CEP REGULAR MEETING

SONGS Strategic Plan Update and Decommissioning Status

Via Skype, Thursday, November 19, 2020

TRANSCRIPT OF MEETING

November 19, 2020

Reported by:

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SAN ONOFRE DECOMMISSIONING

COMMUNITY ENGAGEMENT PANEL MEETING

STATE OF CALIFORNIA, COUNTY OF ORANGE

Transcript of video-recorded meeting, taken via Skype commencing at 5:30 p.m., Thursday, November 19, 2020.

COMMUNITY ENGAGEMENT PANEL MEMBERS:
CEP CHAIRMAN - DR. DAVID G. VICTOR
UNIVERSITY of CALIFORNIA, SAN DIEGO

VICE CHAIRMAN - DAN STETSON
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CEP SECRETARY - MARTHA McNICHOLAS
CAPISTRANO UNIFIED SCHOOL DISTRICT BOARD OF TRUSTEES
HON. JOHN TAYLOR
SAN JUAN CAPISTRANO CITY COUNCIL

HON. PAUL WYATT
CITY Of DANA POINT
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CAPTAIN MEL VERNON
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TED QUINN
AMERICAN NUCLEAR SOCIETY
KATHY WARD
DOUG BAUDER
RANDALL GRANAAS
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TOM ISSACS
JERRY STEPHENSON
RON PONTES
MANUEL CAMARGO

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Via Skype, Thursday, November 19, 2020

CHAIRMAN DAVID VICTOR: Good evening, everyone. It's the 19th of November 2020. Unusual times. My name is David Victor. I'm the chairman of the Community Engagement Panel. I wanted to thank everybody for spending your evening with us tonight. This meeting is being recorded and as is our custom, the entire meeting and all the documentation will be put up on songscommunity.com and the documentation for tonight's meeting is already posted there last Friday, November 13th.

Before we get into the meeting, I want a word on safety. We're not together for understandable reasons but -- and the virus continues to rage. Governor reported 51 percent increase in cases in the first week of November so I urge everyone to protect yourself and your families, wear masks, do social distancing, get tested where that's available, and we are going to get through this, and I look forward to our first Community Engagement Panel meeting all in person whenever that may be feasible.

Thanks everyone for joining us tonight.

Thank you to the CEP members and also thank you to the staff that do so much to make these meetings feasible. It's an especially heavy lift during these times of social distancing.

Julie Martinez who is on the line with us from San Onofre will advance the slides remotely. There's a single deck, that deck as I mentioned earlier, was posted already last Friday.

I wanted to remind everybody that the community Engagement Panel is designed as a two-way conduit between the communities that are affected by decommissioning of the San Onofre plant and operator of that decommissioning process Southern California Edison. It's a two-way road, and I think we have demonstrated the importance of thinking about this and acting on this as a two-way road.

Could we go to the next slide.

The agenda is upon the screen. We're going to have some initial marks, we're going to have a big picture on where we are with the decommissioning process from Chief Nuclear Officer Doug Bauder who is with us tonight. We'll have an update on dismantlement work. We're going to have a brief discussion about the sea level rise

question and its implication for onsite spent fuel storage, so called ISFSI. That's a topic that came up in earlier meeting, and we committed to get back to the public on those assumptions and particularly the extreme sea level rise assumptions, and we'll have that information tonight.

We'll have an update on the radiation monitoring that has been done on the NUHOMS outlook fence, so this is the horizontal storage system, the original storage that's there. There's been quite a lot of monitoring done on that topic. Least but certainly the most important tonight is an update from the experts on the development of the strategic plan, and that's a conversation we're going to begin tonight, and it's going to continue on through the first quarter of next year.

And the strategic plan just as a reminder to everybody is a program that's going to layout different options and approaches physical and also political approaches to accelerate hopefully the movement of the spent fuel from the ISFSI here at San Onofre to safe, interim, and permanent locations for its storage an disposal.

For the discussion during the presentations if CEP members that would like to ask questions, just unmute your microphone and then I'll be able to see that and call on you when there's a break, and if you don't feel seen, then holler, and you'll be heard, and then I'll make sure you get your question in.

There's a whole hour for public comment and facilitated public dialog at the end. One of the things we've done, although that's at end of the meeting, we put a larger amount of time after that so we can have some back and forth with the experts that we have with us tonight on the strategic plan.

So if we go to the next slide that is welcome and opening comments, and I want to give the floor first to Doug Bauder for any opening comments that he may have.

DOUG BAUDER: Thank you, David. I will be short. I would like to also reiterate your message regarding COVID. We are definitely sensitive to it here. I'll talk a little bit more about that when I talk about safety. There's a portion of that slide that I'll talk to our COVID actions here at the station.

I too share your sentiment that, you know, it's too bad we can't get together physically but it is how it is. We'll dealing with it. I think we're getting better with dealing with questions in a real time fashion. We got a template we're using for this meeting, and we should be able to, I think, with everybody remotely dialled in, be quite prompt in answering questions at the point that they're asked or very close to when they're asked.

That template is available to the public as well to document whether somebody wants to speak or ask the question, and we can be able to get right on it. That's all I've got for opening. Thank you.

CHAIRMAN DAVID VICTOR: Excellent. Thank you very much.

I want to go to slide 4, and thank two members of the Community Engagement Panel who are retiring. First Rich Haydon on the left, an action photo of Rich Haydon at one of our meetings, action-packed meetings that we have, who has been on the Community Engagement Panel since the very beginning. He's served the public by the state parks for 27 years, state park

superintendent for three local leaches, including San Onofre since 2008. I want to really thank Rich for his service to this panel.

Mark Riddlebarger who is the California State Parks emergency manager and in the Orange Coast District is going to fill in for Rich until permanent replacement is found, and I want to welcome Mark, who is with us tonight for his first CEP meeting.

And on the right side Paul Wyatt who chose not to run for re-election, he's been a member of the CEP since 2016 representing the people of Dana Point. One of his efforts in the council there at Dana Point has been working to prevent homelessness. He's been an extremely valuable member of the CEP and I want to thank him for his thoughtful contributions along with Rich, and a successor to Paul will be determined in Dana Point in January.

So I want to go now to --

DOUG BAUDER: David, if I could make a couple comments here as well regarding especially Rich, Rich's service to State Parks, but also helping us coordinate activities at the site. One of the thing we value is collaboration for beach

usage, which -- for which the access point is up here in parking lot 4 and Rich has helped over the years to do that to provide that flow and that coordination.

Also more recently when we ship the unit 1 -- successfully ship the unit 1 reactor pressure vessel off site, Rich was involved in helping us with traffic patterns to make that successful and also helped us with allowances for us to do the engineering calculations with the heavy load path, so thanks to Rich for that.

I echo your statements regarding Paul, so thank you, Paul.

CHAIRMAN DAVID VICTOR: Just two opening comments by way of process tonight. If you want to submit questions and/or sign up for making a public comment, you can click on that link there. You can also go to the chat where you'll find when somebody puts the information back in there, you'll find the link, which is a simpler link under item 2 here, if you want to sign up for public comment, just fill in the question form there, and we'll put you on the list. Questions that were submitted in advance of this meeting via the NUCCOMM e-mail address, the standard e-mail

address we have on songscommunity.com, those questions are going to be addressed first, answered, and then we'll go to the public comment period as well.

Dan Stetson and Martha McNicholas are going to review the comments and facilitate the discussion. I want to thank them in advance for doing that. I know that's a very complex task.

Go to slide 6, please.

DOUG BAUDER: Okay. Thank you, David. Yeah, as I mentioned earlier I would speak a little bit about the COVID-19 update for SONGS. Once again we implemented a pretty strict pandemic protocol at the station. We've revised it over time. We had no person-to-person transmission at work, but we have had cases where employees and workers contract the virus, and then it's reported to us and all those cases involve contracting the virus outside of work.

We've had actually four new infections in the last two weeks which somewhat mirrors the increase of cases that we've seen broadly across the state and the country. When we do get a case we evaluate when we quarantine the employee or employees' coworkers, what the effect on work

would be. Our primary focus is safety, and we have done that in some cases, we have scaled back or stopped particular tranches of work and quarantined employees until we could verify everybody was healthy through testing and we could return back to work.

So that's what we're in now. We never anticipated this would take -- we'd in the tenth month of this, but we're ready to continue working with our protocol and continue keeping safety top of mind as we do that. And I'll just encourage everybody to use the link songscommunity.com. We provide a lot of updates on the website, much more detailed information that goes out with the community flyers.

Next slide, please. We're up to community updates.

CHAIRMAN DAVID VICTOR: Yes, I think so. Excellent thank you very much, Doug.

I want to pause for a moment and see. I'm going to talk in a little bit about a couple of items that have come in but I want to first go to Dan and Martha and see if there's any items they want to flag in terms of general community updates, and then I'll go to CEP if there's

anything else that the members of CEP want to mention.

Dan?

DAN STETSON: David, I don't have anything at this time, thank you.

CHAIRMAN DAVID VICTOR: Okay. Thank you very much.

Martha?

MARTHA McNICHOLAS: No. I'm looking at some of the question that's were submitted prior to the meeting, and it looks like most of them have been answered in previous CEP meetings or answers are on songscommunity.com. I wanted to point that out to anybody who is submitting questions.

CHAIRMAN DAVID VICTOR: Okay. Thanks. Maybe what we can do is cluster some of those questions when we get to the response period and just identify what the nature of the questions and where and how we're going to provide response to those even though the questions may have been addressed in earlier meetings and other places.

So thank you very much for that.

I want to pause for a moment and see if any other CEP members want to provide any general

updates before we get into the full of our meeting.

Okay. I don't see any microphones coming off. If we could go to the next slide, please.

By way of awareness, three items here, one is that our last CEP meeting there were some questions regarding Native American cultural resources at the disposal facility in Clive, Utah that's where all, not all but most all of the material from the site will be going. I visited there this summer, and the answer to that question is there was an investigation as part as the environmental impact statement, and we put that EIS online on songscommunity.com, and there's also a link here. If you go to the meeting materials for tonight's meeting, you click the link, it should take you directly to that.

Similarly, we received a letter from Kris Singh, who is the CEO of Holtec, clarifying comments that were made at a 2014 CEP meeting, I believe this was the workshop where a number of issues were raised about the repairability of canisters and so on. That's something I've addressed multiple times in various ways, despite continued misinformation about what was said in

the context of that. And Kris Singh felt important to send a letter on that matter as well and that letter is available online.

Last, we had at our meeting on outlier events where there was a lot of discussion about terrorist risks in particular. One of the questions that came up with was whether the Nuclear Regulatory Commission was continuing its rule making process on changing or adjusting, tightening perhaps rules related to security at the ISFSIs around the country.

This may not be relevant to us because the ISFSI here is already operating with its own procedures that are tighter than the NRC rules and we have a letter that came from Edison to the Community Engagement Panel to help the public understand that within the limits of safeguards, within the limits of what you can talk about publically because you don't want to tell the enemies what you're doing.

So we wrote to the NRC, the NRC wrote back to us a kind of lengthy complex letter that says, in essence, they're still looking at it but they're not sure what they're going to do, and that letter is online. So I'm not sure you're

going to get profound insight from that letter. But I'm grateful to the NRC for responding to our inquiries.

