because the way these systems are designed and built so
13 robustly, absent something affecting it, the shielding
14 doesn't change, the radiation levels don't change. So
15 that's what's done currently. 06:56

16 So there's been -- and we do provide some
17 reports, and we've commented about the NRC's usability
18 of their website. These reports are not very user
19 friendly.

20 I covered these to some extent in one of the 06:56
21 last meetings. We have a F report meeting [sic], what
22 we release, either gaseous when we're operating or
23 through liquid when we're operating, as well as now.
24 Radiological, environmental operative report. All the
25 nuclear plants in the country prior to operating and 06:57

1 throughout operations through decommissioning have to 06:57
2 sample around the environment to see are they depositing
3 radioactivity from plant operation or decommissioning.
4 We have done that for years. We have years worth of
5 data. It's all publically available. We continue to do 06:57
6 that and will continue to do that.

7 Those are not very easy to read. We do link
8 them to the SONGScommunity website, but they're not
9 written for a general audience.

10 So I'm going to talk about that report again. 06:57
11 Let me talk about the report.

12 So in the near term we're going to take our
13 standard NRC reports and we're going to simplify them
14 and post them on our website so it's written -- not to
15 dumb them down but to make them a little more 06:57
16 understandable of what we monitor, what we find, what
17 the results are. So we've committed to do that.

18 And then in the midterm [sic] -- now we'll talk
19 radiation monitoring. It's been proposed that we
20 consider 24/7 realtime radiation monitoring. And 06:58
21 there's some fair amount of interest among some members
22 of the public. We've looked at the Safecast system.
23 We're open to doing that. We're actually researching
24 how we might do that. Part of the rules we're under, we
25 need a system that's calibrated that that data can be 06:58

1 relied upon, these affect, to some extent, that come 06:58
2 from NRC rules. So we're looking at what system would
3 we put in that would meet the requirements that we're
4 under.

5 And also we need to talk, quite frankly, with 06:58
6 the state and the counties in terms -- you know,
7 previously we've talked about the county's role in
8 protecting the public, where people need to provide data
9 too that is actionable. Okay? So we want to make sure

10 we understand those stakeholders who have the formal 06:58
11 legal responsibility to act to protect the public, what
12 are their needs for accurate data, for timely data, and
13 for data that's put in context. So we're busy doing all
14 those things right now, starting with surveying what was

15 done around the country. So in the midterm [sic], the 06:58
16 near term, we'll clean up our reports and simplifying,
17 but we are looking at how we can use realtime data, what
18 frequency are reports.

19 The two plants in Minnesota, to give you an
20 example, only one has actually the data report to the 06:59
21 public that's reported by the State of Minnesota
22 monthly. So you can look up the Prairie Island Nuclear
23 Plant and see the daily readings next to the ISFSI on a
24 monthly report the state posts. And the state takes the
25 responsibility to say this is accurate data that 06:59

1 reflects the radiation levels. So that's partly why we 06:59
2 need to talk to the state and talk to the counties in
3 terms of what their needs are and their expectations
4 are. And then we'll make our decisions in terms of what
5 we are willing to do and work with the appropriate 06:59
6 stakeholders for the public core interest events.

7 DR. VICTOR: I am confident there's going to be some
8 comments on this.

9 MR. PALMISANO: Sure.

10 DR. VICTOR: Steve Swartz, first? 06:59

11 MR. SWARTZ: Yeah.

12 DR. VICTOR: You just -- just talk, apparently.

13 MR. SWARTZ: Another miracle occurs this time.

14 This is the third meeting I've been part of the
15 group. And the first meeting I was very encouraged when 07:00
16 I heard conversation regarding realtime testing,
17 reporting and public access. Then I became a little
18 discouraged because it wasn't even discussed at the last
19 meeting of any degree. And now I see near term and
20 midterm and none of those terms talk about what the 07:00
21 public is asking for and I know what the County of
22 Orange is asking for, and that is a realtime 24/7
23 monitoring that the public has asked -- so that we can
24 see --

25 DR. VICTOR: Please. 07:00

1 MR. STETSON: It's like someone wants to look over 07:00
2 your shoulder -- but I do -- but that it also -- it can
3 take away or back off the level of anxiety that you
4 have a lot of people living on both ends of San Onofre
5 that are -- could very much and should be concerned. 07:01
6 So I don't -- I don't want to hear that there's only --
7 it's not being done anywhere else or it's being done by
8 one or two anywhere else. This is something that I
9 believe our community and the representatives of our
10 communities are demanding that we find a way and we get 07:01
11 it done, and we understand there are ways to do it.
12 So I don't want -- I want this to be continued
13 and get back to us on what is going to be done to do it,
14 not that we're considering it or thinking about it.
15 MR. PALMISANO: I appreciate that. Thank you. 07:01
16 DR. VICTOR: Can I just pile on here? I have a
17 petition here signed by 1,640 people and change. You
18 know, people sign a lot of things for a lot of reasons.
19 But this is a real expression of sentiment -- exactly
20 as Steve Swartz just outlined -- and I would think it 07:02
21 would be really, really important to have a game plan,
22 like I said, about what the time table would be, and
23 when will we know the answers to the feasibility of
24 different kinds of realtime monitoring programs.
25 It's going to be quite a while between now and 07:02

1 our next regular meeting. We'll have a meeting on 07:02
2 extreme events this fall, planning for that's underway.
3 We'll talk about that in a little bit.

4 But we certainly don't want to come back in the
5 first quarter of 2019 and find out that we're in the 07:02
6 same spot that we are right now.

7 MR. PALMISANO: And that's a fair request and a fair
8 statement. I appreciate it. I will be happy in the
9 next meeting to bring a game plan.

10 DR. VICTOR: I think even -- even -- you got a lot 07:02
11 of things going on, but I think that even an update
12 long before then back to the community panel saying,
13 you know, "We heard this. There's going to be public
14 comment about this. This is an important issue about
15 the relationship between the communities and the plant, 07:03
16 and here's what we're doing." So that we already have
17 a sense well before the next meeting. I think that --

18 MR. PALMISANO: We'll be glad to provide that
19 report.

20 DR. VICTOR: Okay. Any other comments? 07:03
21 Why don't you move on.

22 MR. PALMISANO: Okay. Thank you.

23 Discharge. There's so much -- there's been a
24 lot of discussion about liquid releases. So I wanted to
25 kind of recap a little bit. 07:03

1 You know, the nuclear plant has been there for a 07:03
2 number of years and has discharged regularly and it has
3 been properly done in accordance with permits for a
4 number of years. Discharges are regulated a couple of
5 different ways. Starts with the Federal Clean Water 07:03
6 Act. The NRC is the agency that regulates radioactive
7 discharges. At the state, the State Water Board, and
8 locally the San Diego Region of California Regional
9 Water Control Board regulate non-radiological
10 discharges. 07:03

11 So all waste water that -- I should mention when
12 the plant was operating, we regularly drew cool water in
13 from the ocean, circulated it through the plant and
14 discharged it. Okay? We still do that today. We take
15 water in continuously and discharge it. We only take in 07:04
16 about two percent of what we did during operation,
17 because most of the water during operation was used to
18 cool the turbine generators and they're, obviously, no
19 longer in service.

20 So -- so all the water we discharge is monitored 07:04
21 for radioactivity and to assure compliance with NRC
22 limits and EPA limits. The trace radioactivity we
23 discharge today is about one percent of what we
24 discharged during operation.

25 To give you a feel, when we look at what we 07:04

1 discharge, an average member of the public -- or 07:04
2 hypothetical member of the public -- would get 0.003
3 milligram liter. That's a hundred thousand times what
4 we get as individuals just living, from solar radiation,
5 natural radiation sources -- sand gives off radiation. 07:04
6 So our contribution to background radiation is very low.
7 DR. VICTOR: Yeah, go for it.
8 Dan, do you have --
9 MR. STETSON: Tom, at the last meeting there was a
10 question about the schedule of when the discharges are 07:05
11 and would Southern California Edison be willing to
12 publicize when those discharges are?
13 MR. PALMISANO: At this point we need to talk to the
14 San Diego Regional Water Quality Board. We're going to
15 discharge in accordance with our NPDS permit and the 07:05
16 NRC permits. We discharge continuously.
17 MR. STETSON: Okay.
18 MR. PALMISANO: So we're discharging as we speak.
19 So there's not a lot that makes sense in terms of
20 notifying you when we discharge. Now, we'll look at 07:05
21 the future decommissioning activities and see if
22 there's a major discharge planned. I think that's more
23 of interest to people.
24 MR. STETSON: And also can you somewhat quantify the
25 amount of volume that's going out? 07:05

1 MR. PALMISANO: I've got the numbers in my notes. 07:05
2 I believe during operation we took in and
3 distributed about 2.5 billion gallons a day. Now we're
4 permitted about 56 million gallons a day, and we only
5 discharge about, half of that, about 35 million gallons 07:06
6 per day.
7 MR. STETSON: So 35 million gallons --
8 MR. PALMISANO: Circulates through the plant. This
9 is water that's taken in, used to cool things, and
10 pumped back out. 07:06
11 Added to that we have a sewage treatment plant
12 that discharges. We've got sumps, you know, that
13 collect water that discharges through that. Very little
14 radioactivity since we're not operating. All that is
15 included in the discharge. But the plant circulates 07:06
16 water continuously through the plant at this point.
17 Much -- you know, two percent or less of what it did
18 operationally.
19 DR. VICTOR: The only thing that's being cooled in
20 the plant is the spent fuel pool; right? 07:06
21 MR. PALMISANO: Spent fuel pool, some
22 air-conditioning systems for the control room and
23 things like that.
24 DR. VICTOR: But when -- at the end of next year
25 and -- you'll be done with the fuel offloading campaign 07:06

1 so then does the spent fuel recirculation stop? 07:06

2 MR. PALMISANO: Actually, spent fuel -- we put in
3 spent fuel pool cooling islands a couple of years ago.
4 They are no longer cooled by ocean water; they're
5 cooled by air. So we have chiller systems. So I 07:07
6 should modify that. The spent fuel pool cooling
7 systems are no longer cooled by ocean water. These are
8 some of the air-conditioning systems in the various
9 buildings, things like that.

10 Now, when we're done -- so we when finish the 07:07
11 spent fuel offload, we'll turn off the cooling island
12 for the spent fuel pools, and we will still have a
13 discharge because we have a sewage treatment plant, for
14 example, like many municipalities do, that discharges.

15 DR. VICTOR: So why is there any radiological 07:07
16 content to the discharge?

17 MR. PALMISANO: Just trace radiological content.
18 You know, tritium evaporates off the spent fuel pools.
19 So while the spent fuel pools are in service, it's a
20 trace amount, it evaporates and condenses and some of 07:07
21 the SONGS trace amount of radioactivity is discharged.

22 DR. VICTOR: But half life of tritium is relatively
23 short so --

24 MR. PALMISANO: It's a very fairly benign
25 radioactive isotope in that sense. 07:07

1 DR. VICTOR: Any other questions? Okay. 07:07

2 MR. PALMISANO: Okay. ISFSI warnings. There's been
3 a lot of discussion. Let me start at the bottom.

4 The current system has been in service since
5 2003. AREVA new owned system. Canisters were found -- 07:08
6 2000 as a two-year warranty. Okay. The new system
7 which has been fabricated has actually a 30-year
8 warranty, which -- a different system, built to later
9 standards, different materials, different treatment of
10 materials. Included, we got a five-year extension 07:08
11 because we elected to open the canisters to make them
12 more resistant to cracking. So that warranty will begin
13 in 2019 when all the canisters are loaded, and it
14 extends for 30 years.

15 So that's the picture on the warranty. 07:08

16 DR. VICTOR: That wasn't the specific question.

17 MR. PALMISANO: Those were the follow-up items I
18 wanted to report on today.

19 DR. VICTOR: I -- I guess I want to make it a point
20 that many people have made time and time again that 07:08
21 there's a difference between a warranty and expected
22 lifetime, just like I've learned there's a difference
23 between the warranty on my Honda Civic and its expected
24 lifetime, because the car never seems to stop. Okay?

25 Any other comments? Great. 07:09

1 So we're going to take a -- thank you very much, 07:09
2 Tom. That was very helpful.

3 I think, you know, with the limits of time, we
4 should do this more regularly, where we actually look
5 explicitly back at the previous meeting, at some big 07:09
6 questions that come up repeatedly and talk about them
7 more actively, because the back and forth I think is
8 very, very important. Okay.

9 We're going to take a five-minute break. And
10 then we're going to have a public comment period. 07:09

11 So we're now at the break.

12 (A break is taken.)