I want to pause just quickly for a moment and see if there are any other CEP questions about this before we go to the first briefing on the big picture on decommissioning at the site.

Not seeing any, I'm going to give the floor back to Doug Bauder who is going to talk about the big picture, macro picture of what's happening at the San Onofre site.

Doug, the floor is yours.

DOUG BAUDER: Thank you, David and Sanjay, if you could advance the slide please, and then just go right through the next slide, if you don't mind.

We talk about our decommissioning principles at every meeting and try to tie that back into our work. Safety is number 1. Safe and prompt deconstruction, defense-in-depth for the storage of nuclear fuel and then, taking actions to relocate the fuel off site, and you'll hear more about our strategic plan later tonight, in fact, that's the main -- one of the main topics of this meeting.

Next slide, please. So a couple of key activities going on at the station, and you'll hear Vince talk more about some of our key decommissioning activities, first, we've been successful in shipping enclosed rail cars with low level waste off site. And we'll be shipping many of these rail cars over the next several years.

And I want to reiterate again the environmental benefit of doing that. It takes about six trucks, six fully loaded trucks to equal one rail car and so in addition to that, we minimize the effect on the highway system and the like. So we anticipate thousands of rail car shipments over the course of the decommissioning project.

We just started but we've been successful in doing that. We will be expanding rail spurs on the station so that we can improve the efficiency of the shipments, and we're doing work inside and outside the containment domes. Once again, Vince will talk more about that later tonight.

With respect to the onsite storage of the nuclear fuel, Ron Pontes will discuss sea level rise as the follow up from the second quarter, CEP meeting and Randall Granaas and Dr. Eric Golden

will discuss the results of the rad surveys that we did on the NUHOMS system as you mentioned earlier, and we had those performed by a third party. That was actually a commitment I made during the last CEP meeting to do those surveys.

Skype does not -- this Skype format right now does not support video play back of the surveys themselves, but the videos for the rad survey are available through a link or SONGS community website, so please I would encourage if you want more information on those, to look at the video.

And then regarding the strategic plan, we have members of the North Wind team here to talk directionally about the strategic plan to relocate spent nuclear fuel, and then we'll bring them back to the first quarter of next year to complete that discussion as we complete the plan.

Sanjay, if you can advance the slide to the next to number 12. Here we go. Thank you.

So every quarter we issue these quarterly decommissioning updates, the flyer that goes out to the community. We post the exact same information to the website plus some. And we spell out really what's going on at the station.

When I came back to SONGS, I committed to this group that I would be very transparent and open about what happens at the station, and my desire to continue to do that. First what we care most through decommissioning is worker safety, and every quarter of the update we write about that as our top priority, and this is true across any industrial site, especially here in SONGS when we're involved in detailed decommissioning activity. We want all of our workers to go home healthy and safe just as in the condition that they arrived at work, maybe a little tired from working but healthy and safe.

Earlier this week during an excavation activity at the station, the excavating device contacted an energized electrical cable. Based on that event, we immediately halted the work. Nobody was hurt but in looking at the event, we see opportunities for improving our processes for future excavating activities.

We are evaluating the event and applying lessons learned to keep our folks safe while they're on the job. So once again, no worker injury but we stopped and we'll be sharing information about this what we call a dig-in event

on the website and maybe in future meetings if there's more requests about it.

Overall our industrial safety record at SONGS has been strong, but it's an area where we have to continuously improve. We recently posted an article to our website on the critical safety role of fire watching while we're doing hot work, and hot work is work that involves cutting metal mostly where you have to put up a lot of detailed industrial controls.

So I would encourage folks that are interested in that to take a look at the website, and we have an article there about hot work, and it's important to safely doing the work.

So once again, in these categories of safety, we place a high priority and that includes industrial, environmental safety, environmental monitoring, and we'll talk a little bit more about the detail of work that's going on at the station tonight.

With that, I think I'll hand it over to Vince. You're on Vince to dive right into the work.

CHAIRMAN DAVID VICTOR: Let me just, since Vince is getting started there I want to

mention these quarterly updates are very helpful. I'm asked periodically to ask about our experience in San Onofre in the Community Engagement Panel, and I did it most recently, actually this morning before a panel of the American Nuclear Society we put together, and they had the members of the CEP from Zion just north of Chicago, Vermont, Yankee in Vermont surprisingly, and this is one of the best practices that's emerging in the industry the credibly important multiple ways of engaging with the public and getting the information out there.

I also learned today that they have a video flyover of what it looks like at the Zion site to take the domes down and to complete the dismantlement process, so we should get that and figure out how we can get video privileges on the Skype system so that we can show people these time lapse what it would look like as the domes come down and so on.

Let me give the floor to you, Vince, for the decommissioning update.

VINCE BILOVSKY: Thanks, David. If WE could go to the next slide, please. Okay. Great.

So looking at the major work streams for the project, we started the first two on the list

here which the initial stages of component and systems dismantlement. Right now most of that work is happening inside the containment building domes, and that work will continue for the next four years until those buildings are empty. If you look at the third line item earlier -- early next year will start the demolition of some of the peripheral buildings and I'm talking about those that are outside of where the containment domes are located.

And then later next year we'll start dismantling the Turbine island, which is the fourth line item there, and that's a high level look at the schedule.

If we can go ahead and advance to the next slide, please. Okay. Great. I'll mention some of the specific activities that we recently completed. First, is the removable of friable asbestos cable in the central power block area. We also removed several of the tendon cables from the unit 2 containment building, and I'll talk more about that later in a slide that has some pictures. We've also extended the rail line so we can get cars right up to the center of the plant so we can load and ship out the waste. Now moving

down to the current activities. These are rather broad but mainly we're doing a lot of things that will give us more space inside the containment domes and allow for better accessibility and we're doing these things to prepare for the removal of large components, like the reactor vessel, the steam generators, and the big pumps.

So if we can go to the next slide, please. As I mentioned earlier, we'll start the demolition of the peripheral buildings early next year, and these are the ones that are highlighted in red on the top diagram.

The bottom picture, the red highlighted area shows the location of the Turbine island. That work will start later next year. And the Turbine island has a lot of the big heavy components that get dismantled first, so the actual building structures won't be taken down for a few years.

Now I've gone back to that top picture. The administrative building is circled there. And that will be one the first buildings to come down, and if we go to the next slide, I'll explain why and this goes back to something that Doug mentioned earlier. If you look at the bottom

drawing there, that's a drawing of the plant and if you look at their red square where you see the green arrows pointing at the location there, that's where the administrative building currently stands and once that building is removed, new rail tracks will be put in that space, and that's what's shown on this drawing here.

Right now there's only one track coming in to the plant, and so we're limited how many cars they can get in and out. Adding new tracks will allow us to stage more rail cars and increase the volume of shipments that go out to Clive, Utah. And on the top of this slide is a picture of that first rail car that was shipped out a few weeks ago.

So we're going to the next slide, please. Okay. I mentioned the tendons earlier. These are tension cables that embedded inside the containment dome concrete. They go around the sides of the dome horizontally and over the top vertically. They existed as one of the design safety features for operations. So in the absence of an operating reactor they don't have any function.

On the left picture, we're depicting a

transparent view of a containment dome, and it illustrates where some of those tendons are located. They're not all shown in this picture. There's actually 204 tendons in each building. Over on the right we see the inside of the gallery where the vertical tendons terminate. That's the location where the vertical tendons get cut and pulled out of the containment building.

This is a major activity that we need to perform before we can increase the size of the building's opening, and that's because detensioning of those cables needs to happen before we can cut through the concrete and expand the hatch. That's on each one of those containment buildings.

If we can go to the next slide, please. Okay. Here we are deep inside the middle of one of those containment domes if you look at left picture inside that red box is where the reactor is located, you can see where there's a lot of stuff around it. Those blue circles structures are interferences, and they need to be removed so there's enough space to get tools and crew inside so they can cut up the reactor.

On the right side -- on the right is a

picture of the reactor head. It's a close-up pictures, and that's inside the cavity where the reactor it located. The head is the top part of the reactor, and the reactor itself is not visible here. I'll show it in a later side. It's just below the head, and it goes down about 25 feet. Currently this cavity area is dry, but it will be flooded, and I'll show what it looks like in a couple of slides. Let's see. So I think you already advanced.

So we'll go ahead to the next slide here the preparation for cut up of the reactor vessel internals. This is showing some of the tools that will be used to cut up the reactor internals, which will all be done under water. All of this equipment will need to be brought into each of the dome buildings. This is showing a small portion of the tools. There's actually quite a bit more that needs to go in.

So let's go ahead and go to the next slide. This is just a schematic that shows the primary system piping and components. The reactor is in the middle, and it's surrounded by the steam generators and pumps, which are all connected by large pipes. Right now we're in the process of

cutting all those pipes using a diamond wire saw tool, and when we're done with that, we'll seal them off so we can flood up the reactor cavity. That way none of the water will be able to flow into the rest of the primary system.

If we can go to the next slide, please. So here is where the flooded up reactor cavity is. This picture was taken about a decade ago during a refuelling outage. This is what the reactor cavity will look like when it's flooded up again next year.

So in -- down in this you can see the reactor without the head, and behind it is where we're going to install all of that cutting equipment that was shown in the previous slide. All of the operations for cutting up the insides of the reactor will -- it's going to be done right there next to where you see the reactor, and if you look inside you can see the glow from the radiation inside the reactor. This was probably taken soon after a shut down, so it was highly activated at the time.

And I think we can move over to the last slide, please. I want to make a quick comment about work or radiation exposure. What we're

showing here is the federal occupational dose limit, and that's NRC dose limit, which is 5,000 millirem. Here at SONGS we impose our own stricter limit of only 1500 millirem.

Last year and this year not a single worker has come close to that administrative limit of 1500. We could extend it higher, but we don't have the need and don't really see the need to do that. The average worker and the average worker being someone who goes into radiological areas on a regular basis got less than 50 millirem last year. I think it's close enough to the end of the year this year that I can say with confidence that that also be true for this year too, so the average worker is receiving less than 50 millirem of dose, which is very low.

So that's what I have for presentation today, and I'll be happy to take any questions from the panel.

CHAIRMAN DAVID VICTOR: Excellent. Thank you very much. I want to see -- pause for a moment and see if there are any questions before we move on.

John Taylor.

JOHN TAYLOR: Yeah, Vince, I wondered

what's the purpose of flooding the reactor chamber?

VINCE BILOVSKY: The reactor, the internals, the insides of the reactor, the actual reactor have a lot of activated components so they're more radioactive than anything that's left in the plant right now, so it's not a lot of volume of material, but the water provides shielding so when you're doing the operations, you're not getting much of a radiation dose.

JOHN TAYLOR: And then later on will we do a release like we did for the reactor water that we did prior to this?

VINCE BILOVSKY: Yeah, it will be filtered continuously, and it will be brought down to acceptable levels, so just about all the radiation and radiological particles will be filtered out of the water.