13 DR. VICTOR: Okay. We're going to get started here.

14 I have been handed an announcement. And it is
15 not that I won the lottery. It is that apparently some 07:19
16 folks are parking in the adjacent lot of Kingdom Hall.
17 And Kingdom Hall is having some kind of event tonight.
18 So I guess they're going to tow your car or crush it or
19 something like that. Apparently don't park at Kingdom
20 Hall because there is an incredible towaway risk. You 07:19
21 may want to move your car and park it in Albertsons, I
22 was told. I'm not quite sure why Albertsons is thrilled
23 about that. But I guess park it in Albertsons if your
24 in Kingdom Hall right now and buy a pack of gum on your
25 way out of Albertsons. But please don't park at Kingdom 07:19

1 Hall because apparently they're quite serious about it. 07:19

2 UNKNOWN SPEAKER: So it's okay if I'm --

3 DR. VICTOR: Just in front of here. If you're in a

4 parking space -- there's parking spaces associated with

5 this complex, and it doesn't say don't park here, then 07:19

6 I think you're fine. But you don't want to be nextdoor

7 at Kingdom Hall.

8 Any other announcements about parking? Okay.

9 So public comment period now. A lot of folks

10 have signed up. But I am confident we can get through 07:20

11 our list tonight.

12 First on our list is Gene Stone and then

13 Charles Langley.

14 Can you please spell -- I mean, if you have a

15 last name like Victor, where everybody knows how to 07:20

16 spell Victor, you don't have to spell that out. But if

17 you can please spell your last name when you make a

18 comment before the clock begins so that our court

19 reporter has the benefit of getting your accurate

20 spelling? 07:20

21 MR. STONE: Gene Stone. S-T-O-N-E.

22 Is the clock on?

23 First of all, I'd like say that I put some

24 petitions, signatures, on your table tonight. We had

25 over 1649 people sign our petition for realtime 07:20

1 independent radiation monitoring free and open to the 07:20
2 public. So I want to thank everybody for signing the
3 petition.

4 I also wanted to thank Tom. I think we've been
5 negotiating, talking about this realtime radiation 07:21
6 monitor. So I see that -- his suggestions tonight as a
7 great first step. I'd like to be -- volunteer to be on
8 any sort of committee in between time to discuss this.
9 And thank you for taking steps. And I'd liked to help
10 push you over the edge here. 07:21

11 So the other thing I'd like to announce is our
12 other -- our first petition was so successful that we
13 had to initiate another petition to the governor and the
14 sate legislature to produce a law to mandate realtime
15 radiation independent radiation monitor with free access 07:21
16 to the public. So I hope to get a lot of support for
17 that as well.

18 I'd liked to make an appointment with -- with
19 you, Tom, out at SONGS again. And I'd like to invite
20 David Victor to come along with Darren and I with 07:22
21 guidance and go out and get a reading at each and every
22 vent that's available at this point -- if you have 29
23 plus the 50. So I hope we can do that before the next
24 meeting.

25 Is -- was that a yes? 07:22

1 MR. PALMISANO: You know, Gene, we've told you that 07:22

2 all's well --

3 MR. VERNON: Let's make the comments that we'll

4 make. It sounds like yes is the answer but --

5 MR. STONE: I would like to spend the rest of my 07:22

6 time talking about the heat.

7 There is a purpose, the reason why you guys

8 monitor is because there is an NRC regulation that it

9 can go -- only go, I think, 85 degrees above normal

10 temperature. So it is an early warning factor -- not 07:22

11 about a leak, but that there might be something heating

12 up inside those canisters. And I believe that is the

13 reason for monitoring it and how important it is.

14 Thank you so much.

15 DR. VICTOR: Thank you very much, Gene Stone. 07:23

16 Next is Charles Langley and then Madge Torres.

17 Charles Langley, the floor is yours.

18 MR. LANGLEY: Thank you. I'm Charles Langley.

19 And I enjoyed the videos on cans, with the

20 rockets shooting cans into walls and things. But 07:23

21 there's a difference between an empty can and a full can

22 and, you know, one of the can examples was in Britain

23 with two tons of water and steel bars in it. The

24 average weight of one of these canisters, I believe, is

25 going to be 38,000 pounds. And I believe the cans are 07:23

1 rated for up to 110,000 pounds. So there's a real 07:23
2 difference between me dropping this empty can of ginger
3 ale on the floor and dropping one that's full and one
4 that's hot and full.

5 We just did an analysis on our website using 07:24
6 proportional mathematics. And what it shows is if you
7 take the thickness of one of these Holtec cans, it's
8 about as thick as an egg -- but it would be an extremely
9 heavy egg -- so it's really like just dropping a soda
10 can or shooting a rocket into a wall. This is really 07:24
11 heavy, heavy stuff.

12 I also wanted to reiterate the request for
13 realtime radiation monitoring. This is a bGeigie Nano,
14 and they're out with a new generation of Geiger counters
15 that can be solar powdered and actually automatically 07:24
16 upload radiation in realtime.

17 We've got a prototype that we've worked with
18 Solarcast. And you can go to the Public Watchdogs
19 website and get realtime radiation readings one mile
20 away from San Onofre. 07:25

21 And finally, I'd like a little bit of clarity on
22 why one would be measuring heat levels coming out of one
23 of these containers to check for radiation. It seems
24 the way you check for a radiation leak would be with a
25 Geiger counter. 07:25

1 Thank you. 07:25

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

3 Next is Madge --

4 MR. STONE: Oh, I have one more thing, Dr. Victor.

5 I do apologize. 07:25

6 In the newspaper today it was announced that the

7 Porter Ranch blowout, there actually is a way of

8 ameliorating that. They're putting in equipment to test

9 for gas leaks -- so there's a precedent for that --

10 \$3 million to fund that. These things cost a couple of 07:26

11 thousand bucks apiece, max. This is very cheap stuff.

12 Thank you.

13 DR. VICTOR: Thank you very much for your comment.

14 Next is Madge Torres and then Ray Lutz.

15 MS. TORRES: I'm Madge Torres, T-O-R-R-E-S. I'm 07:26

16 with Citizen's Oversight.

17 I'd like to reiterate my support for realtime

18 independent monitoring. And I think independent is key.

19 Because there's a lot of chicanery that goes on and

20 doesn't got caught, and there's stuff that does get 07:26

21 caught and doesn't get prosecuted among the people that

22 are in charge of the regulations -- the regulators of

23 our safety. So although it isn't a good idea for

24 Southern California Edison to put profit above people,

25 that's the way capitalism works. 07:26

1 But you -- those of you that are representing 07:27
2 the public and also the regulators -- you're supposed to
3 be representing me, because I'm the taxpayer, I'm the
4 one that lives here -- so I'd like to ask that you do
5 your job and not only support independent monitoring 07:27
6 24 hours a day every day, I'd like you also to get the
7 radiation -- the cause of the radiation, the canisters,
8 get them off the beach, even if you're just taking them
9 to the Bluff or the Mesa across the road.

10 And also, I'd like to support -- I'd like to 07:27
11 support the Helms proposal, because once the canisters
12 get to an area where they can be monitored, the Helms
13 proposal has a mechanism for doing that. And it's
14 pretty simple, it's just physics, it's not like computer
15 science. 07:28

16 I remember when I was in continuation class in
17 high school we used to have to watch car crash movies --
18 I guess they thought that was the level of -- of
19 mentality among the people that were placed in
20 continuation -- but that's kind of what we were watching 07:28
21 today, car crash movies.

22 And the -- the thing is that when I come here, I
23 listen to these solutions that are just silly, like,
24 "Yeah, we're going to have little bugs crawling up and
25 down the canisters, little mechanical robots that can 07:28

1 find the radiation." And that's -- that's silly. I 07:28
2 mean -- and Helms has something just by a change of
3 pressure that would indicate if there were a leak. And
4 those little mechanical insects don't even exist, just
5 like a way to take the rods out of the defective casks 07:29
6 doesn't exist.

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

8 Next it's Ray Lutz and then Scott Reinhardt.

9 Ray Lutz, the floor is yours.

10 MR. LUTZ: Thank you. Ray Lutz, L-U-T-Z, Citizen's 07:29
11 Oversight.

12 Basically I have two comments tonight. First of
13 all, we talked about defense-in-depth, and it's very
14 strange how this is looked at. They have things like
15 planning, probably enough money, lots of meetings. Has 07:29
16 nothing to do with can we actually recover from a
17 problem.

18 Now, we learned that we're about to transfer all
19 the waste into these canisters and then destroy the fuel
20 pools, which was for a long time told to us as the way 07:29
21 to deal with a cracked canister, "Oh, we'll just put it
22 back into the pool." Now we learn that that's not even
23 a really good idea. But maybe it would be a better
24 idea, then, just letting a cracked canister just spew
25 the stuff out into the environment if something bad 07:30

1 actually did happen. 07:30

2 So we need a plan of action defined -- defined
3 plan of action, not just maybe we can figure something
4 out -- for what to do with a cracked and leaking
5 canister if you destroy those fuel pools. 07:30

6 Now, in Maine Yankee they had an additional
7 failed canister overpack that they could put it into and
8 seal it up. It's not a new idea. There's -- there's
9 other plants that have said, "Yeah, we realize this is a
10 danger, and we have to have a way to deal with it." 07:30

11 So you guys should have a plan. Please do that.

12 Next we need a fall-back plan in case all of
13 this other stuff doesn't work out. Congress may not
14 pass it; New Mexico, everybody revolts and maybe
15 don't -- despite all the transportation glory we saw, 07:31
16 there's no way we can transport it because people are
17 lying down on the tracks; it may not be able to be
18 transported like that. Even if technically it could, it
19 may not be possible. We can't leave it 100 feet from
20 ocean. 07:31

21 So I ask that Camp Pendleton -- with all due
22 respect, the mission of the military is not training;
23 the mission of the military is to protect the nation,
24 protect the public, protection. And we need protection
25 from this fuel. And so I ask for this body here -- 07:31

1 despite you can't do anything -- very much with the 07:31
2 leaders of these -- and especially the Camp Pendleton
3 representative, to reach higher up into the organization
4 of Camp Pendleton, bring people in here that are not
5 just representatives that are on the panel, but people 07:31
6 who may be able to pull some strings, either put it up
7 on that Mesa or further back. I vote for about
8 three miles in and about 1500 feet up. I don't even
9 want it next the freeway and the rail line. That's not
10 far enough in. There should be an option to move that 07:32
11 fuel under the freeway and then to Camp Pendleton in a
12 safe place.

13 Thank you.

14 DR. VICTOR: Thank you very much for your comments,
15 Ray Lutz. 07:32

16 Next it's Scott Reinhardt and then Nina Bibiarz.

17 So we do not have Scott Reinhardt? Okay.

18 Nina Bibiarz and then Sarah Brady.

19 MS. BABIARZ: Well, good evening. My name's
20 Nina Babiarz. I'd very first like to thank -- 07:32

21 DR. VICTOR: B-A-B-I-A-R-Z.

22 MS. BABIARZ: Correct.

23 I'd like to thank Mr. Swartz for raising the
24 question that he did earlier.

25 And Dr. Victor, I'd like to thank you for 07:33

1 reinforcing, you know, the 1600 and whatever people who 07:33
2 signed that petition, because people are very passionate
3 about this issue and the independent radiation
4 monitoring.

5 I have a few questions tonight. 07:33

6 By Edison calculations there were four cans in
7 the ground when there was a bolt, slash, shim problem
8 discovered with the fifth can. The NRC then allowed the
9 burial to resume with 30 cans that did not have the,
10 quote, unquote, improved manufacturing process. I'm 07:33

11 calculating that there were, what, four or five cans,
12 Tom, plus 30? So we've got 34, 35 cans that are going
13 to go in the ground, and you're saying that you've got
14 29 buried, according to your calculations, a few minutes
15 ago. So I'm looking at basic math. Six more cans that 07:34
16 don't have the improved manufacturing process that are
17 going in the ground.

18 So I want to know -- and this is a question I'd
19 like follow-up on -- what type of cans will Edison be
20 using after those five or six cans are going to be 07:34
21 buried?

22 And my other question is: Will those next five
23 or six cans have the, quote, unquote, improved
24 manufacturing process or not? Question.

25 I have another question: Who determined what -- 07:34

1 what the improved manufacturing process was, and why it 07:34
2 was needed in the first place? What defect or
3 deficiency was identified that required it? And if it
4 was needed and necessary, why is Edison allowed to now
5 bury cans without the improved manufacturing process? 07:35

6 And I would like answers to all those questions.

7 Question Number 2 -- Category Number 2 question
8 that I have is: What's the progress with that
9 underground monitoring system that you don't have?

10 The reason the Public Watchdogs and many others 07:35
11 believe this issue of independent radiation monitoring
12 is so urgent is, Number 1, there's no underground
13 monitoring; there should have been independent radiation
14 monitoring before one can ever went into the ground on
15 January 30th. And there's other reasons as well that 07:35
16 I'll squeeze in in my last few seconds.

17 And that was that Edison was deceptive when they
18 said they were going to put like-for-like replacement
19 generators that they didn't. And what they did was a
20 new technology that gave us a radiation leak. And that 07:35
21 information they withheld from the public for 17 days.
22 So Edison cannot be trusted.

23 We need some answers to these questions.

24 Thank you so much.

25 DR. VICTOR: Thank you so much for your comments. 07:36

1 Next is Sarah Brady and then Christine Gorman. 07:36

2 MS. BRADY: Hello. My name is Sarah Brady,
3 S-A-R-A-H, B-R-A-D-Y. I'm a resident of Encinitas,
4 California. I was raised there.

5 I want to comment on some of the presentation 07:36
6 tonight, which a lot of it consisted of information on
7 transportation of spent fuel from San Onofre, for which
8 there's a not a clear path forward, anyway, of where it
9 would go.

10 I have a question to start off: What are the 07:36
11 specific rail and truck routes that San Onofre's waste
12 would go through and be transported on? Would they go
13 through San Diego or Orange County and Los Angeles?

14 Gary Lanthrum, on Slide 26 today you stated that
15 4,336 casks of spent nuclear fuel were shipped from 07:37
16 power plants and research reactors between 1964 and
17 2010. Only 1600 of those are high burnup fuel that has
18 come from nuclear power plants. So that number is very
19 misleading, because the majority of those transports
20 were from research reactors, which produce lower level 07:37
21 radioactive waste.

22 The document that you cited shows -- on the same
23 slide -- the document you cited on Slide 26 shows that
24 so far 802 metric tons of spent nuclear fuel has been
25 shipped from power reactors thus far. There's a total 07:38

1 of 79,000 metric tons of spent nuclear fuel from 07:38
2 reactors in the U.S. Doing some basic division,
3 821 metric tons divided by 79,000 metric tons equals
4 one percent of the total spent nuclear fuel in the
5 United States is the amount that -- with your numbers, 07:38
6 if they're correct -- has been shipped thus far. So
7 even if your data is correct, the amount of shipments
8 that need to happen in the future for the nuclear -- the
9 commercial nuclear fuel across our country is 100 times
10 greater than the shipments of power plant spent nuclear 07:38
11 fuel that has happened since 1964.

12 On Slide 28 you state the accident fatality risk
13 associated with spent nuclear fuel shipments is more
14 than three orders of magnitude less than for some other
15 common hazardous materials. But I would argue that 07:39
16 because only one percent of the spent nuclear fuel that
17 needs to be shipped has been, that -- and that that is
18 the data that that statistic is coming from -- that that
19 is not a fair statistic. Just because something bad
20 hasn't happened in the future doesn't mean that 07:39
21 something won't happen -- or something bad hasn't
22 happened already doesn't mean that something bad won't
23 happen in the future.

24 The day before Chernobyl happened, no accident
25 like Chernobyl had happened. The day before Three Mile 07:39

1 Island happened, no accident like Three Mile has 07:39
2 happened. And this data -- before Fukushima happened,
3 no accident like Fukushima had happened.

4 The videotapes cited are from the '90s and they
5 use casks that are not the same as the casks we use 07:39
6 today. And as noted before, those were empty, not full
7 of nuclear fuel. So I don't believe that those are an
8 accurate source to cite.

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

10 Christine Gorman and then Daryl Gale. 07:39

11 MS. GORMAN: My name is Christine Gorman,

12 C-H-R-I-S-T-I-N-E, G-O-R-M-A-N.

13 Many of us were very concerned when we heard
14 that you are just working on how you can implement a
15 plan -- and that you won't even do it -- for getting 07:40
16 realtime monitoring.

17 I would specifically like to ask that you post a
18 progress report, at a minimum, monthly about what steps
19 you're taking, about where there's any delays, are you
20 trying to contact some other agency and that's where 07:40
21 there's a delay or hangup? If you could please post
22 that on your website frequently, because it's just too
23 long between meetings for us to wait and come back and
24 maybe hear again that you're working on it. So I think
25 that would be important and probably very easy to do. 07:41

1 Even if you're not doing anything, post back, you know, 07:41
2 in three of four weeks and say, "Well, I haven't done
3 anything."

4 And then the other issue is on the water that's
5 being discharged. You say it's ongoing. And the part 07:41
6 that's a little bit too vague is, "I guess there's
7 radioactive water mixed with other types of water," and
8 so on, and then you mention 35 million gallons. But I
9 would like to have something much more specific than
10 that. How much of radioactive and similar type 07:41
11 materials are in that water? And if you're saying that
12 that's regulated both by the NRC and the EPA, you have
13 numbers. Please post those numbers on your website for
14 us to see.

15 Thank you. 07:41

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

17 Next is Daryl Gale and Ramesh Jain.

18 Daryl Gale, the floor yours.

19 MS. GALE: Daryl Gale, G-A-L-E.

20 I want to tell you the story of So Cal Gas and 07:42
21 the Aliso Canyon blowout, and it's completely pertinent
22 to what we are dealing with here.

23 Aliso Canyon was an oil field in extreme rural
24 northwest Los Angeles County. After all the
25 easy-to-get-to oil was depleted, So Cal Gas acquired the 07:42

1 property. And then greedy, unscrupulous developers 07:42
2 started building multimillion dollar homes right out
3 there, directly across the street from where the So
4 Cal -- So Cal Gas facility was turning it into a giant
5 CH4 methane storage facility. Thousands of people 07:42
6 bought beautiful, expensive homes, never being told they
7 were mere feet away from a giant mountain underground
8 gas storage.

9 Many of the old oil wells were improperly
10 capped, encased -- in fact, we didn't know how to encase 07:43
11 wells properly in the '30s and '40s -- some them were
12 cased in leather. And because So Cal Gas didn't monitor
13 their own property or put safety valves on the ancient
14 oil wells, and our State of California agency, DOGGR --
15 that's D-O-G-G-R, Department of oil Gas and Geothermal 07:43
16 Resources -- never ever inspected this large facility,
17 in October of 2015 one of the 62-year-old wells blew
18 out, sickening thousands of people, forcing them to
19 evacuate. It spewed a hundred thousand tons of methane
20 into our atmosphere and wasn't capped till 07:43
21 February 2016, five months later.

22 Because of So Cal Gas's arrogance and lack of
23 foresight, no protective equipment was available
24 anywhere in California. Emergency shutoff equipment was
25 borrowed from Texas, and it didn't work. 07:44

1 Today people still suffer from low-level chronic 07:44
2 leaking methane, non-stop nausea, vomiting, headaches,
3 lots of dead pets and daily nosebleeds. Six teachers of
4 the school right there on the property -- it's called
5 Porter Ranch -- have gotten cancer and two have already 07:44
6 died.

7 Jerry Brown refuses to shut the facility down.
8 We have gone up there, we have marched, we have lobbied,
9 we have beseeched him, but he won't shut it down because
10 his sister Catherine is on the board of Sempra Energy. 07:44

11 So I'm just asking everybody in front and behind
12 to stay vigilant and don't -- and make sure you question
13 authority.

14 Thank you.

15 DR. VICTOR: Thank you very much for your comments. 07:45

16 Next is Ramesh Jain, and then Tom Amabile.

17 MR. JAIN: Well, my name is Ramesh Jain,
18 R-A-M-E-S-H, last name of Jain, J-A-I-N.

19 And briefly I do have my profession was nuclear
20 engineering, and I have work almost 33 years on various 07:45
21 of these plants, building nuclear systems, servicing at
22 maintenance and decommission, just like it was on done
23 San Onofre, that was my last specialty, replacing steam
24 generators.

25 And I'm surprised. What -- if -- let me just 07:45

1 share this little other sentiments here. If before 07:45
2 Fukushima somebody asked me, "What do you think of
3 nuclear power?" I say, "It's a great way to generate
4 electricity. We are dedicated people there." And one
5 thing we have to think about all the time, the public 07:46
6 safety come first. Whatever you do there, keep in mind
7 public safety come first. And I live with all those
8 standards and I still do.

9 DOE promise 1998 facility will be there, all
10 these waste material will go there. We are talking 07:46
11 20 years after.

12 So reason I'm bringing these fact, we are
13 talking the details of something; we are not going to
14 the grassroot level, what has not been done, and why do
15 you not bring those people here who promise those 07:46
16 things, higher level people who has the money?

17 Come back on SONGS. Tremendous mistakes.
18 250 million or more replacing steam generators -- all
19 the people are involved, professionals are involved.
20 Big mistake, removing anti-vibration system or simply 07:47
21 find it, plant closed down.

22 Now come back to these canisters. And I heard
23 30 years of life and all these things. Plant life is
24 40 years, canister life is only 30 years. And this
25 little chart here shows 35 years of dry canister lying 07:47

1 somewhere else. 07:47

2 Nuclear power plant, the way I understand, were
3 never designed permanently or long-term storage.
4 Knowing the fact they were designed to keep this spent
5 fuel temporarily and then ship it. 07:47

6 Now, as we can look forward for a minute, we
7 have -- Department of Energy nor the facility in Texas,
8 and we are start talking how to monitor this, we are
9 getting those details, which has particularly no meaning
10 to me. We have to go to root cause. 07:48

11 Please give me one more minute just --

12 DR. VICTOR: Not a minute. But a couple of seconds.

13 MR. JAIN: Okay. A couple of seconds.

14 Question: If these canisters here, the facility
15 is not designed to store these canisters, what -- what 07:48
16 program? What design you have in your hand if
17 earthquake come and tsunami come or they come together,
18 what you have done? How you are going to handle? This
19 question, not of shipping, the best line there for
20 35 years. 07:48

21 DR. VICTOR: Okay. Great.

22 Thank you very much for you comments.

23 MR. JAIN: Thank you so much for listening to me and
24 thanks for public for -- please, public safety come
25 first. 07:48

1 DR. VICTOR: Thank you very much for your comments. 07:48

2 Next is Tom Amabile. Tom, you're going to have

3 to help with the pronunciation of your name. I'm going

4 with the Italian.

5 And then after that is Danika Carson. 07:48

6 MR. AMABILE: That shouldn't be Italian [sic], but

7 it is. I pronounce it Amabile because my dad did that.

8 And it's A-M-A-B-I-L-E.

9 I just wanted to thank Southern California

10 Edison for their continued support of off-site emergency 07:49

11 management. I just retired from the Academy of San

12 Diego as one of their emergency services coordinators.

13 I was one of the ones who did planning for San Onofre.

14 I wanted to thank Edison for the support they always

15 gave us and just to express my hope that they continue 07:49

16 to do so in the future.

17 DR. VICTOR: Wow. Okay. Thank you.

18 Danika Carson. Then Ayla Breezy.

19 Danika Carson, the floor is yours.

20 MS. CARSON: My name is Danika Carson, first name 07:49

21 spelled D, as in delta, A-N-I-K-A, last name Carson,

22 C-A-R-S-O-N. I was born and raised in San Diego,

23 California. I'm a Public Watchdogs advocate.

24 I am in complete disbelief that an approved site

25 that was obtained illegally is still being used. It is 07:49

1 completely mind-blowing. And to put the icing on the 07:49
2 cake, you guys call it a burial site, which is
3 completely misleading; it's really a dump.

4 I understand that there are tons of concerns
5 that impact our future, but I am currently focusing on 07:50
6 the present. Let's face it. Edison has no plan of
7 moving the dump site anytime soon. In that case, things
8 will remain the same, and I have major concerns.

9 Are emergency personnel, such as firefighters,
10 police officers, paramedics, and possibly even the 07:50
11 military at all prepared for a nuclear emergency? Do
12 they know what to do? How to do it? Better yet, are
13 they even informed about the state of our nuclear waste
14 here in Southern California? Is there an evacuation
15 plan in place? What does our emergency proceeds consist 07:50
16 of? Without a plan, we are all just sitting ducks.

17 I feel the issue is extremely important because
18 we have no control over Mother Nature and we are clearly
19 every bit of unprepared for such a natural disaster.

20 There isn't any media coverage, any pamphlets 07:50
21 any notices. There is nothing available to the public
22 to keep us informed. People are moving here and
23 purchasing property without the knowledge of the fact
24 that there is a nuclear dump that is using thin and
25 ineffective canisters. The canisters are entirely 07:51

1 unsafe. As a matter of fact, they are extremely unsafe 07:51
2 with no monitoring.

3 After Southern California Edison's reputation
4 was ruined, there should have been major changes made.
5 One of the most important is that Edison should not be 07:51
6 allowed to monitor the radiation leaks. They clearly
7 have been proven to be untrustworthy. So having Edison
8 in charge of the monitoring does not make any sense,
9 being that the public would not be alerted of the
10 radiation leak until hours or even days after the fact. 07:51

11 With the 3.6 million pounds being stored, they
12 will outright -- it is outright deadly for the
13 8.5 million lives within just a 50-mile radius of the
14 dump. It seems as though Edison does not mind killing
15 off a portion of the population here in Southern 07:51
16 California. I'm on the verge of believing that that may
17 be part of the plan.

18 No one from Edison is working hard enough or
19 fast enough for a rightful solution. The public has a
20 right to know. It is not that we want realtime 07:52
21 monitoring but that we absolutely need it. We've had
22 our lives in the hands of Edison for far too long. We
23 have the right to be informed and remain informed at any
24 time we choose.

25 A lot of us here today have attended several 07:52

1 meetings, and yet there have been no useful answers to 07:52
2 any of our questions. We need answers and we need them
3 now.