CHAIRMAN DAVID VICTOR: Okay. Thank you, do you have a comment, Vince, about how long the releases will continue? Is that a matter of a few years or can you give us a timeline?

VINCE BILOVSKY: I would hand that off to Ron Pontes and ask him during his presentation, if that's okay?

CHAIRMAN DAVID VICTOR: Ron, did you want to talk about that right now?

RON PONTES: What was the question?

CHAIRMAN DAVID VICTOR: The question is how long the batch releases will continue.

RON PONTES: We're expecting those batch releases to continue for the water that we have on board of the plant today and the water that will be in these reactor cavities for the cut up to continue to about 2024, IN that time frame. We'll be finishing up all those releases by then.

CHAIRMAN DAVID VICTOR: Okay. Thank you, thank you very much.

I'm not seeing any other questions from the panel, so I'm going to go now slight difference in order from the agenda that's in the top of the slide deck we're going to hear from Randall Granaas and Eric Golden now about the monitoring of the horizontal storage system.

So I think, Randall, I'm giving the floor to you.

RANDALL GRANAAS: All right. Thank you. So I'll be presenting the first few slides and then turning the presentation over to Dr. Golden of our radiation protection group.

Next slide, please. So why did SCE survey the outlet vents, so those of you who watched the last CEP meeting probably already know the answer. And for those didn't watch the last meeting as a refresher during the August 20th CEP meeting Donna Gilmore asked about a survey of the outlet air vents of the NUHOMS dry fuel storage modules. And from our website the contention is the NRC and Southern California Edison continue to refuse to provide the radiation levels from the outlet or the rooftop air vents that aging AREVA NUHOMS thin wall canister systems at San Onofre.

And the San Onofre canisters are only 5/8 inch thick and some are already 17 years old, what are they hiding?

So I'll note that directly measuring the outlet air vents is not necessary as surveying area accessible from a ground level will identify radioactive contamination in the unlikely event of canister leakage, but as Doug mentioned earlier, we decided to survey the vents to satisfy these lingering questions and put to rest this information or misinformation, sorry, about the NUHOMS dry fuel storage system.

Next slide, please. So in this slide you

can see the location of the outlet vent on the top of the storage module where warm air -- that's correct -- exits the storage module after passing over the canister.

Next slide, please. So this slide shows San Onofre NUHOMS storage modules, and the single module array is shown on the left in the back-to-back module array is in the center, and the array configuration determine how the outlet vent was physically accessed as well as the measured radiation levels at the vent.

And as you might expect the measured radiation levels were higher for the back-to-back module array for which two canisters share an outlet vent. Also, the modules in the single row have a little more radiation shielding.

The photo in the lower right corner shows the final technics radiation protection technician surveying the outlet vents for the back-to-back module array, and for the back-to-back array an outlet is used to access the roof.

Next slide, please. Okay. So the photo in the top upper right corner shows the scissor lift used to access the single module array outlet vents. The top center photo in this slide shows

the technician surveying for loose radioactive contamination, and if it looks like he's using a mop similar to a dry mop used to clean a wood floor, that's because he is. Surveying for loose radioactive contamination is similar to looking for dust or dirt that you can't see with the naked eye, and similar to dust and dirt, loose radioactive material can be spread when someone walks through it.

And the two photos on the left the technician is measuring radiation that penetrates through the canister cell and concrete similar to a chest x-ray, and similar to a chest x-ray, this radiation can't be spread and decreases with distance and shielding, and so now I'm going to turn the presentation over to Eric to discuss the survey results.

ERIC GOLDEN: Thank you, Randall.

RANDALL GRANAAS: You're welcome.

ERIC GOLDEN: Good evening, everyone. I'm Eric Golden. Randall has done a great job describing the NUHOMS modules and the design and how the survey was conducted. I would like to go through some of the results of this survey and hopefully describe what the results mean for us.

The first slide shows a portion of a table because the surveys were conducted on every single one of the 51 NUHOMS modules, and the survey was used meters that can measure down to background levels, environmental levels of radiation and also used meters that can assay for airborne radio activity.

And as Randall described, there was also an assessment done at each outlet vent for contamination. I would like to point out that the difference between radiation and radioactive contamination is that radiation is the energy emitted and contamination is the radioactive material where it's not wanted.

So you survey for radiation and that tells you what is being emitted from the canister and contamination might be any indication of airborne radioactivity or material that has leaked.

The next slide shows the outlet vents, and the technician surveying, and these are the results from the outlet vents. You can see that the single row of modules that Randall described the radiation levels were from .04 to .06 millirem per hour at the outlet vents.

The double row ranged from .05 to 0.3

millirem per hour, and that's because the double row has essentially twice as much of a source. There's back-to-back canisters and so slightly less shielding due to the adjacent air outlet vents, so you get higher dose rates on the double row modules.

Inlet vent readings are also quite low, but they're higher than the outlet readings because of the design of the system, and there's greater shielding at the outlet vents. There was no contamination found on any of the 51 outlet vents, which indicates that there has never been any leakage from the canisters, and there is no indication of any airborne radioactivity at any of the 51 modules.

The next slide shows a survey that's done every quarter of the NUHOMS system, the inlet vents and actually the whole area in front of the NUHOMS modules. The radiation levels at these inlet vents range from about .2 to .85 millirem per hour and no contamination has ever been detected on these modules. The levels are low enough such that a radiation area posting is not required according to federal regulations and this quarterly survey, if you can see it, in blue the

handwritten readings are actually in micro rem per hour which is 1/1000 of a millirem per hour, that's why it looks like a higher number.

The next slide, please. Okay. In addition to the quarterly surveys. There is a monthly survey of the fence line around the entire ISFSI facility both this NUHOMS system as well as the newer Holtec pad, and the results of the monthly surveys show that the spent fuel does not contribute to any radiation exposure toward any place where a member of the public could go.

The numbers are, as you can see in the table, about 0.01 millirem per hour at any publicly accessible boundaries, and background in the San Onofre site along the beaches around this part of Southern California is about 0.01 as well, so the conclusion is that there is no increase in the radiation exposure due to the presence of all the spent fuel storage.

I point out that the federal limit for members of the public is 25 millirem per year. That's an EPA limit above background and our annual reports show less than 1 millirem per year so we're way, way below the federal limits.

The next slide is just a reminder, if it

comes up. There you go. A reminder that there is a continuously operating radiation monitoring system at the ISFSI with three monitors within strategic locations of the ISFSI pads, and a control monitor that's some distance away so that you can make comparisons between the radiation levels in the facility, and outside the facility, and reports are published monthly by the California Department of Public Health Radiological Health Branch, and you can access those. Their link is on that slide and see what the radiation levels are, and note that there are no trends upward or anything untoward.

And there's a lot of additional information on that website that's provided on the slide.

That's all I have. I can hopefully answer any questions that are raised. Thank you.

CHAIRMAN DAVID VICTOR: Excellent. Thank you very much. I want to see any of the CEP members are questions or comments right now and also want to thank our friend Gene Stone, a former member of the CEP, for help getting this system real time monitoring up and running. It's now happening.

Ted Quinn, the floor is yours.

TED QUINN: Sure. I wanted to ask Randall and Eric if the configuration of the canisters with the vent, there's no mode of force, so it's just natural circulation, right, the way it would work on the airflow?

RANDALL GRANAAS: Yeah, Ted, it's Randall, that is correct, no forced air, all natural convection.

TED QUINN: Great, thanks.

CHAIRMAN DAVID VICTOR: Ted, any other questions? You got --

TED QUINN: All set.

CHAIRMAN DAVID VICTOR: Let me go to John Taylor, please, floor is yours.

JOHN TAYLOR: I wanted to ask you mentioned that the ISFSI monitoring is done quarterly. Have these reports been available to the public, and if so, I would wonder we wouldn't have Donna Gilmore being so -- putting out misinformation if those reports were available. Is that -- can you address that, please?

ERIC GOLDEN: I'll take a crack at that, the survey -- the surveys themselves are not publically available. However, San Onofre

Southern California Edison publishes an annual radiological environmental operator report. That's quite a mouthful, but it's the AREOR, and those reports are publically available. The most recent ones are on the SONGS community website and the older ones are available on the NRC's website, and within that report you can find survey data that reports annually what the radiation exposure levels are around the ISFSI as well as other locations around the site and in the local community.

RANDALL GRANAAS: Eric, I can also add that the NRC surveys when they come out, sometimes they bring their own meters and those are in the public reports published by the NRC.

CHAIRMAN DAVID VICTOR: Okay. And then I'm not seeing any questions from the CEP. I wanted to just ask one question as we move on, which is can you comment on the worker safety issues related to doing these kinds of surveys. This is not -- you don't just walk up to the roof of the NUHOMS system, so what concerns do you have about worker safety doing these kinds of surveys?

RANDALL GRANAAS: Yeah, this is Randall. So generally it does add a certain amount of

industrial safety because that roof is about 20 feet high, so typically we would rather not go up there any more often than we need to perform these surveys. Again, it's 20 feet off the ground and it's a certain amount of industrial risk that's introduced.

CHAIRMAN DAVID VICTOR: Okay. Thank you, Randall Granaas and Eric Golden, thank you very much for your comments.

I'm going to move on in the interest of time to Ron Pontes who's going to talk to us about two issues, one related to trace radioactive contamination at the unit 2 outfall and one about the sea level rise assumptions.

Ron, the floor is yours.

RON PONTES: Thanks, David. If we can go to the next slide. There's an image there that showing where we found some trace contamination in late August. I did receive a number of e-mails in the September time frame from folks that were curious what was going on with batch releases because they had seen a number of them in the August time frame, and I think they thought we were making batch releases and not reporting it.

Well, look what happened was we found

this small amount of contamination here on the unit 2 outfall in late August and considering where we made -- this is where we made batch releases when were operating the plant. We don't really think this is uncommon. And we do know from talking to other plants that this is similar to radioactive in their systems too. It's generally about the same through other nuclear power plants.

So we found this contamination, and we wanted to take some actions to confirm that our systems are operating properly, so what we did was we temporarily suspended our batch releases, and we performed sampling in this area, sampling of the water, and what we wanted to confirm was that we were getting really good mixing of our dilution water with the batch releases that we were making, and then once we were able to evaluate the sample results, we restarted batch releases and, you know, just want to remark that we continue to make them, and they're safe and well below regulatory limits.

So I just wanted to make sure that everybody understood why we had that little pause in the batch releases during that period of time.

CHAIRMAN DAVID VICTOR: Let me just before you go onto sea level rise, see if anybody has any questions about this. Maybe you could just say I'm still a little puzzled, where did the trace contamination come from?

RON PONTES: Yeah, that's a good question, David. It's on -- where we saw this contamination was on the deck above the outfall, so below that deck is where the water would return to the ocean when we were operating the plant. Today that area there is largely stagnant except for title fluctuations, and our dilution pumps are a little bit below that towards the bottom of the photograph along the sea wall. So we were a little bit concerned that you know that water wasn't mixing very well and maybe it was concentrating back there.

To get to your question, there's grading on that deck where there are -- well, there's grading on that deck where there's these big components that we use to block the flow of water during -- when we're operating the plant, and it's up to that grading where this contamination came and arrived on the deck there.