4 DR. VICTOR: Thank you very much for you comments.

5 And there was something you said in your 07:52
6 comments that I need to clarify by email, maybe you
7 could just send me a copy of your comments -- because I
8 just saw that you were reading from them -- and we can
9 coordinate by email on that?

10 MS. CARSON: Okay. 07:52

11 DR. VICTOR: Ayla Breezy, please? And then
12 David Fritch.

13 MS. BREEZY: It's Ayla, A-Y-L-A --

14 DR. VICTOR: Sorry.

15 MS. BREEZY: -- that's okay -- Breezy, B-R-E-E-Z-Y. 07:52
16 Good evening.

17 So thank you for this meeting in Oceanside. It
18 keeps moving farther south. And we appreciate you
19 making it easier for people from San Diego.

20 And thank you for the follow-up topics and the 07:52
21 slide presentation. It's nice when our concerns are
22 heard and attempted to be alleviated.

23 So I'm wondering if Holtec has offered to buy
24 Edison's nuclear waste?

25 And here are some transportation issues that I 07:53

1 see. I've heard that routes through L.A. are what 07:53
2 are -- have been told what will happen. And I agree the
3 weight of the cans are so heavy that I don't think that
4 the DOE has had experience transporting cans that are
5 filled with so much spent nuclear fuel products. 07:53

6 Shipping nuclear waste across the country is extremely
7 dangerous. We must avoid doing it twice.

8 We all had a very busy week with the California
9 State Lands Commissions hearing this is week. It was a
10 lot for all of us to mobilize and attend and speak up. 07:53
11 I found a lot of flaws in the draft EIR, and I pray that
12 it does not go into approval by the California Coastal
13 Commission. I know the panel holds an opposite opinion.

14 I -- I think it's going to be an extremely
15 hazardous demolition when hidden dangers are clear, 07:53
16 clean air, earth and water, no matter the attempt to
17 keep it contained.

18 So regarding the petition on change.org, we
19 reached 1600 signatures and 135 comments. We appreciate
20 you listening to us at the last meeting about realtime 07:54
21 radiation and you included slides. I appreciate you
22 being open to the continuous monitoring and looking at
23 possible systems and talking to counties for what their
24 needs are.

25 Thank you to Steve Swartz for talking about the 07:54

1 County of Orange and expressing people's anxieties and 07:54
2 how this will help to alleviate it.

3 And for Chairman Victor, I appreciate you
4 sharing information about the petition and asking for a
5 timeline and update well before the next meeting. So I 07:54
6 just appreciate you following up on that. We believe
7 that this will help to ease the hearts and the minds of
8 many people.

9 And on another note, I feel that taking away the
10 monitoring outside of the air vents is extremely 07:54
11 dangerous. That's where we need to be monitoring.

12 So we are all stuck in the same situation
13 together. We don't want the waste here. We're in a
14 stalemate with the government and legislation. The
15 consolidated interim storage sites may or may not 07:55
16 manifest. Because of this I strongly believe in the
17 option to move the waste to the Mesa.

18 I spoke criticizing the draft EIR report for
19 leaving this option out. I think it's a viable
20 alternative that needs to be further looked into. 07:55

21 Former NRC chairman Greg Zuco -- I'm going to
22 say it wrong -- and Tom English, nuclear engineer, agree
23 on the latest KPBS report. So I'm going to butcher your
24 name -- but from Camp Pendleton Tom Caughlan spoke out
25 against the idea, but I think that with the rising sea 07:55

1 levels that -- should warn us that we should need to 07:55
2 move it further back before it's too late.

3 So I know the idea of decommissioning the ISFSI
4 is a projected date of 2051. I don't know where I will
5 be in 33 years, but I hope I see it moved in my 07:55
6 lifetime.

7 Thank you.

8 DR. VICTOR: Thank you very much.

9 Next is David Fritch. And then Nancy Select
10 [sic]. 07:55

11 David Fritch, the floor is yours.

12 MR. FRITCH: Thank you. My name is David Fritch. I
13 am a worker on the ISFSI project. I do fieldwork as --
14 F-R-I-T-C-H -- I'm industrial safety, so OSHA stuff,
15 not nuclear stuff, but I'm out there. 07:56

16 And I may not have a job after tomorrow for what
17 I'm about to say, but that's fine, because I made a
18 promise to my daughter that if no one else talked about
19 what happened Friday, that I would.

20 About 12:30 August 3rd we were downloading, and 07:56
21 the canister didn't download but the rigging came all
22 the way down. It was gross errors on the part of two
23 individuals.

24 UNKNOWN SPEAKER: Can you speak up?

25 UNKNOWN SPEAKER: Speak up. 07:56

1 MR. FRITCH: There were gross errors on the part of 07:56
2 two individuals, the operator and the rigger, that are
3 inexplicable.

4 So what we have is a canister that could have
5 fallen 18 feet. That's a bad day. That happened. 07:57

6 You haven't heard about it, and that's not
7 right. My friend here is right, public safety should be
8 first. I've been around nuclear for many years, it's
9 not behind that gate, it's not.

10 Here's a few things I've observed in the three 07:57
11 months I've been here: SCWE, the safety conscious work
12 environment, where people are constantly given
13 encouragement to raise concerns, it's not repeatedly or
14 even -- I've never even received SCWE training since
15 I've been on-site; that's not standard for a nuclear 07:57
16 site.

17 Operational experience is not shared. That
18 problem had occurred before, but it wasn't shared with
19 the crew that was working.

20 We're undermanned. Don't have the proper 07:58
21 personnel to get things done safely. It's certainly
22 undertrained. Many of the experienced supervisors --
23 what we call CLSs, cask load supervisors, once they
24 understand the project, how everything works, are often
25 sent away and we get new ones that don't understand as 07:58

1 well as -- as even the craft, basic construction in 07:58
2 craft. A lot of them that haven't been around nuclear
3 before, performing these tasks. Not technicians, not
4 highly training, not thorough briefs. This is an
5 engineering problem. 07:58

6 What happened is inside of that cask there is a
7 guide ring about four feet down, and it's to guide that
8 canister down correctly to be centered in the system.
9 Well, it actually caught that. And from what I
10 understand, it was hanging by about a quarter-inch. 07:59

11 DR. VICTOR: Thank you very much for you comment.

12 UNKNOWN SPEAKER: Please let him continue. Let him
13 continue.

14 DR. VICTOR: I'm not trying to cut him off. He
15 stopped. It's the end of the time. So I asked -- 07:59
16 thanked him for his comments.

17 MR. FRITCH: Sure, sure. I just -- I mean,
18 obviously the point is clear, because people have said
19 Edison's not forthright about what's going on. I'm
20 sure they'll tell you they were going to bring this out 07:59
21 once it was analyzed, et cetera, et cetera. I'm sure
22 they've been preparing what they would answer if it
23 comes out.

24 And I came here tonight to see if this event
25 would be shared with the community, and I was 07:59

1 disappointed to see that it was not. 07:59

2 I want to thank the community of San Clemente.
3 It's a beautiful, wonderful community with amazing
4 people, they've been great to me. My family's here with
5 me for the month. 07:59

6 And unless Edison and Holetec commit to defining
7 success on this project as safety -- I'm not talking
8 about really the concerns that were voiced today; I'm
9 just talking about downloading, getting the fuel out of
10 the building safely -- and -- and are we going to 08:00

11 address what would have happened if that canister would
12 have fallen? Even if the shell wasn't penetrated, now
13 will they take it in a repository site? But the
14 question is: Will Edison and Holetec commit to defining
15 success primarily in terms of nuclear safety? And there 08:00
16 will be -- will there be transparency, commitment to
17 safety and the financial commitment to make sure that
18 it's done successfully?

19 Thank you.

20 DR. VICTOR: Thank you very much for your comments. 08:00

21 UNKNOWN SPEAKER: You're my hero, dude.

22 DR. VICTOR: Nancy Select [sic] and then
23 Donna Gilmore.

24 UNKNOWN SPEAKER: I'll withdraw my request to speak.

25 DR. VICTOR: Thank you. 08:00

1 Donna Gilmore, then Gary Headrick. 08:00

2 Donna Gilmore, the floor is yours.

3 MS. GILMORE: We have the same question every time.

4 What are you going to do with a leaky canister? The

5 only options are put it in the pool. We now know these 08:01

6 canister are being loaded so damn hot we can't do that.

7 The only other option, as you told me on a side

8 conversation, Tom, is a hot cell. You don't have any

9 plans to do that. The other option you've talked about

10 offline and that you said is a -- some kind of an 08:01

11 overpack cask. It -- there's no thermal analysis done

12 for that. No one has approached the NRC to do that.

13 We've got 15-year-old canisters here. The only plan

14 that I know that you're actually doing is you've asked

15 AREVA, your vendor, to no longer have to report the 08:01

16 radiation levels coming out of the outward air vents.

17 The only possible reason to not share those levels is

18 to hide them. So instead of getting public radiation

19 monitoring, you're going behind and getting the NRC to

20 approve stopping measuring those radiation levels. If 08:02

21 there's leaks in the canister, they will go out those

22 outlet air vents. I did some research. The Edison --

23 NRC has already approved this for Calvert Cliffs.

24 Their canisters are 25-years-old.

25 So the real plan -- you guys, everybody, the 08:02

1 real plan is to hide the leaks. 08:02

2 Southern California Edison is the company that
3 ran the first commercial reactor in the country,
4 Santa Susana. They bragged about that. What they don't
5 tell you is that that reactor leaked into the community 08:02
6 in Simi Valley. They hid the leaks for 20 years. A
7 student doing research at UCLA found the documents. So
8 they have a history of hiding leaks.

9 The 17-day was hidden. They told us they didn't
10 release to the public. So they have absolutely no 08:02
11 intention to do anything. They know these canisters can
12 leak. And what to do they do? They buy more of them.
13 These were not designed to last.

14 It's -- forgot talking about transfer. I want
15 to know what you're going to do when those canisters 08:03
16 start leaking. Now we have no answers. You're -- you
17 know, you need -- the only option is to buy a
18 thick-walled cask, take that trust fund -- I mean, take
19 that \$4.3 billion and do it right. Get the cask so we
20 can sleep at night, so we can live in Southern 08:03
21 California.

22 You know, the people in New Mexico, they don't
23 want this stuff, but they're going to get it anyway,
24 because when these canisters start leaking and
25 exploding, that is stuff that's going to go airborne and 08:03

1 head inland. It's going to go everywhere. Each one of 08:03
2 these cans is roughly a Chernobyl nuclear disaster. And
3 they can't explode [sic]. These are pressure vessels.
4 And there's no pressure monitoring on them. There's no
5 pressure relief valve. The Three Mile Island cans had 08:03
6 that. So you don't even have that on these containers.
7 When you're loading, you know the pressure, when you put
8 the helium in, but after that there -- there's no
9 monitoring at all for pressure. The NRC gets exemptions
10 for mechanical standards. 08:04

11 So I have a handout, if anybody didn't get it,
12 but it's time to talk -- talk [sic] about anything else
13 until they answer this question.

14 Thank you.

15 DR. VICTOR: Thank you very much for you comments, 08:04
16 Donna Gilmore.

17 Next it's Gary Headrick and then Torgen Johnson.

18 Gary Headrick, the floor is yours.

19 MR. HEADRICK: Thank you. Gary Headrick,
20 H-E-A-D-R-I-C-K, San Clemente Green. 08:04

21 And I'm just emotionally touched and honored to
22 be here with someone who is bold enough to speak the
23 truth to power. I appreciate that so much. And that's
24 what got me involved. I -- I think we all heard that
25 story before, but I just can't -- can't tell you how 08:04

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1 important it is to have people like that and how 08:05
2 important it is for us to listen to them.

3 Man, I -- just brings back memories of
4 whistleblowers, who are heros in my mind, that told me
5 about things that we've never heard of before. 08:05

6 There was the -- there's an incident where on a
7 Thanksgiving Day -- I think it was 2011 -- a steel
8 I-beam dropped into a spent fuel pool and could have --
9 it had gone straight down, it could have damaged the
10 fuel. Instead, it just glanced off. And they went in 08:05
11 with HAZMATs and protective measures. It was a close
12 call. And no one would have ever heard of it.

13 I'm just -- this is not what I intended to speak
14 about, but this is -- accidents do happen. We have to
15 listen to people that are trustworthy, that really have 08:05
16 the public's interest in mind.

17 And Greg Vasco, the former NRC chairman who was
18 in charge during the Fukushima accident, he had a life
19 changing event to understand that there's another side
20 to this story that he had to come to grips with. And he 08:06
21 told us just last week on KPBS that the spent fuel
22 pool -- I mean the nuclear fuel that's being stored in
23 these silos on the beach are likely to never move. And
24 in his opinion he thinks the NRC does not put public
25 safety first. I mean, that's from the top guy. And if 08:06

1 we don't listen to that, then maybe all we need to talk 08:06
2 about is radiation monitoring, because we know the damn
3 stuff's going to get into the environment. If we
4 continue this path, we -- we need to just analyze how
5 we're going to deal with the accident and forget about 08:06
6 transportation and everything else. We've got to talk
7 about different kinds of canisters, different ways of
8 handling it, we need a hot cell on site, if there's a
9 leaky canister that -- if we can't use a spent fuel pool
10 to remedy that situation. I mean, we have to get 08:07
11 realistic about what we're doing, not do a lot of
12 wishful thinking and, you know, outdated movies about
13 things that don't even take into account things we've
14 learned since the '70s. You know, these are higher,
15 hotter, heavier, you know, canisters that we're just 08:07
16 pretending like, "Oh, this is all going to work out
17 fine." When it doesn't, where are we all going to be?
18 What are we going to say to our future generations and
19 people who could have prevented this?
20 You know -- and I do want to thank you, our 08:07
21 Councilmember Steven Swartz for being persistent on this
22 stuff that -- you know, the only cure for this is
23 prevention. And we got to listen to people that are
24 trustworthy and not the industry.
25 Thank you. 08:07

1 DR. VICTOR: Thank you very much for your comments. 08:07
2 Next is Torgen Johnson and then Jeff Steinmetz.
3 MR. JOHNSON: Torgen Johnson, T-O-R-G-E-N
4 J-O-H-N-S-O-N. I'm a father of four. I'm a Harvard
5 trained urban planner in North County San Diego. 08:08
6 I'm going to give a quote addressing this man's
7 comment. The prime minister, Naoto Kan, we hosted him
8 in eight events in the United States and Japan, quote:
9 Severe nuclear accidents happen. So plan for them,
10 unquote. 08:08
11 In a recent KPBS interview with former chairman
12 of the U.S. Nuclear Regulatory Commission,
13 Dr. Gregory Vasco said: The spent fuel at San Onofre
14 will be buried and left on-site indefinitely. Given the
15 opposition in New Mexico, the Holtec Centralized Storage 08:08
16 Project and the technical and legal challenges of
17 opening Yucca Mountain, it's imperative that these
18 discussions that you're having with the public be frank
19 and open to address the long-term consequences in
20 environmental impacts of permanent waste storage here at 08:09
21 San Onofre. When we do get real with each other, you'll
22 start to appreciate why the dangerous nature of this
23 waste has led to the public's persistence in requesting
24 sensible safety measures and emergency plans for leaking
25 or exploding high-level radioactive waste canisters. 08:09

1 Spent fuel pools should be retained on-site because 08:09
2 they're the only option we have for one of these
3 accidents. The seismic and tsunami risks are far
4 greater than what Edison's hired geologist has told
5 the public. The recent report presented by 08:09
6 Dr. Mark Clegg at the 11th National Conference on
7 Earthquake Engineering, this June of 2018, describes the
8 offshore and onshore earthquake fault system and tsunami
9 risk at the power plant to be far more serious than
10 Edison's contracted geologist reported. 08:09

11 The reason I'm here today is -- in this public
12 interest fight, my family was involved in a coastal
13 access fight back in the '70s. Up in Malibu private
14 interest fenced off the beach for miles to prevent
15 public from having access to the beach. And when there 08:10
16 was a fight to get an access point, they piled a whole
17 bunch of dog crap on the access point. What we're
18 looking at right now is we're looking like a regulated
19 monopoly that we pay for, either as ratepayers or as tax
20 payers, handling this waste, are dumping exactly the 08:10
21 same thing, 1628 metric tons of the most dangerous crap
22 in the world on a beach that my family cherishes. An
23 accident with that waste could render these beaches
24 inaccessible and the area around it uninhabitable
25 forever. That's what we're talking about here. 08:11

1 So in short, we're asking for the suspension of 08:11
2 the continued loading of this fuel plan until we can get
3 sensible on-siting and containment. The public is
4 right. You just heard it, everybody. Okay? We're
5 right. We know it's going to be stuck here. Let's 08:11
6 start -- Number 1, containment, get it right. Number 2,
7 siting, get it right.

8 DR. VICTOR: Thank you very much for you comments.

9 Next is Jeff Steinmetz and then Sarah Brady,
10 you're on the list again. I saw you reading your 08:11
11 comments. So if you want to share fuller comments with
12 us, I'll make sure they're part of the public record.

13 So Jeff Steinmetz and then Krista Gostenhofer.

14 MR. STEINMETZ: All right. Thank you.

15 My name's Jeff Steinmetz. I -- I work in the 08:11
16 public sector and I sell software to help utilities and
17 municipalities and counties to better manage their fleet
18 equipment. A big part of managing that fleet equipment
19 is to actually do preventative maintenance inspections.
20 Okay? That helps maintain your assets, it keeps them 08:12
21 safe, and it helps them to last longer.

22 So what we have with the system that's going in
23 and the one that exists today, is one that you cannot
24 inspect.

25 No other public sector is doing anything like 08:12

1 this. Why is it we're taking one of the most dangerous 08:12
2 substances in the world and deciding, "Okay, we're just
3 going to shoot the crap"?

4 So after what was just said here today, Tom, you
5 got some 'splaining to do. Seriously. It's an 08:12
6 embarrassment.

7 Now, talking about holding that stuff up over
8 that space and the risk of it dropping, one of the
9 things that was mentioned in that video -- I should say
10 that phoney-baloney sales presentation -- was that they 08:12
11 filled a canister up with water and a couple of steel
12 rods and then crashed it. Well, know this: Mass times
13 velocity equals momentum. It's simple multiplication.
14 Okay? The density or the weight of water is one gram
15 per cubic centimeter. The density of plutonium is 08:13
16 19.82. So we're looking at about a factor of 19.
17 That's why I say that was a stupid sales presentation,
18 because you're looking -- they're not even doing the
19 math -- and they're expecting that all of us can't do
20 any simple math. It's fourth grade stuff. 08:13

21 So now take that example that they gave you
22 filled with water and put the real quantity of weight
23 and fuel into it and drop it from where it was hanging.
24 It's really ugly, Tom.

25 DR. VICTOR: Thank you very much for your comments. 08:14

1 Next is Krista Gostenhofer and then 08:14
2 Michelle Anderson.
3 And can you spell your last name?
4 MS. GOSTENHOFER: G-O-S-T-E-N-H-O-F-E-R.
5 So about the last thing I wanted to do today was 08:14
6 drive down from Orange County to come to this meeting.
7 The sky was really dark and had a really bad color. The
8 fires are really bad. The air was bad. I felt really
9 ominous. But I had realize that it wasn't a nuclear
10 accident, it wasn't a nuclear fire. So I had to come 08:14
11 down here to see what was going on and to speak up.
12 Prevention is what we're trying to do. We don't
13 want to have an incident.
14 In February you started loading. By the March
15 meeting I -- my jaw dropped and it still dropped from 08:15
16 the fact that you had loaded faulty design canisters.
17 And then you admitted that you could not, you know, put
18 them back in the spent fuel pool. But you knew about
19 this since the 1990s. How in the world, Mr. Palmisano,
20 did you approve those Holtec thin-walled canisters when 08:15
21 you knew you couldn't inspect them, you couldn't repair
22 them, you can't reload them back into the spent fuel
23 pools? You have absolutely no contingency plan.
24 So I've looked further at the NRC documents.
25 And I've realized that NRC regulations require that dry 08:15

1 storage has retrievability. And as far as I can tell, 08:15
2 Edison is not in compliance with your dry storage
3 license. Where is the NRC? Where are you,
4 Mr. Palmisano? I've come to repeated meetings after
5 that, and you haven't discussed that. What are you 08:16
6 going to do if there's a problem with a can?

7 I've seen plenty of studies in NRC about
8 chloride stress induced corrosion and cracking. They
9 know these cans crack. I've seen studies on high burnup
10 fuel. They know there's dangers with high burnup fuel. 08:16
11 They know that cladding can crack. Hydride gases can be
12 created. The temperature can go up. They are
13 pressure -- pressure vessels. There's no pressure
14 release valve. And you're talking about transporting
15 these things? And you can't inspect them. You can't 08:16
16 transport these things without seeing if that fuel is
17 damaged.

18 I'm just really still trying to pick up my jaw
19 from the March meeting. And from, you know, the fact
20 that this stuff going in the ground a hundred feet from 08:17
21 the ocean in an earthquake fault line, tsunami zone.
22 I'm just -- we really would like some real answers to
23 our concerns.

24 Thank you.

25 DR. VICTOR: Thank you for your comments. 08:17

1 Next is Michelle Anderson and then 08:17
2 William Weigel, Jr.

3 Michelle Anderson, the floor is yours.

4 MS. ANDERSON: Thank you.

5 Thank you to each of you for being here tonight, 08:17
6 listening to the concerns of the public. Thank you
7 Steve Swartz and David Victor for your comments tonight.
8 I really appreciate that you listened and you're
9 speaking up.

10 I'm still in awe of the courage it took for 08:17
11 David Fritch to say what he did and to share what he
12 did.

13 According to the legendary scholar Noam Chomsky:
14 The world is facing potential environmental catastrophe
15 and not in the distant future. And the only community 08:17
16 standing between humankind and catastrophe are the
17 world's indigenous people. The Acjachemen Nation, who
18 are the original people of land, and whose human remains
19 were found on the SONGS site by Mr. Brock, a Bechtel
20 engineer back in the late '60s when the site was 08:18
21 excavated and were kept hidden from the public. Until
22 that engineer died and his widow returned those remains,
23 per his request, to the Acjachemen people back in 2007.
24 They were finally reburied last year. We wouldn't all
25 be here tonight if that man had had the courage to share 08:18

1 his discovery. 08:18

2 I'm not a descendant of the Acjachemen Nation;
3 however, I'm here addressing each of you tonight as a
4 fellow citizen of the earth. I'm asking you to sit
5 consciously and ponder deeply with all of the 08:18
6 information and concerns brought forth by all of the
7 individuals making public statements tonight.

8 We have one earth, and we are rapidly destroying
9 it with human miscreations in the name of profit over
10 safety. 08:19

11 I have to believe that we all have the same goal
12 in mind. Ultimately none of us wants to see a nuclear
13 disaster happen here. I think it's fairly safe to say
14 all of this talk of safely transporting the waste is a
15 moot point as of now since there is currently no place 08:19
16 to move this spent fuel to. And with all of the
17 bureaucracy involved, it's likely going to be too late,
18 when we cut through all the red tape of political
19 minutiae we face.

20 Since I started attending these meetings years 08:19
21 ago, I have heard many opinions expressed. More and
22 more people are becoming aware of this ticking time bomb
23 and speaking out articulately, factually and with the
24 passion of a community that sees the situation as
25 absolutely urgent. And common sense shows us a looming 08:20

1 potential apocalyptic scenario. I think we all felt 08:20
2 that tonight.

3 I'm absolutely for SCE being fiscally
4 responsible and using the over \$4 billion of ratepayer
5 money by providing thicker monitorable casks, providing 08:20
6 a hot cell on-site, realtime radiation monitor, moving
7 the waste across the freeway and higher up away from a
8 rapidly eroding shoreline and keeping the spent fuel
9 pool in place until a hot cell is on-site.

10 I'd like to thank all the people here tonight 08:20
11 that stood up and shared and expressed from your hearts.

12 And I thank you for listening.

13 DR. VICTOR: Thank you very much for your comments.
14 Next is William Weigel, Jr. and then
15 Varaja Prema. 08:20

16 MR. WEIGEL: Good evening. I'm William Weigel.
17 That's W-E-I-G-E-L. I'm a retired Air Force lawyer,
18 judge advocate, with over 20 years of military law
19 experience.

20 I'm very concerned about why our nation would 08:21
21 put the largest privately held nuclear waste dump on a
22 military installation. Anyone with any basic knowledge
23 of military law knows it's unlawful to target civilians.
24 But when you put the equivalent of a hundred Chernobyls
25 on a military installation, the equivalent of about 700 08:21

1 nuclear missiles on a military installation, you've just 08:21
2 targeted eight and a half million Californians. And I
3 don't know of anyone in Southern California that signed
4 any agreement to be held as hostage in the event that
5 our nation goes to war against another nation. 08:21

6 And I think -- I'm bringing this to your
7 attention because I think anyone that has any capability
8 of moving that nuclear waste off that beach needs to do
9 it as quickly as possible. And the only other thing I
10 would encourage the Navy to do is to ask their targeting 08:22
11 experts whether or not there's something they can do to
12 harden that facility so that those five-eighths of an
13 inch thick stainless steel, 400,000-pound canisters that
14 are like an eggshell can withstand an attack by an enemy
15 of this nation. 08:22

16 And I think the Navy owes that to the community,
17 to the people who live here -- and also to the Marines
18 that are on Camp Pendleton -- to answer those kinds of
19 questions. How safe is it having all that nuclear waste
20 so compacted, so close together? How are we going to 08:22
21 prevent enemies of this country in the event that we go
22 to war from attacking that particular location? And if
23 they do so, Southern California is going to be toast.