CHAIRMAN DAVID VICTOR: Okay. Let me

pause and see -- Doug, I see you have your microphone on, did you want to say something about this? Okay.

DOUG BAUDER: I was going to reiterate what Ron said. We think this was actually formed during operation of the plant. We were very careful -- took a careful approach to out sampling here to make sure we had, as Ron mentioned, good mixing.

It's basically the title action that moves the -- some water and some debris up into this area, so we found this very small trace amounts through samples, and we wanted to validate that we had good mixing. It was actually a concern I had when we first identified this to make sure that when we do our discharges, we get the full effect of our dilution system and we did validate that. So we thought it was important to share that here.

RON PONTES: Okay, David, can we move on or --

MARTHA McNICHOLAS: I have a question.

RON PONTES: Sure, go ahead.

MARTHA McNICHOLAS: Okay. Back up a little bit. So you're thinking this has been

there for a while, as in back when you were actually an operating plant and just recently discovered it?

RON PONTES: No. Let me try to explain that a little bit better.

MARTHA McNICHOLAS: Okay.

RON PONTES: Okay. So below this deck is the ocean, okay, so to speak and a basin. And that water moves up and down against the concrete walls that are below that deck. And remember I mentioned that this is where we made discharges while we were operating. So what's happened is some of that radio activity was flushed out while we were operating, some of it dries out on the walls of the concrete, okay, at the water line so it's like a bathtub ring.

MARTHA McNICHOLAS: Okay.

RON PONTES: So that's the situation, and it's really very, very low levels of contamination. Once later in the decommissioning those areas are going to be emptied out of water, and that contamination will be cleaned up by SDS, and that area will be completely surveyed and free-released basically.

MARTHA McNICHOLAS: The other question is

when you say "very small amount," can you quantify that?

RON PONTES: Yeah. So where we found that that particular contamination there it was about 300 to 400 counts above background. So, you know, if I can equate to that something that the laymen might understand if you table salt like that people use, like potassium chloride, not sodium chloride, but potasium chloride maybe part of the teaspoon of potassium chloride would give you a count rate of somewhere of what we saw here. It's really low.

MARTHA McNICHOLAS: All right. Thank you.

CHAIRMAN DAVID VICTOR: Thank you very much.

Let's talk about sea level rise, because we're really running pretty late here and I want to make sure that essence of what you're going to convey about the sea level rise and the monitoring of groundwater is conveyed. So, Ron.

RON PONTES: All right. Thanks, David. This is actually a pretty interesting topic, in my opinion. You know, there is a lot of concern here in California and other coastal areas about sea

level rise and there's been a lot of questions asked about sea level rise relative to San Onofre. A lot of these questions came up recently in the second quarter CEP meeting that you mentioned earlier, David. I do want to tell you that we are assessing and reporting the impact of sea level rise using a California Ocean Protection Council sea level rise guidance, and that was most recently updated in 2018, and it was adopted by the California Coastal Commission I think in 2019.

So that's the measure that we're using. That describes the different family of sea level rise scenarios or projections out into the future. Now the -- on this slide here, I kind of get to the bottom line really quickly. We really look at three major things: One is the revetment and you'll know that as the rip-rap or the big boulders along the sea wall. That's in good condition, and we know that it will withstand even the extreme sea level rise scenarios through at least 2050.

We also studied the beaches. We wanted to know what they were doing in terms of width, whether they're getting larger or smaller and how they're behaving over time. And we know that they

narrowed to their pre-construction widths. I'll talk about that more later.

Finally, the last bullet here seems to have most folks interest, and it is where is sea level in the groundwater on the site relative to the bottom of the ISFSI foundation, the Holtec ISFSI foundation. And we're able to confirm that the groundwater table, that it remains above the groundwater table through 2050, even considering those most extreme sea level rise scenarios.

So I'll dive into each one of these as we go through the slides. Let's go to the next slide, 38, please.

Okay. So the requirement for this monitoring that we're satisfying here comes from the lease that we signed with the California State Lands Commission. And that lease is lease provision 14, and it requires us to prepare an annual report to assess sea level rise vulnerability to the site, structural integrity of the site, the adaption capacity for the SONGS site based on what I addressed in the earlier slide; Ocean Protection Council medium high and H plus plus extreme sea level rise scenario.

So let me just pause here for a minute

and explain what those are. That medium high sea level rise scenario is a very low probability sea level rise, you know, in the future. It has like a 5 percent probability of occurring, and the H plus plus it doesn't have any probability assigned to it, and it's the most extreme sea level rise projections, and, you know, through 2050 on that H plus plus it's something less than -- little bit less than 3 feet of sea level rise through 2050.

We combined those with annual and 20 years and 100-year storm events as well as King tides, and we also are required to monitor groundwater elevation, and we were doing that anyway, we're taking a quarterly groundwater elevation data here on site, so we're now able to collect that data and use it for this report.

Next slide, please. So we prepare these report annually. We give them the California State Lands Commission. We post them on a SONGS website I know the Surfrider Foundation does study these reports and others are welcome to look at them. They're kind of dense. They're very technical, but there's a lot of information in there if you care to look at them. We published our first report earlier this year in the first

quarter. I don't recall the exact date that we published it. And it assesses those three things revetment stability, seasonal beach profile changes, and groundwater elevation. Let's go to the next slide.

So the revetment or the rip-rap, if you look on that photograph on the right on the lower side there, you'll see overhead view of the SONGS site, and you'll see a lot of red lines along the coast line, each one of those is a transect that was measured to understand to measure the basically the revetment or the rip-rap.

So performed the laser scan survey of that entire area to produce a digital elevation model. We looked at these 21 transects and compared the historical data that we had. Literally measured the rocks to produce detailed estimations of their weights. So spent a lot of time with folks measuring the rocks so they can calculate the weight of the rocks.

And then the revetment stability calculated based on the measured data and all these parameters, you know, the sea level rise that I mentioned earlier, all the way from 2020 to 2050. And the bottom line here is that rip-rap

and revetment is in very good condition. The rocks are in sufficient size and weight that will withstand, you know, the pounding of the ocean and the waves on those even with the sea level rise for those scenarios through 2050.

So if we can go to the next slide. Now we're on slide 41 so back in 2017 is we started getting into the decommissioning and studying and wanting more information about what was happening along the beach front. We decided to start doing the beach profile surveys every season so four times a year. This became a requirement in that at least provision 14.

So in this -- for 2019 in the report that we just published earlier this year, that was based on 12 seasonal surveys through October of '19. Like the other study for the revetment, in this case there's seven transects that we look at and we use standard survey methods, you know, a transit on shore and the digital acoustic echo sounders for off shore. The scientists take all that data and combine it on a laptop, and they produce these images like you see here on the bottom, so we can see what the profile is at the beach and know what the width of the beach is, and

then we compare all that to historical data. And there's a lot of historical data for the San Onofre Beach. This is one of the most studied beaches in California according to the folks that I talked to that have worked on this.

We can see what the seasonal cycles and the long term trends are for the width of the beach.

If we can go to the next slide, please. So what's interesting about San Onofre -- first I'll tell you, I first came to San Onofre for a short time back in the early 1980s and 1982, and I remember I was working on unit 1 at the time, and I remember the beach was quite wide then and that was because at that time we still had this big offshore pad built, you know, for the construction of units 2 and 3. That offshore pad caused sand to pile up on the north side and really make some wide beaches there.

And then when the pad was removed that sand dispersed to the north and south but mostly flowed south, and over time it was swept away by the ocean and beaches returned to their pre-construction width. So that's why for folks that had been around here for a long time they

probably reflect on it and notice the beaches have gotten a lot narrower today than they were many years ago.

Then we -- based on these studies that we've been doing recently, we know that the seasonal beach width fluctuates about 26 feet so throughout the season or throughout the year.

And then if you look above the photograph on the bottom, you'll see a chart that that shows the width of the beach compared to time, and you can see what it looks like and during that time when that pad was there it really built up and got really wide.

Okay. We can go to the next slide. So groundwater elevation monitoring, so there's a number of wells located throughout the site that we do measure every quarter as I mentioned, we took that data and we trended it against title data that's in this report. You'll see a lot of information in the report comparing the time of day and day that we took the data to what the tides were at that time.

Then we assigned all those wells were broken into three categories; groups 1, 2 and 3. And if you look at the photograph on the left,

you'll see an arrow pointing up to where those group 1 wells are. They're really between the where the ISFSI is and the sea wall, and so they occupy an area of the property that's very, very low and very close to the ISFSI so that's -- those wells are very good to use to understand where groundwater is relative to the ISFSI facility. Let's go to the next slide.

So this is an image that was put together by one of our engineers. You won't find this particular image in a report but this is a better way to see what's going on. On the left you'll see two datums. That's just so that I can explain that regardless of which datum you pick the delta between the groundwater level on site and the bottom of the ISFSI is always the same.

Here at the site all the elevations at the site are based on mean low, lower water level. That was what was chosen by the designer or constructor of the site from the beginning so we've always used that reference. And then the other datum is NGVD to supply that. That's a datum that's been used since 1929 to measure, you know, flood levels and so on and sea level. So you can pick either one of those datums to use.

And then on the right-hand side you'll see in blue at the bottom groundwater level in 2019, that's the measured groundwater level today, and then you see that gray at the bottom of the gold or orange cylinders that represent the CECs for the fuel, that gray is the bottom foundation pad for the ISFSI, and that's three foot thick, okay.

So today we have about 3.35 feet nominally between the groundwater level and the bottom of the ISFSI. Now over time we expect that that groundwater level is going to rise. Now we don't know how fast it will rise because we don't know exactly what track we're on with those forecasts that are in the LPC 2018 guidance, but we're required to look at this for the medium high risk, which is at really low probability, and the extreme risk scenario the H plus plus.

So looking at either one of those there's still some space between the water level and the bottom of the pad. You know, it would vary somewhere between 1.3 feet and about a half a foot now through 2050, so that's the present projections.

Now as we go forward in time and those --

that OPC guidance is updated and adopted by the state, these projections may change. So as we go forward, and we do these annual reports, we'll always be using the current state information that we're required to use.

Then the other thing I want to mention is there is a lot of concern that, you know, eventually the water level does get close to the bottom of the pad, but even if it were to -- even if the bottom of the ISFSI were to be submerged in the groundwater, we don't see that as a concern for a couple of reasons.

One is the fuel storage canisters are located on top of the pad, and that pad is three foot thick so water would have to rise quite a bit to get up to the canister level. The concrete on that foundation pad is sufficiently thick to cover and protect the foundation pad reinforcing steel, so that bottom pad is three foot thick is filled with steel rebar, and but it's got sufficient cover on it to protect it from the intrusion of water driving into the concrete.

Now if it rose even further, let's say it rose above the pad, I want to remind people that our ISFSI here is embedded in a concrete matrix

that's basically around all those cylinders, and it's more than 15 feet from the edge of the ISFSI to the first cylinder for CEC. So that's quite a bit of concrete.

And that particular concrete doesn't have rebar in it. The way we built that concrete, the lean concrete that was put around the CECs was came up in lifts, and each one of those lifts, you know, we bring in concrete trucks, we would pour the concrete and it would bring it up in two, three, maybe three and a half foot lifts. And then the concrete would cure, we would scour the top of the concrete to roughen in up, and then put a bonding agent on, and then pour the next lift, and we did that over and over again until we filled the whole thing up.

So it's a very secure concrete mix that's there at 5,000 PSI concrete. It's very unlikely that the water would get into the CECs. Remember, it has to go through 15 feet of concrete. I think we did a darn good job of building that pad out and installing the concrete there.

But even if it did, as a reminder, the CEC is made of stainless steel, and inside that stainless steel cylinder is where the fuel is. So

the water is not going to get to the canister itself.

So that's basically what I wanted to present here. I think there might be one more slide to summarize again what I said at the beginning. The revetment is in good condition and the beaches fronting SONGS have narrowed and one thing I'll just remind you of we've been kind of in a drought since the early 2000s and that dry weather has caused the beaches to narrow even more because they're not getting any sand supply from the rivers and creeks that feed the ocean.

And even considering that most extreme sea level rise scenario, the H plus plus, the foundation pad remains above the water table through 2050. We'll update this as the guidance is updated and as we study what's really happening with the groundwater elevation, and we'll continue to report out annually on that.

So, Dave, that pretty much concludes my presentation here.

CHAIRMAN DAVID VICTOR: Excellent. Thank you very much.

So I wanted to see if anybody has any questions or comments from the CEP before we go

onto the strategic plan. I'm not seeing -- Elizabeth Helvey?

ELIZABETH HELVEY: Yes, I'm here.

CHAIRMAN DAVID VICTOR: Did you want to say something?

ELIZABETH HELVEY: No, huh-uh. I'm sorry, if it showed I did, that was inadvertent.

CHAIRMAN DAVID VICTOR: No, no. If you take your -- the only way I can tell what's going on is by looking at the microphones.

Let me just say, Ron, thank you very much for this. I think it would be helpful if we were to pull out the -- on this topic of the sea level rise and also on the topic of the monitoring that's been done on the NUHOMS and then real time monitoring systems, if we were to pull those slides out in a separate document PDFs along with links to the relevant parts of the -- relevant parts of this video so that when people go to songscommunity.com, and they have questions about sea level as many people should, because sea level rise is a significant part of climate change, they can go immediately and see what's going on and see the analysis that's been done against the most extreme versions -- extreme scenarios of sea level

rise, the H plus plus from the Coastal Commission, so I think that will be very helpful in packaging the information and kind of smaller chunks rather than these hundred slide decks.

I want to move on now and talk about the strategic plan if we can go to the next slide. And I want to remind everybody that this is a breakdown that's going to be done today from a team of experts that has briefed us before on when they were beginning their work -- if we could back up to slide 46, please -- when they were beginning their work, and they were going to provide us with an update today, and then we already invited them back to the first quarter of next year when the plan is complete. It will have already been discussed with public officials and a variety of other key stakeholders to have a fuller discussion so they can give us some contours of what they're thinking right now but not the full thinking because the work is still in progress.

And I'm going to ask Manuel if you have any other comments and also for you to help introduce those speakers tonight.

MANUEL CAMARGO: Thank you, David. So I'll just go to the introduction piece and make

sure we have preserved time to help the experts help deliver the content. I think is most folks know we do have a large team of experts helping us with a variety types of expertise. Tonight we do have four of those folks with us. Included tonight we do have Tom Isaacs.

Tom Isaacs plays a couple of different roles. He is an advisor to SCE on spent fuel management but his background really is more than 30 years in spent fuel management. He served as the senior advisor to the Blue Ribbon Commission on America's nuclear future, we've talked about, and we've had guest speakers from that Blue Ribbon Commission on prior CEP meetings. And then at present in addition to advising the SCE, he also advises the Canadian equivalent to the department of energy, the Nuclear Waste Management organization in Canada. So we have a Tom Isaacs.

We have also have Joe Hezir. Joe Hezir is with EJM, that is a subconsultant to the North Wind team and among his background Joe was a chief financial officer and a senior advisor to the secretary of energy, Secretary Moniz when he was running the Department of Energy. So we have Joe with us today.

As well we have Brian Gutherman. Brian Gutherman is with the North Wind team, and his background 30 so years of experience in NRC regulatory affairs.

And then finally rounding out the team for tonight any way, is Elizabeth Helvey. Elizabeth Helvey she her background is in stakeholder engagement around spent fuel transportation. She has more than 20 years in that sector and also experience with the Department of Energy.

So in addition I should say that the North Wind team is also the entity that is writing the strategic plan. With that, I will turn it over to Elizabeth and her team to take us over the content.

Thank you, David.

ELIZABETH HELVEY: Great. Thank you, Manuel. I would like to thank the CEP members for inviting us tonight to give this presentation on the strategic plan. My colleagues at North Wind and I we really look forward to sharing this work that we have been doing for the last year and a half.

As Manuel said the work is not complete,

but I think it's important to give an update on our progress and make ourselves available to answer questions from the audience and the CEP members. We know from our conversations in the community that several folks are very interested in this work or anxious to see it completed. We're hopeful that tonight's presentation will begin a productive conversation about potential paths forward to find a site to take the fuel off site from SONGS.

So if you would go onto the next slide, please. I would just like to briefly go over the topics that we're going to be discussing tonight. You can see we're going to talk just a little bit about how we got into this position both SONGS and many other facilities around the country of having no position, no place to take the spent nuclear fuel. We'll discuss briefly some the alternatives we've examined and some of the initial findings that we have from those that we've reached, and then we'll look at next steps and timing for the release of a strategic plan.

Those are the topics we'll cover tonight. We hope that this is useful information, and we look forward to your questions. And with that,

I'll turn it over to Joe Hezir to present our material, Joe.

JOE HEZIR: Thank you, Elizabeth.

If we go on to the next slide just a brief historical context where federal government policy now for the -- that goes back half a century is that the federal government would assume responsibility for disposing of spent nuclear fuel and most of that -- during most of that time the congress has focused that effort on creating a disposal facility in Yucca Mountain.

I think everyone sort of knows the history of what's happened there, so I won't go through all these details but other than simply to point out that if you go back over the last decade, we've now gone a decade where basically the Yucca Mountain project has been halted and basically deconstructed and at the same time the Department of Energy program for managing spent nuclear fuel has been defunded and disbanded. It Frankly just doesn't exist right now.

So we also have a situation where at least at the leadership level both parties, there's not an interest in pursuing Yucca Mountain any further as the means of disposal of spent

fuel. So currently we started off the strategic planning process from the starting point where there is currently no offsite facility that can accept spent nuclear fuel from SONGS.

So if you go on to the next slide that notwithstanding where we are in terms of the fact that we don't currently have an operating facility, we do have a number of legislative attempts to try and res tart a new program. The other good news about it is that the members of the California Congressional Delegation in both the senate and the house have really actually been leaders on both houses in trying to move forward with legislation.

The problem is that we've had several different approaches and we have yet to really come to a consensus. I won't go through all these details but simply to point out that the Nuclear Waste Administration Act that Senator Feinstein has been a co-sponsor of would establish a whole new organization, a new funding process and a consensual process for siting new facilities both storage and disposal.

By contrast we've had bills in the house led by Congressman McNerney and Senator Barrasso

on the senate that was -- that would attempt to force the resumption of the licensing process for Yucca Mountain, and then more recently we've had some action by the house to pass the Clean Energy Economy Jobs and Innovation Act that would say let's spend -- let's invest the half billion dollars over the next five years and let's look at a variety of new approaches and new research around development for how we might store use and dispose of spent nuclear fuel.

Then last but not least we have an attempt right now in congress to enact an appropriations bill for fiscal year 2021 that would attempt to put more money into the DOE to restart a program on interim storage. The house bill has $20 million, that bill has been passed by the house and just last week it's not shown on the slide, the senate introduced a bill that has 27 and a half million dollars with similar language and so to the extent that congress can come together on a spending package for fiscal 2021, we actually might be able to see some new moneys appropriated to begin work at the federal level on interim storage.

So if you go to the next slide, what has

happened particularly over this past year now during the period of time while we've been working on the strategic plan it's not been a period where things have been static. After three years of supporting a resumption of the licensing for Yucca Mountain early this year President Trump instead sent a committed to respect Nevada's opposition and instead wanted to explore innovative approaches.

I would simply add, it's not on this slide, that the former Vice President Biden when he was running in the Nevada primary earlier this spring also said that he opposed proceeding with the Yucca Mountain repository, so we could probably anticipate that the incoming administration will also take that position.

Also, what's happened over the past year as we've had the governors of New Mexico and Texas have written letters opposing consolidated storage in their states. There are sites in both states that are going through the NRC licensing process and while the NRC will take their views into consideration, the states do not have a veto power or could not block an NRC license, but they can impose impediments to implementation, and I think

those are very important consideration in our analysis.

But we also will point out to you that over time circumstances have changed with respect to state level positions on many of these issues. And then finally here at the international level, there's been some progress in the Scandinavian countries, and I think at this point I would like to turn it over to Tom Isaacs who is the chair of our experts panel who is overseeing our work who could maybe speak and say a few words about the international effort and also some case study efforts.

TOM ISAACS: Thank you, Joe, and thank you to the Community Engagement Panel. I appreciate the opportunity to make a few, and I do mean a few remarks as well. It's often helpful, very instructive to take a look elsewhere outside the U.S. to see how things are going both to see what countries are doing to make progress and also to see where they're having problems and to see if we can learn from their failures as well.

It's known to lots of folks that for a variety of reasons, I would think it's uniformly agreed that the two leading countries in the world

in terms of repository development are the Scandinavian countries of Finland and Sweden. Finland is very close to opening what will be the first permanent repository for the disposal of spent fuel high level waste in the world. And Sweden is not far behind and France also has a very active program. There are other countries with programs active as well, but those are clearly the leaders. It's a very dynamic situation.

Just in the last week two very interesting things have happened in Japan, which has had a history of very difficult times in trying to site a repository, two communities have volunteered to be considered to learn more about whether they have might have a site that would be suitable for the disposal of waste. That's at a very, very early stage. There's already, of course, considerable opposition. Nonetheless it's quite interesting that two communities in Japan have now officially and publicly expressed some interest.

The second thing of interest is in Canada where there is a very active and aggressive program, one that I've been involved with very

intimately for over 15 years in a variety of circumstances and this week the government of Canada tasked the organization in Canada called the Nuclear Waste Management Organization to not only look at siting a repository for their spent fuel but to develop a strategic plan to integrate the management and disposition of all radioactive material in Canada.

So these are interesting circumstances that if we had more time would be very interesting to go into. If I could have the next slide please. Joe mentioned the fact that there's been opposition in New Mexico and Texas to interim storage, and I think it's interesting as a lesson learned to look at something called WIPP. WIPP used to stand for Waste Isolation Pilot Plan.

If you can move onto the next slide, I would appreciate it.