24 And here we are. We're talking about safety,
25 safety, safety. And we can see what a farce safety is. 08:23

1 But when you put your biggest nuclear waste dump on 08:23
2 military installations, you're just -- it's like a
3 fighter going into the ring and sticking his nose out
4 and asking for someone to punch him in the face. We're
5 asking to be punched in the face. It's the stupidest 08:23
6 thing I have ever seen in my life. And somebody needs
7 to held accountable for it.

8 Thank you.

9 DR. VICTOR: Thank you.

10 Sir, since you introduced yourself as a lawyer, 08:23
11 if you have a legal opinion or have formulated one about
12 how this is the legal equivalent of targeting civilians
13 with nuclear weapons, could you share that with us just
14 offline, that you mentioned in your comments? If you
15 could share that with me offline, I would love to see 08:23
16 that and be able to share that with the panel.

17 Varaja Prema and then Lindsey Bazett.

18 MS. PREMA: Good evening. Viraja, V-I-R-A-J-A,
19 Prema, P-R-E-M-A.

20 I'd like to start with expressing my 08:24
21 appreciation for this open forum of conversation in
22 which we can all feel a safe space to speak our truth
23 and be heard. Thank you.

24 I'd also like the thank fellow concerned citizen
25 David Fritch for his share. And what moved me to tears 08:24

1 was him saying, "I promised my daughter I would do so." 08:24

2 While my two sons sit in the front lobby, I
3 stand here thinking of what is your why? Who would you
4 promise? Who would you want to be the highest integrity
5 for and show up for no matter what? Even if you were 08:24
6 going to lose your job, even if there was going to be a
7 loss of revenue, even if it meant humbling ourselves to
8 say, "We don't know what to do, or we need to scratch a
9 plan, start over"?

10 The enormity of what to do with spent nuclear 08:25
11 fuel is so profound that I'm not -- I don't think we can
12 expect anybody to be perfect yet.

13 Gary Lanthrum said, "If you feel there is a
14 safety concern, you are encouraged to raise it. This is
15 part of the industry." Thank you. 08:25

16 There is much concern for legitimate reasons.

17 The video from the 1990s indicated a cask being
18 used differently -- a different one than we have at
19 San Onofre -- or proposed to get at San Onofre. The
20 test did not include fire. That test was done 08:26

21 separately; they are supposed to be done together. What
22 if there's a fire and a crash? The Baltimore Train
23 Tunnel fire burned for five days. Temperatures reached
24 about 1800 degrees Fahrenheit. The canisters are
25 required to only withstand fire at 1400 degrees 08:26

1 Fahrenheit for one half of an hour, 30 minutes. 08:26

2 Shipping nuclear waste across the country is
3 extremely dangerous. I'm happy they had success with
4 260 or so canisters by truck once upon a time. I'm
5 really grateful for that. 08:26

6 Can we avoid doing it twice? Can we please
7 choose the location that can withstand more of the test
8 of time, such as move it to the Mesa as Sarah Brady
9 mentions over and over and many and others.

10 Thank you for this consideration. 08:27

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

12 Next we have Lindsey Bazett, and then our final
13 public comment, Rich Van Every.

14 THE REPORTER: Good morning, panel members.

15 My name is Lindsey Bazett spelled B-A-Z-E-T-T. 08:27

16 I am a UCLA trained biologist and a mother of four
17 healthy children residing in North County San Diego.

18 At the last CEP meeting in June, I shared a
19 perspective of a young family living in southeast
20 New Mexico that is staunchly opposed to the proposed 08:27

21 long-term radioactive waste repository near their home.

22 To reiterate, they, and many other families, including

23 from first nation Navajo and Apache tribes, do not

24 consent to the permanent dumping of San Onofre's

25 40 years of radioactive waste buried underground within 08:27

1 their already radioactively contaminated land. 08:27

2 Tonight I want to share with you some background
3 on my family, of which I am a third generation
4 Californian, which has a longstanding history of
5 honoring and protecting the public's access to and 08:28
6 preservation of the pristine coastline here on the
7 West Coast.

8 In 1967 my grandfather, Oregon State
9 Representative Sidney Bazett, introduced House
10 Bill 1601, which would later become -- come to be known 08:28
11 as the Beach Bill to a legislative session with zero
12 political support. At the soul of the bill was the

13 imperative to ensure unrestricted public access to
14 Oregon's pristine 362-mile coastline from development,
15 privatization and destruction of its natural resources. 08:28

16 My grandfather kept this bill alive despite abandonment
17 and retaliation by many in his party, stating: The
18 people of this State who can only afford a tank of gas
19 and a picnic basket have the right to spend the day with
20 their children on the beach without having to rent a 08:29

21 motel room or pay a toll. Finally in June of 1967 the
22 bill was passed and signed by Oregon's 30th governor
23 Tom McCall who stated: No local selfish interests
24 should be permitted, through politics or otherwise, to
25 destroy or even impair this great birthright of our 08:29

1 people. 08:29

2 This bill became the precedent of coastal access
3 laws here in California and throughout the nation,
4 contributing to the creation of California's own Coastal
5 Commission. 08:29

6 In the spirit of Oregon's Beach Bill, which just
7 celebrated it's 50-year anniversary, and the memory of
8 my grandfather Sidney Bazett, I ask you to listen to
9 your fellow citizens and community members who are
10 spending their free time tonight advocating for the 08:29
11 health, safety and unrestricted access to our pristine
12 beaches here in San Diego and Orange County.

13 We are children, young adults, mothers, fathers,
14 grandparents and your fellow Californians who have the
15 same zest for life that you do. Please help us to 08:30
16 protect our California coastline from a high-level
17 radioactive waste canister accident by suspending the
18 current transfer of spent nuclear fuel into deficient
19 five-eighths of an inch thick stainless steel canisters
20 upwind of eight and a half million residents without a 08:30
21 viable emergency evacuation plan. And do everything
22 possible to ensure that this beautiful birthright that
23 we all share is preserved for all current and future
24 generations of Californians.

25 Thank you. 08:30

1 DR. VICTOR: Thank you very much for your comments. 08:30
2 Last tonight is Rich Van Every.
3 I'm confused. What's happening here?
4 MR. VAN EVERY: Hi. It's me.
5 DR. VICTOR: Oh, hi. 08:31
6 MR. VAN EVERY: All right. So Van Every is two
7 words, V-A-N, E-V-E-R-Y. I'm a native of North County,
8 grew up here.
9 And I do want to acknowledge the heart-felt
10 comments that have been made tonight. I really hope 08:31
11 they're landing home with you all.
12 This is a big deal. Tonight's a big night.
13 I remember coming to my first CEP meeting, the
14 first one of this year, and hearing people complain
15 about how nothing, not one thing, had been accomplished 08:31
16 or done or progressed after four years of meetings.
17 So I almost didn't want to come tonight. I'm
18 like this is just a puppet show; this is just a decoy;
19 this is like, yeah, we're going to entertain you,
20 public, but we're not really going to do anything about 08:31
21 it.
22 Now, I'm feeling very emotional about this
23 situation, especially after the KUSI report, saying how
24 -- "Yeah, no, really, probably nothing's going to get
25 done. They're just going to leave it there and let the 08:31

1 government try to and figure out what to do about it." 08:31

2 Well, an earthquake or a tsunami or some accident is

3 imminent here. So this is really, really urgent in my

4 heart, and I just want you guys to really feel that.

5 Okay. 08:32

6 I have no comments about the transportation

7 issue. I feel like it shouldn't have even have made it

8 on the -- on the -- up for consideration tonight. We

9 need to talk about taking the money that's available now

10 and getting these thick-walled casks going, immediately. 08:32

11 How's that going to happen? I don't know. Start

12 building a hot cell next week. You have the money. I

13 don't want to hear about -- any stories about your

14 shareholders' profits aren't going to be, you know,

15 happy. This is joke. 08:32

16 You know, I love what Donna said. Let's use

17 that money. Let's put it to good use immediately.

18 Let's find a way. California land -- sorry, the -- the

19 public utilities apparently has the ability to make that

20 happen. So this is the kind of conversation I think we 08:32

21 really need to shift to.

22 I also want to ask Edison why they shut down

23 their cyber security. I think that that was a really

24 faulty move. I want to understand, you know -- sorry, I

25 lost my place here. That -- or I would like to 08:33

1 encourage everyone to submit a public comment to the 08:33
2 California Lands Commission, which it's going to end at
3 the end of this month, to give their opinion. And I
4 really I am not in favor of that passing, and I really
5 hope that this process is halted until it can be done 08:33
6 right.

7 I want to acknowledge Torgen for everything he
8 had to say tonight and everybody, really, but -- you
9 know, most of all, Mr. Fritch, you're my new hero.

10 And I really hope you guys are going to wake up 08:33
11 tomorrow with a different mindset on what needs to
12 happen and how urgent the situation really is.

13 Thank you.

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

15 So did you want to sign up? 08:34

16 MR. BEAUREGARD: I tried to.

17 DR. VICTOR: Well, consider yourself signed up. But
18 you need to tell us who you are.

19 MR. BEAUREGARD: My name is Michael Edmond
20 Malaumanikamahkamah Beauregard [sic]. 08:34

21 And I want to honor Mel Vernon and thank you for
22 everybody who has come.

23 I feel very proud to be in the presence of all
24 these earth-caring people. And I wanted to share a
25 milai that came to me the night of Fukushima. That's a 08:34

1 kanikao [sic], a song, a dirge mourning for Japan. 08:35

2 And this -- this art came to me that night, and

3 I just wanted to share that with you to say thank you

4 for your concern and to recognize this is an

5 international event. And what you do will have great 08:35

6 implications for the many in this affected area.

7 Thank you.

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

9 and that dirge.

10 If you could share that art electronically, we 08:35

11 can also make it part of the official record. So thank

12 you very much.

13 MR. STONE: David, could I make one last comment?

14 DR. VICTOR: Yeah, no. Please, because the moment

15 we change the -- 08:35

16 UNKNOWN SPEAKER: Let him do it.

17 DR. VICTOR: Very briefly, Gene.

18 MR. STONE: I just want to say David is a hero. And

19 I hope he will not be punished. I hope he has a job

20 tomorrow. I hope that he's listened to about his 08:36

21 concerns for safety.

22 DR. VICTOR: Thank you very much for you comments.

23 So -- please, we, as is always the case, are

24 beyond time. But as also is always the case, we're

25 going to take some time to answer some questions here. 08:36

1 Before I turn the floor to Steve and to Dan, I 08:36
2 want to say two things: First, can we put on the list
3 of things that need to get discussed right now the
4 extreme events workshop? Because a number of people
5 raised concerns about what -- why aren't we looking at 08:36
6 the extreme events and accidents happen -- and some of
7 those are really important comments and some work is
8 underway with members of the community to work on that.

9 But I think before we go to the other
10 questions -- Tom, I think, you know with the limits of 08:36
11 what you can discuss concerning operational issues and
12 personnel issues, tell us what people need to know right
13 now and also what the plan is to tell them more.

14 MR. PALMISANO: Sure.

15 First of all, the gentleman who brought that 08:37
16 up -- I'm not familiar with him -- and I'll assure you
17 I'll go back and make sure that he is protected. And he
18 has a right to voice his concern, and that's important.
19 So I -- I credit him with bringing up an issue.

20 What occurred Friday -- first of all, nothing 08:37
21 was dropped. Okay? In downloading a canister, the
22 canister -- and I'll bring a graphic next time, and what
23 I'll do is I'll write a letter to the CEP that we can
24 circulate publically so you have the facts. It's an
25 industrial safety issue. 08:37

1 In downloading a canister, this -- the sealed 08:37
2 canister has about nine-sixteenths, a half inch to
3 nine-sixteenths, clearance to go through this ring.
4 It's not unusual that it contacts the centering guides.
5 Sometimes it comes to rest on the ring. It's got to be 08:37
6 recognized, lifted off, the crane's moving slightly when
7 we center it. That's what has to happen; that's what
8 did not happen in an effective manner on Friday.

9 The two people involved -- and I won't discuss
10 the specifics because they have rights as well -- did 08:38
11 not recognize that the canister they were lowering hung
12 up. And it took a matter of, you know, a number of
13 minutes. Our monitor, Edison's monitor, recognized
14 something was not right, brought it to the attention of
15 the contractor doing the job. They then lifted the 08:38
16 canister out and reset it.

17 The industrial safety concern for a drop would
18 be while that canister is sitting on an edge and, let's
19 say, wedged in the download position by lowering the
20 slings on the crane could a drop have occurred. Okay? 08:38
21 It appears unlikely, but you can't rule anything out.
22 So it's an industrial safety issue in terms of a drop.

23 The canister itself is designed to withstand
24 that. But that doesn't excuse it. So a serious near
25 miss, if you will, in terms of a rigging issue. And 08:38

1 I'll be glad to provide more detail. 08:38

2 Again, what's important is, you know, the
3 canister was safely set down within an hour of
4 identifying the issue. No risk to the spent fuel or the
5 public. No risk to the workers involved. An error on 08:39
6 the part of the crew. So me and the contractor are
7 looking into training, proper instructions, et cetera.
8 And I'll be glad to detail more of that in writing to
9 that panel and let you know.