It's now known basically as a WIPP, and it is a functioning repository in Southern New Mexico and has been operating for over a decade and it disposes of transuranic defense waste. These are not spent fuel from nuclear power plants, they're not commercial, they come out of the government's defense programs, and the

transuranic waste is not hot thermally, like spent fuel is, but it does have very dilute amounts of actinines, which are the parts of the waste that stay radioactive for a very, very long periods of time --

CHAIRMAN DAVID VICTOR: I'm going to shift in here for a moment, Tom. Could we get slide 51, please.

TOM ISAACS: Thank you. I appreciate that, David.

And so I wanted to just very briefly talk a little about the history of WIPP, and I'm going to give you the readers digest version because we don't have much time. But it shows you how long and tortuous a path might be to get to a facility. That doesn't mean we can't get that, it just means that you have to have persistence, and in particular you have to be adaptable and flexible to run a program to hopefully look for those windows of opportunity where you can make progress.

Carlsbad, New Mexico, as I mentioned, is in southern New Mexico pretty isolated place and was a mining town basically mining pod ash. Like many mining towns they go bust or boom, and it

went bust, and all of a sudden Carlsbad, New Mexico didn't have an economic engine anymore, and a very small number of political leaders and influence leaders in that area learned that there had been a federal program to try and site a repository that had not succeeded, and so the local politicians initiated contact with the government and said we would like to be considered we're a mining town, we know how to mine things, we know how to put things in the ground, we even know how to take things out of the ground, we would like to talk to you about whether there's a possibility that we might be a place for disposing of radioactive waste.

Initially the people around the state of New Mexico were highly opposed to this at almost all levels, particularly the farther away from the site you got the capital of Santa Fe you walk through and you would see signs with, you know, red circles and arrow through them saying WIPP. Nobody wanted the facility.

But over time when I call a win-win-win was fashioned through an extensive program of trust-building an compromise and what happened the local people got a repository. It was dedicated

to this transuranic waste. By the way, this transuranic waste includes trace amounts of plutonium. It's not benign stuff in the sense that it really needs to be handled well and it is. And so they were able to get a facility that revitalized their economy. The governor got an agreement that no spent fuel would go into that facility, it would only be this defense transuranic waste and got money from the federal government to establish his own scientific environment group, called the environmental evaluation group to independently look at the work that was being done to develop this repository to satisfy the governor and to satisfy the state that this work was being done safely and appropriately.

As part of the compromise, people in Santa Fe hundreds of miles away did not want the waste going through Idaho or much of it was going through the streets of Santa Fe, so an agreement was reached to build a bypass around the city of Santa Fe which was done.

So today there's a bypass around Santa Fe so that the spent fuel can move around and by the way most of the economic development in Santa Fe is near the bypass, that's where the trucks go.

And the local community which was somewhat skeptical at the beginning is now very supportive of WIPP. They see the benefits that comes to the community, and many of them lobby now to have their mission expanded.

I give you this very snapshot view just to tell you that this is the way as we hear about the strategic plan now going forward from the north wind team that we need to think about the options and the flexibility and the adaptability that are required for a program like this to ultimately be successful, and with that, I'll turn it back over.

JOSEPH HEZIR: Thanks, Tom.

So if you look at the top of Tom's chart there, this was a process it took 25 to 30 years, and it had its ups and downs, but I think I would also simply point out the location for the proposed interim storage facility in New Mexico is almost literally right next door to WIPP just down the road a bit.

So not withstanding the current opposition of the governor we'll think -- we're hoping that some window of opportunity will open up there as things progress. So if you go onto

the next slide, please.

So why do we do this work to develop a strategic plan? Really as all of you I think in the audience know it started off as a requirement in the settlement agreement regarding the implementation of the current onsite spent fuel storage facility, but the North Wind team, as we approached it, approached it really as an opportunity and working with SCE I think we collectively now look at it as an opportunity to do a number of things. Obviously to find a commercially reasonable pathway for moving forward, but I think the other thing is if you flip down to that third bullet, what's unique about this plan is that we're approaching it from the respective of the utility and a customer which is a lot different than many of the other reports that have been done to date about what to do about nuclear waste to sort of take this big top down view looking at it from a national level and the other thing I think is unique about the process is that we've had extensive stakeholder input, and I'll say a little bit more about that later on.

And then last but not least I think we think that by having this plan in place, I want to

reemphasize the points that Tom made about being flexible and adaptable, because we don't know exactly how circumstances are going to unfold and when they're going to unfold, but by having a durable plan in place, SCE will hopefully be well positioned to act when that window of opportunity does open up.

So, again, going to the next slide.

CHAIRMAN DAVID VICTOR: Slide 53, please.

JOSEPH HEZIR: The next slide, please. So I think, again, we've probably discussed this previously, but we have a very robust team that's working on this plan right now, we have the experts team that's chaired by Tom Isaacs. We have the North Wind team, which is really organized a number of individual experts in various subject matter areas and then we've also had this very extensive stakeholder interview components and to date we've had something on the order of about 60 interviews where we have instilled that input into our thinking and our analysis, and then last but not least we've been working closely with an internal team from SCE as we've been championing the analysis and integrating all of this stuff into the final plan

document.

So if you go to the next slide, please, the next slide shows the framework that we're using in preparing the plan. So our stated goal is to have a plan that would result in a safe, commercially, reasonable relocation of the spent nuclear fuel to another facility to enable restoration of the site and return the land to the navy.

The main framework of the plan is summarized in those five check marks below. One is that we want to work to achieve timely offsite disposition; secondly, we want to make sure that we satisfy the current DOE contractual requirements; third, we want to prevent incremental costs due to continued interaction; fourth, we want to avoid possible unrecoverable cost to SCE customers, and last but not least, we want to protect SCE customers from any residual liability risk once the spent nuclear fuel leaves the SONG site, and so those principles have been our principles as we've gone through the analysis.

Next slide, please. All right. So we started off looking at casting a very wide net and based on our experiences, we viewed all of the

various studies that have been done to date we tried to work through those to identify what we thought would be potentially feasible pathways and narrow that done to a smaller lists of alternatives where we're merely focused our analysis.

So obviously given that a permanent repository and a geological repository has been the bedrock of federal policy for well over a half century that clearly is one of the alternatives that we looked at and we looked both the scenario where Yucca Mountain gets restarted, we've also been looking at some ideas if the program is restarted and the process has started to look for another site.

A main focus of our analysis has been on various forms of a consolidated interim storage facility, and a consolidated interim storage facility can take many forms ranging from something that is a completely federal program that is owned, operated, and funded by the Department of Energy. Some form of federally supported, nonfederal facility and we've looked at also some various personal mentations on that public/private partnerships, and then last but not

least, looking at something that would be purely private or non federal effort.

We've also taken a look at some other alternatives that really were identified in the stakeholder process, in particular, the notion of a multi utility storage, for example, consolidating the SONGS spent nuclear fuel at the Palo Verde Nuclear Generating Station, which was an alternative that was explicitly identified in the settlement agreement, and we've also looked at some variations of moving the current ISFSI elsewhere across I-5, such as onto other lands on Camp Pendleton.

Last but not least, we've also did some preliminary reconnaissance and some other concepts, but these sort of go beyond regulatory frame works in particular the one we looked at was deep bore hole disposal. We're still in the process of completing our analysis of each and all of these alternatives, so I can't really get to a bottom line tonight, but I do want to kind of walk you through a little bit of some of our thinking about each of these alternatives and how we are approaching it.

So if you go onto the next slide you'll

see here four kind of overarching assessment factors that we've been using in kind of evaluating these alternatives. The first being technical, safety and regulatory feasibility; second one is whether it meets the test of commercial reasonableness that was set out in the settlement agreement, a third consideration has to do with scheduling in terms of the timeliness for moving the spent fuel offsite, and last but not least, implementation feasibility issues.

Let me walk through each one of these four in a little bit more detail and kind of give you a flavor of how we've been applying these assessment factors.

If you could go to the next slide, please. So the first factor was that the technical safety and regulatory feasibility. And it's a kind of questions we've asked ourselves is whether or not the disposition alternative has been technically proven, is the necessary regulatory framework in place to ensure that it can be safely implemented, and then what level of work is needed to prepare to obtain the necessary approvals.

So as you kind of think about these

questions relative to the alternatives that we're considering, we see that there are two private storage projects in New Mexico and Texas have been regulatory development for a number of years now and we think are very well positioned to obtain NRC licenses. The current schedule that the NRC has said indicates that they would issue final license actions sometime in this coming year in 2021.

But by comparison looking at an alternative such as moving the current SONGS ISFSI to any new site, whether it's one mile away or a hundred miles away, could take many years of technical planning and regulatory review particularly to do the site characterization work and to develop the regulatory packages. And then if you look at it at the kind of the far end of the regulatory feasibility spectrum, an alternative such as a deep bore hole disposition, which is a very interesting an innovative concept poses a number of technical issues when really you match it with the current regulation, there really is not a clear licensing framework in place to enable that alternative to move forward quickly, and so these are all considerations that affect

then how quickly we could move on any of these alternatives.

So if you go to the next slide, next slide talks about schedule considerations. And questions about how quickly we could move the spent nuclear fuel offsite. And so in some of these then also depend not only on the technical factors but also the legislative and political environment, particularly if we need new congressional legislation in order to implement the alternative.

And then last but not least, as part of the conceptual transportation plan we've also looked at what steps are needed on site to prepare the spent nuclear fuel for transportation readiness. So when you think about these questions relative to the current alternatives, we find that the development of a permanent geological repository whether it's restarting Yucca Mountain program or starting afresh with a new site is going to take much, much longer in time and could be much more highly uncertain than the other alternatives. In fact, when we've looked at some of the scenarios, we're looking at scenarios that could go well towards the end of

the century before all of the spent nuclear fuel could be moved from SONGS to one of these -- to a permanent facility, thus this suggests to us when thinking about past experience including the experience with WIPP that Tom Isaacs talked about and as well as the current planning the consolidated interim storage facility at some offsite location could be implemented much sooner, notwithstanding the uncertainties that exist there.

And then last but not least, the other thing that became evident in our analysis is that we need to think about not only when a facility could open, but we also need to think about how long it will take to move the spent nuclear fuel to the facility once it opens. And the issue about shipping and prioritization of shipments particularly if a facility is going to be receiving fuel from multiple reactor sites becomes a very important consideration, and in fact, that could stretch out for over several decades.

For example, even with the current initial plans for Yucca Mountain when they were first put together, while SONGS was high up on the priority list for shipment for initiation of

shipments, we found that the full schedule for shipments could take two to three decades, and so we want to be able to think about not only opening the facility but also what's the most efficient way to move the fuel to the facility once it's opened.

If you will move on to the next slide, we'll talk again about the commercial reasonable test. And this is a criteria that is part of the criteria that is in the settlement agreement that we've applied in our analysis of these alternatives and basically it boils down to two main questions, what will it cost and who's going to pay.

In particular on the question of who is going to pay, is it going to come from the moneys that the SEC customers have prepaid into the Nuclear Waste Fund, will it come from some of the Judgment Fund, which is currently following some of the on site storage costs, and last but not least would it be prudent for SCE to use any of its decommissioning trust funds to pay for these costs.

So what we're seeing in our analysis is that obviously any alternative whether it's

permanent repository or interim storage, if we can require the federal government to perform its statutory and its contractual responsibilities to take the fuel and take title and possession at the fence line is the alternative that results will avoid any additional costs to utility customers, not only SCE but for other utilities as well.

If we're dealing with a consolidated interim storage facility where the providers will be charging fees for storing the spent fuel, there are some uncertainties about what costs might be reimbursable from the government through the Judgment Fund and what costs might still be born by utility customers. And since the settlement agreements with the government were case by case, there's no established policy right now in this area but in our analysis what we're doing is identifying what those cost elements might be an making some recommendations for how SCE might work with the federal government to address them.

So if you go onto the next slide and sort of the fourth criteria, I want to say a few words about implementation feasibility, and that is, again, a key question in feasibility is what can we accomplish under federal current law and where

do we need changes in federal law. A second key question obviously is what are the other social, economic, political factors such as opposition of state governments that might impact implementation. And the last key question is what can SCE do about this because remember, SCE is not operating in a vacuum here they one of number of utilities facing the same suite of issues, so how can SCE move forward in working with not only state and local stakeholders but also others within the utility industry.

So what we are seeing in our analysis to date is that because the Judgment Fund does not have a clearly established policy on reimbursement, and a lot of these result from case-by-case negotiations, we're going to need new federal policy guidance and what could be paid for and reimbursed from the Judgment Fund. These might ultimately then need to be incorporated into an amendments to the settlement agreements.

A second key point that we're identified that we're discussing with SCE is the question about liability for when the spent nuclear fuel leaves the site. And one of the issues and it's a key issue, is that if the government does not take

title to the spent nuclear fuel at this new facility, and SCE still holds title, there's a serious question about who retains liability for that spent nuclear fuel while it's in storage. And then the last point, as I said earlier, is that many of these issues are not unique to SCE but are industry-wide issues, and they're going to require some form of collective action across the industry with broad coalition support.

So having said that, what's our current thinking about a path forward here, and so if you look at the next slide, we see the key is for federal action is really needed here but the prospects and the timing are very uncertain and so in the plan itself, we're going to emphasize very strongly optionality and flexibility so that SCE can respond to the opportunities as they may arise.

So we need to establish federal leadership, we need the optionality and flexibility, and in the meantime, we need for SCE to continue to do what it's currently doing which is implementing its decommissioning plans safely and effectively, to continue the inspection maintenance and monitoring programs for the spent

nuclear fuel in the current ISFSI and, again, pursue readiness actions to be prepared once the opportunity arises for movement.

Next slide, please. So part of the federal action really is to establish what the aspirational agenda for what's really needed here, and the industry wide the nuclear industry has been working on principles that they're working on to work with congress on and these are adapted from those principles but they're definitely applicable to the current situation with SONGS.

So number 1 absolutely is we need federal funding to restart the national program. As I pointed out, we may be in a situation now where going into this next fiscal year we actually may be able to get a small amount of appropriations to do just that. Related to that then is we need the federal government to step forward to encourage interim storage either as a direct federal program or something in cooperation where they're supporting these nonfederal entities.

The third thing that we need is we really need to restart work on a permanent repository, one that includes effective stakeholder engagement and very close consent coordination and consent

with state, local, and tribal governments. We didn't talk about it much, but we think that any interim storage program in order to be interim and be accepted as interim requires that there be in parallel a program for permanent repository.

And then last but not least, and this is a sensitive issue in the industry, is we really need to rethink transportation scheduling for shipping spent fuel to a facility once it's open. And there's some ideas out there for how one could improve the efficiency and cost effectiveness for doing that. In fact, some of the legislative proposals in congress will encourage DOE to do just that to provide greater priority to spent fuel from so called shutdown or stranded sites.

With that, I'll turn it back to Elizabeth on the next slide here to kind of summarize what our final product will look like and what our next steps are from getting the completion from here to there.

ELIZABETH HELVEY: Actually, I think Manuel was going to present these.

JOSEPH HEZIR: Sorry, Elizabeth. Okay.

Manuel.

JOSEPH HEZIR: Manuel, do you want to

pick up on this?

MANUEL CAMARGO: Yeah, so just very briefly the -- and thank you, Joe, I appreciate that overview. I'm sure we'll get some questions but well done.

Here I just want to address that there are three total plans. We do have a strategic plan so a lot of what Joe talked about here regarding the analysis and assessment that's being done. That's captured in the strategic plan. We also have a conceptual transportation plan and that helps us at SCE understand the steps we can take in order to prepare for spent fuel transportation.

And then finally we do have a spent fuel action plan, and that is really we'll be informed by the findings in both the strategic plan and the conceptual transportation plan. So that will give us the concrete steps that we can take in order to implement the recommendations. So next slide, if you would. And then finally just to wrap up is completion of the strategic plan. So that will be -- the next steps the plans will be finished up in late February or early March of next year. We'll release the plans at that time, and the key

point here to for the CEP is, you know, David asked us to come back and in that time frame and to talk in more detail because by that point the assessment will be finished, the plans will be done, and we'll be in a much better position to help the community understand where we at Edison will place our time and energy.

So, David, that's really it for the -- I think that's the last slide.

CHAIRMAN DAVID VICTOR: Yes, that is. That's a lot of moving parts. Thank you very much Elizabeth, Joe, Manuel for that overview.

So I want to now see if there are any members of the CEP who have questions. I know there's been a lot of interest. Maybe we can stop sharing with some trepidation, I guess, stop sharing the screen so we can see people's images up, full video if they want to.

Any members of the CEP want to raise any questions or make any comments about where we are with -- Dan Stetson.

VICE CHAIRMAN STETSON: Thank you, David. And I want to thank the team also for that comprehensive presentation.

I would like to ask Tom Isaacs, Tom, are

there any takeaways or lessons that we can learn from Finland or Sweden that might be applicable here in the United States?

CHAIRMAN DAVID VICTOR: As we're going to Tom Isaacs, can we stop sharing? Because right now all I see I'm doing is looking at a black screen and decisive as that is, maybe we can stop sharing so we can see people's images.

So, Tom, what can we learn from overseas and maybe become a little bit more like the Fins and the Swedes.

TOM ISAACS: Not a bad idea. I can tell you this, the first time I came back from a trip to Finland and Sweden when I was in the department of energy and walked into a senior management meeting my opening comment to them was they're smarter than we are. People were outraged at the comment, but what I meant by that is their science an technology wasn't any better than ours but the way they approached the social, the political, the engagement, the communications part were quite different.

Now, you have to understand these lessons learned can't be simply transferred from one country to another. They have different politics,

they have different value systems, they have different histories with nuclear activities, and so forth but there were a lot of things that could be learned.

I think the main thing was that they -- that they learned that they had to establish a sense of trust and confidence leading to a partnership between the implementing organization and the people who were going to be most effected by this, the community that was involved. And they work very, very hard and very, very comprehensively to try and make it clear that when they made decisions, they made them in block step with the community in a way that would serve the vision of where the community itself wanted to go.

I think that rather -- I could talk about this for a long, long time, but I think that's the main thing takeaway I would say is a lesson that we could learn in terms of how we're going to implement the program like this if we were to be successful.

CHAIRMAN DAVID VICTOR: So before I go to Paul Wyatt who has a question, I want to ask you directly on this topic, Joe Hezir said that we need to restart the federal permanent repository,

otherwise interim won't be seen as interim, I totally get that in theory. In your assessment does that mean starting over, that Yucca -- this process of engaging with the local communities so they see benefits and it's a real partnership, is that horse out of barn for Yucca, or can we put the horse back in the barn?

TOM ISAACS: The answer is strange things happen, and I'm not really sure. When the program was stopped, in the Obama administration a Blue Ribbon Commission was put together, and I was the lead advisor to that commission so I had a role in it, but one of the things we said was whether or not you start or restart at Yucca Mountain or whether you start it over, you need to go apply the kind of principles I just talked about in brief.

I think it's a really tough road to go back to the Yucca Mountain and Nevada given the history that we have, but I've seen circumstances like I showed at WIPP where times change as my father used to say in Latin, times change and so do we, and so there's an opportunity if indeed the people of Nevada and the people who live near that site of which there are not many, see it in their

best interest to fashion a future that is realized part of which would be to come back and say, yeah, we'll consider this under certain circumstances. I think it's much more likely that we will have to have a broader look beyond Nevada, beyond Yucca Mountain for this to have best chances.

CHAIRMAN DAVID VICTOR: Okay, we're going to test your Latin but not right now. We're going to go to Paul Wyatt and then Martha McNicholas.

Paul, the floor is yours.

PAUL WYATT: I have two parts: First Southern California Edison in this plant are not the only one, and we mentioned that. There are a number of nuclear power plants now and, in fact, even all the operating ones who have spent nuclear fuel, and it should have been disposed of.

What effort is put together by the companies holding the spent nuclear fuel to align their interest and help as a group set this vision? My take is these private industries will do a better job if they work together and provide leadership than looking for any government agency to provide leadership. So back to this group, what effort is being made to actually get leadership coming from industry on how this might

play out? That's the first part.

CHAIRMAN DAVID VICTOR: Hold the second part for a moment. I want to go to Joe to see, Joe, maybe you want to talk about you called it a collection problem. Tell us how we wave a magic wand over that one.

JOSEPH HEZIR: No, I would be happy to address that. Right now there are 19 shutdown plant sites across the U.S. and if you look ahead a few more years, they'll be by the time Diablo Canyon shuts down, it will be 22, and there are 16 states. It is a growing number, and the amount of spent fuel at the shutdown sites if you look out again beyond the next few years, at the next 10 to 20 years, the amount of spent fuel, and again, this will be in our report is going to increase by fourfold.

So we see growing in pressures for doing something at the shutdown sites where -- particularly where there's active decommissioning such as in SONGS and the decommissioning work will be done as in SONGS within a decade but then you'll have the spent fuel that would still be there. Now having said that, there has been a coalition of a few companies, and I think SCE has

been part of that so-called decommissioning plant coalition that has been pressing for some federal action on storage to take the spent fuel from the shutdown plants but as I pointed out earlier in the presentation, so far has not really gotten traction.

I would just simply add, though. I think I agree with you in part that we really need the private sector here to step forward, and I think you have obviously the two companies in Texas and New Mexico, and you also need this coalition of utilities, and they all need to be working together. But at the end of the day and I think you'll see this in our final plan, we're still going to recommend that there's still going to be a need for the federal government to step in here and in two main areas, one is to provide money and also to provide some liability protection, and so I don't think -- I don't think the private companies necessarily at the end of the day could do it much better if there is some partnership with the federal government.

CHAIRMAN DAVID VICTOR: Let me go back just underscore something here, which is I've seen no evidence that it's going to be acceptable to

have fuel leave a plant without liability transferring, so I would hope that we have a discussion into the first quarter that includes not only the different options technically but also looks at the question how do we do collective action, what do these communities need to do, what can we do to connect to these different communities so we do better than what we're doing right now.

Paul, you had a second whack at the pinata?