10 DR. VICTOR: I think it would very helpful to detail 08:39
11 that, not just the particular incident but also what
12 the larger process is for detecting, not just this
13 event, but other kinds of events, and improving worker
14 training and -- both on the nuclear side but also on
15 the worker safety side as well. 08:39

16 MR. PALMISANO: And that's why I say we pause
17 periodically to look at what we've learned and improve
18 our procedures, improve our training. This obviously
19 is an issue that we clearly need to act on before we
20 download the next canister, which we will. 08:39

21 But as we're going through the process, we make
22 sure we look back at what has worked and what has not
23 worked.

24 DR. VICTOR: Thank you very much.

25 Dan and Steve are going to put -- hand all these 08:39

1 questions back to folks, including Gary. 08:39

2 UNKNOWN SPEAKER: Why no report on that tonight?

3 Why didn't you report on --

4 DR. VICTOR: Excuse me, Steve and --

5 UNKNOWN SPEAKER: Can you have him answer that 08:40

6 question, though? Why didn't you report on it tonight,

7 Tom?

8 DR. VICTOR: He just explained why he --

9 UNKNOWN SPEAKER: No, I want to know why the report

10 didn't happen tonight, without the guy giving -- the 08:40

11 whistleblower. That's my --

12 DR. VICTOR: This is not a formal whistleblower

13 process.

14 UNKNOWN SPEAKER: I just want to know why the report

15 wasn't -- 08:40

16 DR. VICTOR: And --

17 UNKNOWN SPEAKER: Answer that question.

18 DR. VICTOR: Okay. Tom, briefly.

19 MR. PALMISANO: Fair question. There was no risk to

20 spent fuel, no risk to the public. It was a rigging 08:40

21 issue that leads to an industrial safety issue. It was

22 unacceptable.

23 I judged we had other comments to discuss

24 tonight, and didn't view it at the same level -- if you

25 remember in the first meeting we talked about the shim 08:40

1 issue that one of the commenters brought up -- didn't 08:40
2 rise to the level of affecting the capability of the
3 canister. My judgment call on that.

4 UNKNOWN SPEAKER: That's a good report made to --

5 DR. VICTOR: Dan -- Dan and Steve, please. 08:40

6 MR. PALMISANO: The outer seal --

7 UNKNOWN SPEAKER: That's ridiculous.

8 DR. VICTOR: Please, I don't think it's helpful in a
9 public meeting to call people ridiculous. He's
10 explained his view as a professional -- sir, I'm 08:41
11 speaking.

12 He's explained his view as a professional in
13 this area overseeing this process and dealing with
14 contractors, and he has also outlined for us how he's
15 going to provide additional information back to the CEP 08:41
16 and the public in a very timely way. And I can assure
17 you, sir, that we will make sure that happens.

18 So why don't we allow some of the other
19 questions to be addressed as well.

20 Gary Brown? 08:41

21 MR. BROWN: Is this on?

22 If I could just kind of make a few comments.
23 I've served on this panel since it started. So I've
24 been here all four years. I'm a little disappointed in
25 tonight's meeting, because I -- the bottom line, I -- I 08:41

1 don't -- we are kind of a reflection, a sounding board 08:41
2 of the community, and I don't feel we're keeping up. I
3 don't think our answers are keeping up with the
4 questions.

5 I -- I think that -- you know, several meetings 08:42
6 ago I asked for maybe a defense-in-depth two. You know,
7 we had one several years ago and it seemed like a lot of
8 questions are based on that. And yet we haven't had it.

9 It's been a heading on our meetings, but -- a good
10 example tonight as part of my frustration, I'm feeling 08:42
11 is -- and all respect to Tom and what he's trying to do,
12 there's a lot of stuff to cover -- but tonight after our
13 transportation discussion, he covered -- Tom got back up
14 and covered six very important issues in five minutes.

15 And he might as well have not done it, because I don't 08:42
16 think anybody learned anything. And he's covering --
17 you know, we say there's an issue, we put it on, and we
18 talk about it for a very short period of time. But I
19 don't think we're -- tonight we didn't give -- do
20 justice to any of those issues. 08:43

21 And -- you know, I -- I would suggest that maybe
22 we reconsider, reassess how we're doing these
23 presentations and -- and because I do, I feel that --
24 you know, Donna's been saying the same thing for a long
25 time, others have. And I don't think we're adequately 08:43

1 keeping up with answers and/or if we are a sounding 08:43
2 board for the public, then I think we need to be a
3 little responsive to the public.

4 We -- we talked about -- briefly about
5 Gene Stone's petition. It was kind of -- I got all 08:43
6 those emails. It was kind of a two-part petition. It
7 talked about certainly lifetime [sic] monitoring, but it
8 talked about a symposium at some point that the public
9 would be invited to and we can learn more specifically.

10 Now, we didn't even talk about that tonight, but that's 08:44
11 okay. I would like at least somebody to tell me that
12 Edison's going to consider that. And if not, then, you
13 know, maybe UCI can do it.

14 That -- I went to a seminar five or six years
15 ago after we had cooling rod problems. And they put on 08:44
16 a seminar that's -- that was standing room only. And
17 so, you know, there's other alternatives. But I would
18 like to see us get our meetings here, become a little
19 more robust in dealing with the concerns and dealing
20 with -- and maybe rearranging the schedule so we can 08:44
21 better adequately answer the questions from our
22 perspective or Edison's perspective.

23 DR. VICTOR: Okay. Thank you.

24 MR. BROWN: I'm done. But --

25 DR. VICTOR: No, no, that's a fair comment. 08:44

1 Let me just ask Tom. I'm really -- I need to 08:45
2 get Dan and Steve to actually put some of the questions
3 in the spirit of Gary's comments back to folks,
4 including Gary.

5 But I just want to say back to this Gary, that's 08:45
6 fair criticism. Let's have some discussion initially
7 offline about format and balance. I'll take
8 responsibility for telling Tom not to put the six

9 questions in the front part of his presentation, because
10 I thought it would be useful to hear in a little more 08:45
11 detail from Gary the main topic of tonight's
12 presentation. And so that was in error. And people

13 wanted those six items to be earlier and squeeze Gary's
14 time -- Gary Lanthrum's time, then that's helpful
15 feedback. So we don't -- so we are as responsive as 08:45
16 possible.

17 I guess Steve and Dan, within the limits of
18 time -- which I don't actually know what they are since
19 we're already 15 minutes over -- can you put a few of
20 the questions back to the folks here? 08:45

21 MR. STETSON: Sure. I'll start.

22 But first I really want to touch on the State
23 Lands meeting that just happened.

24 You asked me earlier, and so I think that I'd
25 like to remind everyone that the State Lands Commission 08:46

1 just had those two public hearing meetings. And if 08:46
2 you're still interested in making a comment, you could
3 do that either through email or in writing -- you have
4 till the end of the month -- you can -- they were
5 specifically looking for elements that may be 08:46
6 shortcomings in the plan that was put out. Also if
7 there are any concerns regarding mitigation, you can
8 address those as well.

9 So now a quick question: Tom, you mentioned --

10 UNKNOWN SPEAKER: 28th. It's not the end of the 08:46
11 month. The deadline's the 28th.

12 MR. STETSON: Thank you. August 28th is the
13 deadline. Okay. Thank you.

14 You mentioned that the canister did not fall.
15 If it did fall -- this is really in reference to Donna 08:46
16 and -- well, we know that it's designed not to crack or
17 if there is -- if there had been a leak, what would
18 you -- what would you have done?

19 MR. PALMISANO: Well, first of all, like you said,
20 the canister did not fall. The canister is designed 08:47
21 and analyzed for a fall from approximately 25 feet. So
22 the canister would not have been breached.

23 Now, let's -- hypothetically had a leak
24 occurred -- if any canister's damaged, you immediately
25 do a radiation survey to detect is there any radiation 08:47

1 or radioactive material being released. Then you notify 08:47
2 the appropriate authorities, if there -- radioactive
3 material is being released, which would be the NRC and
4 Orange County via the state so they can determine any
5 protective actions. Then you decide how to isolate it 08:47
6 as best can you from the environment. And then
7 typically -- again, as opposed to an operating reactor,
8 which is high temperatures and pressures and all of the
9 emergency plans are driven around that -- or a Fukushima
10 situation where you have high decay heats in a 08:47
11 reactor -- typically the contents of a canister are much
12 lower energy, temperature and pressure. You've got time
13 to plan how you isolate it, ensure the public is
14 protected and decide what the best course of action is.

15 DR. VICTOR: And people have said tonight that the 08:48
16 only option was a hot cell or the only option was a
17 spent fuel pool. My understanding is that the main
18 option would be to put it into a transport cask.

19 MR. PALMISANO: Well a transport cask, some kind
20 of -- we're coming up on Maine Yankee. I'm very 08:48
21 familiar with them. We've work with the Yankee group
22 all the time. They actually bought a canister or cask
23 that they could put a damaged canister in. They
24 haven't had to use it; it hasn't been licensed. We're
25 looking at the same thing for each -- for canister 08:48

1 designs. 08:48

2 DR. VICTOR: Okay. Thank you.

3 UNKNOWN SPEAKER: How about --

4 DR. VICTOR: Please.

5 Steve -- please. 08:48

6 UNKNOWN SPEAKER: -- these canisters --

7 DR. VICTOR: Steve Swartz, please?

8 MR. SWARTZ: Has Holtec offered to buy the waste

9 from San Onofre?

10 MR. PALMISANO: I'm sorry, I couldn't hear your 08:48

11 comments.

12 DR. VICTOR: The question is whether Holtech has

13 offered to, in effect, do what they're doing at other

14 plants, which is to take title to the spent fuel and

15 the decommissioning of the plant. 08:49

16 MR. PALMISANO: No, they have not for San Onofre.

17 MR. STETSON: Gary, there were a couple of comments

18 with reference to the applicability of the tests that

19 were run as they relate to the canisters that are in

20 place at SONGS. Could you -- with reference to being 08:49

21 full or empty, could you make some comments on that?

22 Further explain that, please?

23 MR. LANTHRUM: Sure. As I tried to indicate during

24 the presentation, the tests weren't to demonstrate the

25 function of the cask; the tests were to demonstrate the 08:49

1 accuracy and modeling. Some modeling was done on the 08:49
2 casks as they were tested. They were looking at
3 whether or not the models were accurately predicting
4 the outcome for the test conditions. The purpose was
5 to develop models and improve models for further 08:49
6 designs and further applications. So the test wasn't
7 intended to be an exact replication of an actual
8 shipment; it was designed to benchmark the models that
9 were used. And the models were adjusted based on the
10 test results and to have more accurate models. That 08:50
11 was the whole purpose of the testing program.

12 UNKNOWN SPEAKER: Now, you talked about --

13 DR. VICTOR: Excuse me, sir.

14 Steve Swartz -- sir. Sir. The purpose of
15 the -- as he's just explained, the purpose of test was 08:50
16 to help validate the model.

17 UNKNOWN SPEAKER: I know. But it's a joke. I think
18 the forum is a joke. He already said it was a joke.

19 DR. VICTOR: Okay. Steve Swartz, please?

20 MR. SWARTZ: Yeah. They want to know what are the 08:50
21 plans should we have problems on the site, and in
22 regards to if there's an accident, do you have -- is
23 there an emergency preparedness, personnel already in
24 place who know what they're going to do?

25 MR. PALMISANO: Yes, the site does have an emergency 08:51

1 plan. It was changed back in 2015 from an operating 08:51
2 reactor plan to a decommissioning plant plan. The plan
3 has criteria -- again, this is one a ten-second or a
4 30-second answer isn't going to be sufficient -- I'll
5 be glad to bring in a topic, explain -- the plan 08:51
6 basically monitors today the spent fuel pools and the
7 ISFSI for radioactivity release and a radiation event,
8 and has criteria, at which point the NRC and the state
9 and county are notified so they can determine the
10 protective actions for the local population. That's 08:51
11 how the plans are set up today. And they are in
12 effect. The site is staffed 24 hours a day with people
13 with that responsibility, to respond if something were
14 to damage the ISFSI or the spent fuel.

15 DR. VICTOR: Those questions came up in particular 08:52
16 in comments from Ramesh and Danika and many of -- they
17 and others have the same question. They can send it in
18 to this, you know, address or me. Let's make sure we
19 get, folks, pinned sites onto the website where this
20 information -- is this related to the point Gary Brown 08:52
21 just raised earlier about defense-in-depth. And the
22 whole idea was to create this evergreen, growing and
23 send information on what defense-in-depth really means.
24 But clearly somehow that is not working and getting
25 that information out. 08:52

1 Marni Magda, did you want to comment on this? 08:52

2 MS. MAGDA: I'm not sure if it is appropriate. I'm

3 just concerned that so many people mention moving the

4 fuel to the Mesa. And so I wanted to make sure -- we

5 just have the Cleveland Forest fire right now. And I 08:52

6 just wanted to make sure that everyone understands that

7 the other side of the Mesa has already had fire come

8 and destroy buildings on that side of the Mesa. And

9 it's also had flooding take out buildings on that side

10 of the Mesa. So when you want to move fuel to the 08:53

11 other side, you are not finding a safer place for it.

12 DR. VICTOR: So --

13 UNKNOWN SPEAKER: Yeah, you build it --

14 DR. VICTOR: Thank you very much.

15 I want to ask -- 08:53

16 UNKNOWN SPEAKER: -- above-ground storage.

17 DR. VICTOR: Excuse me. Can I ask Tom Caughlan, who

18 is the representative from Camp Pendleton and it's

19 their land to comment on this?

20 In addition, Tom, some comments were made 08:53

21 tonight to the effect that you were not plugged in to

22 decision-making on Camp Pendleton. So I don't know to

23 what degree you want to respond to that. But in past

24 meetings you've made a variety of comments about what

25 the Navy is actually planning here, whether the Mesa 08:53

1 site is open for becoming a spent fuel storage site. So 08:53
2 maybe you can comment very briefly about that.

3 MR. CAUGHLAN: You've got several things at work
4 here. First, about four months ago the Assistant
5 Commandant -- the Deputy Commandant of the Marine Corps 08:54
6 for Installations and Chief General Counsel for the
7 Marine Corps sent two letters, one to the Nuclear
8 Regulatory Commission to advocate for removal of the
9 fuel rods as quick -- all the fuel off-site as quickly
10 as possible, that the Marine Corps position was do it 08:54
11 safely, do it quickly, and remove the fuel permanently.

12 Where the fuel is stored on-site is the decision
13 of the NRC, and Marine Corps, as part of the executive
14 branch of the government has responsibilities to do
15 Marine Corps things and not a whole lot of technical 08:54
16 expertise on nuclear things, certainly not nuclear power
17 generation things. Nuclear defense things, sure.
18 That's decontamination, that's a different thing
19 entirely.

20 But in terms of where the site -- where that 08:55
21 fuel goes, we rely upon the expertise of the Nuclear
22 Regulatory Commission to say what is safe, what is
23 technically possible, what is good science, and how we
24 can get it out of here as quickly as possible. The
25 Marine Corps position is get it out of here as quickly 08:55

1 as possible. 08:55

2 Now, the next thing I've heard several times is
3 what about the security issue. The other letter went to
4 Southern California Edison for a detailed review, both
5 unclassified and classified, of the scenarios that we -- 08:55

6 that you might have to deal with in terms of on-site
7 response, emergency -- response to an emergency that
8 might occur to the deactivated decommissioned SONGS
9 plant, including the on-site storage as is currently
10 envisaged. I think that -- 08:55

11 DR. VICTOR: Thank you.

12 MR. CAUGHLAN: Does that get it?

13 DR. VICTOR: Thank you very much.

14 Steve and Dan, other major questions that need
15 to be addressed tonight? There's a lot that are going 08:56
16 to have to be addressed after tonight. And I want to
17 say a few words at the end.

18 MR. STETSON: Tom, there were a couple of questions
19 with reference to monitoring the heat as well. I
20 wondered if you wanted to comment on that now, and 08:56
21 maybe that could be something --

22 MR. PALMISANO: Well, just let me clear one thing
23 up. On my slide I talk about monitoring the ISFSI in
24 general from a security standpoint, ventilation and
25 heat standpoint and radiation standpoint. Monitoring 08:56

1 the temperature does -- nothing to do with monitoring 08:56
2 for a crack or release of radioactivity. So whoever
3 made that comment, if my slide was unclear or my
4 statement unclear, I wanted to make sure everybody
5 understands it. 08:56

6 You monitor temperatures to make sure the heat
7 is being removed from the canister. You monitor
8 radiation and radioactive contamination to make sure the
9 canisters are intact and not leaking something. And
10 then in the future we'll do the inspections to make sure 08:56
11 there are no cracks forming or through the wall, even if
12 it's not releasing radioactivity. So it's a complicated
13 issue. The temperature monitoring is not done to look
14 for radiation leaks. That's probably the biggest thing
15 I want to clear up. 08:57

16 MR. SWARTZ: Yeah, the last one I've got is that --
17 someone indicated that the regulations require dry
18 storage to be able to be retrieved, and these don't
19 have that capability. So are you in violation of
20 regulations? 08:57

21 MR. PALMISANO: So again, this is one that warrants
22 a longer-term discussion. The original licenses or
23 certificates retrieved -- retrievability.

24 Now, at the last meeting when we talked about
25 unloading -- or the first meeting of the quarter where I 08:57

1 talked about the shim issue and unloading a canister, I 08:57
2 may have confused the issue. I was not aware at the
3 time that anybody had unloaded a canister. We have
4 found one site that has an overbolted canister. It is a
5 similar process to a welded canister. Okay? And so it 08:58
6 can be done. It's done typically in a spent fuel pool.
7 So the NRC has changed their view of things in their
8 continued storage rule, which I'll be glad to bring in
9 and discuss more thoroughly. The NRC does not require
10 decommissioning plants to maintain spent fuel pools even 08:58
11 with dry cask storage. And I can refer you to
12 David Lochbaum of the Union of Concerned Scientists who
13 will tell you a spent fuel pool is not needed for an
14 ISFSI-only or decommissioned site.

15 Now, this warrants a broader discussion where 08:58
16 there's a chance for good dialogue and discussion on
17 this.

18 We're in compliance today. What AREVA is doing
19 on one of the old licenses for our older system is
20 cleaning up some of these requirements that NRC no 08:58
21 longer insists upon. I think that's where the comment
22 came --

23 UNKNOWN SPEAKER: That is a lie, Tom.

24 UNKNOWN SPEAKER: Stop lying. Please stop lying.

25 DR. VICTOR: Please. Please. Please. 08:58

1 UNKNOWN SPEAKER: Item 8 on your certificate of 08:58
2 approval requires the ability to unload back in the
3 pool. That license is captive now. That --
4 MR. PALMISANO: I agree with that. And as per
5 AREVA's -- 08:59
6 UNKNOWN SPEAKER: You're just -- get an exemption
7 after you get the fuel out of the --
8 DR. VICTOR: Donna.
9 UNKNOWN SPEAKER: -- that's great.
10 DR. VICTOR: Let me suggest that there's a 08:59
11 constructive way to --
12 UNKNOWN SPEAKER: No, when we had no opportunity --
13 DR. VICTOR: Let me suggest there's a constructive
14 way to handle this, which is why don't you send me a
15 letter with -- that -- your concerns -- 08:59
16 UNKNOWN SPEAKER: Because the people here are not
17 going to know the truth.
18 DR. VICTOR: Then we'll discuss it publically.
19 We'll discuss it publically and --
20 UNKNOWN SPEAKER: They won't be here next time 08:59
21 because --
22 DR. VICTOR: Well, actually, let me make a proposal
23 just inspired by Gary Brown's comments earlier, which
24 is it may well be that we should have our next meeting
25 not on a topic, but that we instead should have our 08:59

1 next meeting on the eight or nine things that keep 08:59
2 coming up, for which there's a range of views. And
3 some people think those questions have been answered,
4 other people don't. So we'll have a much more
5 sustained focused conversation that's not on a 08:59
6 particular theme. And that could be a constructive
7 thing for us to do.

8 I will welcome comments from the panel members,
9 comments from the public about whether that's a good
10 idea or a bad idea. So please send them in to me so 09:00
11 that we can have a structured conversation with --

12 UNKNOWN SPEAKER: May I answer that?

13 DR. VICTOR: Just a second.

14 UNKNOWN SPEAKER: Because it might shift the public
15 comment period if in the future active forum per 09:00
16 topic --

17 DR. VICTOR: This --

18 UNKNOWN SPEAKER: -- we should talk back and forth
19 with you guys instead of --

20 DR. VICTOR: I understand. 09:00

21 UNKNOWN SPEAKER: Excuse me. Engage the community
22 and --

23 DR. VICTOR: Okay. I need to put two questions to
24 Gary Lanthrum. It's --

25 UNKNOWN SPEAKER: It's only constructive for 09:00

1 Southern California Edison. It is not in any way 09:00
2 constructive for --
3 DR. VICTOR: I understand. I --
4 UNKNOWN SPEAKER: No.
5 DR. VICTOR: -- understand the sentiment, sir. I 09:00
6 understand the sentiment.
7 Gary, I want to ask just two questions to you
8 that came up tonight that I think are very important
9 while we have your expertise here. One of them is a
10 question that is about whether the record of spent 09:00
11 nuclear fuel shipments is misleading because basically a
12 tiny fraction, maybe one percent, of that fuel has been
13 moved and the rest of it remains to be shipped. And the
14 other question is about the hazard analysis that you
15 showed, about whether that is based on historical 09:00
16 record, because if one bases everything on historical
17 record, that's not a real representation of the real
18 hazards. So I want you to say a couple of more
19 sentences about how that kind of hazard analysis gets
20 done, is it just calibrated from the historical record 09:01
21 or if it's based on a larger fault analysis.
22 MR. LANTHRUM: The -- the hazard analysis is not
23 done just on the historical records of accidents that
24 have happened; it's done on the analytical work about
25 what the consequences of a hypothetical accident are. 09:01

1 The NRC requires that for spent fuel transport, 09:01
2 unlike other hazardous materials, you have to analyze
3 for severe hypothetical accidents, not just for normal
4 conditions of transport. So even though a small portion
5 of fuel has been shipped, the analysis has been done 09:01
6 both for high burnup fuels and other fuels for a severe
7 hypothetical accidents. And so there is coverage for
8 the full range of material that needs to be shipped
9 within the constructs of the regulatory frame.

10 DR. VICTOR: Okay. Thank you very much. 09:01

11 MR. LANTHRUM: So it's not just based on what has
12 happened to date.

13 DR. VICTOR: So I want to close by just commenting
14 on two efforts that are under way right now that didn't
15 get as much attention tonight as they should have. 09:02

16 One of them is that there has been a petition
17 and a lot of very important discussions in the
18 communities about extreme events, these extreme hazards,
19 with a whole range of types: What are the worst things
20 that could happen? What would be the impacts? What are 09:02
21 the remediations and so on. That's a very important
22 conversation. That conversation is now taking shape.
23 We had a meeting planned earlier this week that got
24 rescheduled because some folks needed more time to
25 gather documents. It's now looking like it's going to 09:02

1 happen in October, the planning meeting. And there will 09:02
2 be a workshop that the CEP sponsors this fall on exactly
3 this topic so that we can look at extreme events,
4 including public comment and structured -- some
5 structured interaction and dialogue and so on. So 09:02
6 that's the agenda that we're working on. We have made a
7 special point of inviting several members of the
8 community who have been organized around this in various
9 ways to help with the planning of that workshop. And
10 that process just takes a little bit longer. But I 09:03
11 think it's really important, because it's one of the
12 different ways of engaging the community.

13 Related to that meeting agenda is going to be
14 some discussion around radiation, radiation effects,
15 which is part of the petition that Gene Stone and others 09:03
16 have been involved with. And that relates to the other
17 activity that underway, which is realtime monitoring.

18 This is very, very important. A bunch of us are
19 spending a lot of time on this. We have put a lot of
20 pressure on Edison to be responsive about this and to 09:03
21 come up with a game plan. Clearly this is going to be
22 far beyond what the law requires them to do. And I
23 think it's important that they be responsive to the
24 public in that domain. And a lot of people made a lot
25 of comments about that tonight. 09:03

1 I do want to underscore that if and how this is 09:03
2 done, it has to be done in a way that makes scientific
3 sense and has integrity to it. So we have to be a
4 little careful it just doesn't come across as a bGeigie
5 advertising campaign, "I had a great time, sorry, my 09:03
6 bGeigie, and other people have them," and so on. My
7 guess is that the requirement for calibrated instruments
8 and -- and audible data will mean they're going to be
9 using different kinds of technologies. So let's go into
10 the conversation with an open mind about how we create 09:04
11 realtime information available to the public that's
12 credible -- is the key standard -- and be mindful that
13 the standard that is going to be applied by the people
14 in the industry, including Tom Palmisano and his
15 colleagues at Edison, is going to be a standard of 09:04
16 industrial-grade equipment, which includes the capacity
17 to audit, the capacity to calibrate instruments and so
18 on.
19 So that's very important. We have to be mindful
20 of everyone's different perspectives on this as that 09:04
21 conversation unfolds, because we can easily talk past
22 each another and that would not be a constructive thing
23 to do.
24 I want to apologize profusely for running
25 35 minutes over tonight. But we've got a lot of 09:04

1 important things that have been raised. And clearly one 09:04
2 of the messages tonight is we've got to find a way to
3 have an even fuller discussion on some of these
4 questions in addition to topics. And so I would welcome
5 your feedback, not just in the substance of what Edison 09:05
6 should be looking at but also in looking a the process.

7 UNKNOWN SPEAKER: What you need --

8 DR. VICTOR: And with that, I urge you to drive
9 safely as you go home.

10 (The proceedings ended at 9:05 p.m.) 09:05

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[monitoring - nextdoor]

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[public - railcar]

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[railcar - reinhardt]

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[reiterate - responsibility]

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