PAUL WYATT: Yes, that comes to Tom Isaacs. So what's the vision for the local area where this fuel would be, that is, if it doesn't clearly benefit that area in a way that can be, you know, well stated and measured and then progress made from that benefit, then the likelihood that they will take more and more fuel and possibly even become, you know, permanent because the whole community is benefitting from having fuel there, we can't have that vision with them, these organizations and work through how to make it safe and beneficial, then I don't see how we will ever get communities to commit.

What effort is being made to work with

communities like what's happening in Carlsbad? There's a sample to build on, right, where the WIPP is to make that happen?

CHAIRMAN DAVID VICTOR: Did you want to talk briefly about this Tom before I go to Martha McNicholas for the next question?

TOM ISAACS: I think the comments that were just made were self-evident. I don't think I have anything to add.

CHAIRMAN DAVID VICTOR: Okay. I think it's right. Let's get Martha's question and we'll see if there are additional comments on this. I think this is a key to the politics. There are lot of politics that have to line up. I think the point that WIPP took 30 years not because it's a 30-year problem, but because of politically it was a 30-year problem. That's crucial.

Martha, did you want to raise your question and then after you I'm going to go to --

MARTHA McNICHOLAS: Yeah, it's actually kind of a small one compared to the large lift of getting something nationwide restarted and Yucca Mountain restart. It goes back to one of the first items on the presentation, and that was the possibility of moving storage across the freeway

to Camp Pendleton, and I thought, and maybe I'm wrong, in a previous CEP meeting we pretty much put that to rest, that the navy and the -- hello?

CHAIRMAN DAVID VICTOR: Somebody's Netflix was on. Let's go back to the question was moving across the freeway was a viable option, and my understanding is that that's not on the table in a serious way, maybe I could ask actually Manuel, if you wanted to give us any commentary on that particular option.

MANUEL CAMARGO: Yeah, hi David, and Martha, thanks for the question. I mean, yeah, you're right, Martha, we did hear at a meeting in 2019 that the navy and marine corp are actually very much interested in getting the spent fuel off site, even where it is now because we occupy part of Camp Pendleton as it is.

And actually there's a letter from a Lieutenant General Dana from 2018 indicating just that, communicating with the NRC chairman at that time and asking for support to getting the spent fuel off site. At present there's been no change to the navy and the marine corp, their position on this. But, you know, that's not to speak to the full analysis that's being done by the North Wind

team, but certainly that navy position is unchanged as of now.

MARTHA MCNICHOLAS: Okay, because our commitment is still to return to the navy to -- return the property to the navy for their use. They want it gone-gone.

MANUEL CAMARGO: That's exactly right.

MARTHA MCNICHOLAS: Okay, thank you. Sorry that was kind of -- I saw that on the list, I go, that isn't still on the list. Thanks for the clarification.

CHAIRMAN DAVID VICTOR: My understanding is the mandate as it should be through the strategic plan effort is to look widely and to turn all stones. Sounds like the team earlier that was measuring estimating way the stones would be helpful here too, to turn all stones and that's a stone that should be turned, even though not exciting under it, but I'm sure we will hear more about that in the first quarter.

I want to ask Ted Quinn who wanted the floor earlier, Ted, did you want to say something?

TED QUINN: I want -- can you hear me okay?

CHAIRMAN DAVID VICTOR: Loud and clear.

TED QUINN: Okay. I wanted to follow up on Paul's second question and it really goes back to when John Kotek at DOE was doing the consensus building for siting of these facilities, including in California. We had a number of meetings there were reports driven, and I think the team has done an excellent job and I think my question is is there an evolution in the consensus building that you see in the coming years or lessons learned and others and we company advance the work that John Kotek did?

JOSEPH HEZIR: This is Joe Hezir, I'll address that. I think that work got a really good start in that kind of a process, and I also think that going back to the earlier question as part of that process I think would be an opportunity to identify the potential for other benefits to a host community, which I think is absolutely critical here.

We are hopeful that if the national program gets restarted, it would pick up on the work that John and his team had worked on. And our colleague on our team Elizabeth Helvey and several other members of our team are part of that and very supportive and wanting to extend that

work and see that work carried forward in the implementation of this plan.

TED QUINN: Thank you.

CHAIRMAN DAVID VICTOR: Excellent. Well, thank you all very much. I'm not seeing any other questions from the CEP members, and so I want to just thank Elizabeth and Joe and Tom for this update. We look forward to seeing you in the first quarter.

And just underscore I'm hearing from a lot of people the question of when do we get folks engaged, when do we write letters, how do we act. Clearly there's a collective action problem when it comes to federal policy, and people kind of want a road map for what to do and when and how, and I this think there's a lot of energy, good energy behind that. So let's be sure to have the political conversations in the first quarter in addition to looking at the individual options.

So what we're going to do right now is just take a three or four-minute break, and then we're going to go public comment period, we're running quite late today. And as far as I can parse from our online system here, public comment period is going to begin with Nina Babiarz and

then we'll have Donna Gilmore after Nina. But let's take a three-minute break, and we'll be right back in a moment.

(Recess taken.)

CHAIRMAN DAVID VICTOR: Okay. If we could start, let's start with Nina Babiarz, and then we are going to go to Donna Gilmore and if we could open up Nina's line, we will get started. Let's first just make sure Nina is there.

Nina, are you there?

NINA BABIARZ: I am. Can you hear me?

CHAIRMAN DAVID VICTOR: Loud and clear. This is magical. So I'm really delighted that you're our first speaker. I think it tends well we're going to have no technical glitches in the last segment here. Nina, the floor is yours.

NINA BABIARZ: Okay. I appreciate that, Dr. Victor.

Vince Bilovsky, what a slick PR stunt for a meeting agenda. Is this the approach that Edison has been calling stewardship? Donna Gilmore is a well-respected, dedicated, and informed public safety advocate who asks legitimate, valuable, and credible questions on behalf of our community that Edison's response to

this is an attack instead of engaging her concerns is indicative of Edison's culture that has led and created the current circumstances at San Onofre. So if Edison's agenda tonight is myth busting, let's just do that and bust the myth that anything done at San Onofre has been done safely, or bust the myth that Edison could be trusted after all, it's Edison's corporate culture that enabled absconding of human remains and the concealment of those remains in 1968 that would have stopped the construction of unit 1 in its tracks. The Edison VP of engineering Dwight Nunn who penned a letter who predicted the water hammer radiation leak that shuttered San Onofre.

Let's not forget the esteemed generators that lasted 11 months that gave the ratepayers of the 11 months of steam generators that should have lasted 40 years, the incestuous relationship, the secret deal with Warsaw, Poland, or the deal that was cut in secret behind closed doors that now has North Wind blowing wind up our skirts with alternatives that were dismissed almost immediately after the settlement by Palo Verde, and if you want to talk about alternative pathways, then you better be talking to the

Department of Transportation, the Federal Rail Administration, the Federal Transit Administration, the Federal Highway Administration just for starters of your regulatory packages. Broken shins and bolts, massive emergency planning exemptions, Palmisano had to apologize that he lied to hundreds of people and finally the whistleblower -- yeah busted in that myth of being trusted.

So, you know, come to think about how we got here in the first place and why North Wind is talking about the ratepayers' liability when all of what we're talking about has been the screw up, the design, and the lying of Edison is something that the Community Engagement Panel members should be questioning. Thank you very much.

CHAIRMAN DAVID VICTOR: All right. Excellent. Thank you very much for your comment. Next we're going to have Donna Gilmore, and then after Donna Gilmore, Charles Langley. Right now Donna Gilmore the floor is yours.

Donna, can you hear us? Your microphone is unmuted, Donna.

Let's go on to Charles Langley. We'll come back to Donna. Hopefully we can work off

line in sorting that technical issue.

Charles Langley, the floor is yours and then after Charles Langley, it will be Kale Walker and we'll come back to Donna.

So it could be that Charles Langley is the Public Watchdogs intern as opposed to -- I don't see Charles's name on the list here, so maybe it's Public Watchdogs intern. Could you mute that and ask.

Is that where you are now, Charles? Your microphone is now unmuted. No, I see. Charles Langley is here. Unmute his line further down. There we go.

Charles, the floor is yours. Charles, can you hear us? Let's go on now to Kale Walker, and we'll come back to Donna Gilmore, and then Charles Langley.

Kale Walker, Kaleen Walker, your microphone is on.

KALEEN WALKER: Can you hear me?

CHAIRMAN DAVID VICTOR: Yes, loud and clear.

KALEEN WALKER: All right. Well, too many things to comment on. Basically what we have, people who are listening around country and

across the planet, is we have the most dangerous substance ever made by man, ever in nature. Most dangerous substance being stored in canisters that are designed not to be inspected or repaired. They're -- the falsehoods presented by Edison with their repair technology are not valid.

The canisters do not meet critical safety requirements, so we have basically ticking time bombs, and we can move these things around or we can wait until there's a leak or explosion or whatever the heck is going to happen with this highly radioactive fuel, or we can do the prudent thing and get this stuff put into containers that are inspectable, repairable, maintainable over time, put it into a rolling stewardship program so that in the next decades and billions of years that the government figures out or spends all that money on trying to figure out where to take it, we basically have to face up to the fact it's not going anywhere until it's properly packaged so it can be inspected before it gets moved.

Basically I've been looking into this. I read the fine print. Holtec's letter that David Victor seems to be so proud of, basically confirmed what was a little bit confusing was that

those canisters release millions of curies even without a breach of the canister. That's nothing to be the proud of now we know it. Kris Singh very careful to not condone that repair technology, so read the letters; don't just listen to the propaganda that's being presented.

Let's see. I don't know. This is too much to say. Those -- the gouging, the loading of those canisters should have stopped with the first canister. That Holtec system should have been stopped being loaded with canister number 1 instead bed son bought it now the warranty is up and we own it. The people, ratepayers, taxpayers we're going to pay, we're going to pay the consequences. This is serious.

CHAIRMAN DAVID VICTOR: Thank you very much for your comment. And I see there are also some comments that came this in advance about one of the repair technologies, and I'm sure the responses that topic will come up again.

Let's try to go back to the Donna Gilmore and Charles Langley. While you're doing that, somebody has said they want the floor to speak and they're dialing, the last four digits are 1379, but I don't see anybody with those last four

digits dialled in. If that's you, if you could let us know in some way, send me an e-mail or put something in the chat or go to the link that we have in the chat box, please let me know.

Right now, Donna Gilmore, your microphone is open, and the floor is yours.

DONNA GILMORE: Okay. Thank you. Can you hear me okay?

CHAIRMAN DAVID VICTOR: Loud and clear. Whatever you did was magical remember what the solution was.

DONNA GILMORE: They unmuted me is what happened.

So the Department of Energy in 2019 had a Sandia National Lab changed priority of the risk of short term through wall cracks in these thin canisters to a priority number 1 problem. So now we have the Sandia National Lab owned by the DOE and supposed to take all this stuff admitting this is a priority one short term through wall crack chloride induced stress corrosion cracking, which is the salt air there, and in addition, we have as those canisters were downloaded into the Holtec system, the walls were gouged and carbon particles embedded, which were another major trigger in

cracking for these canisters.

This is -- this waste, as Joe said, we're looking at centuries before it goes anywhere, if it ever does. I agree with that, and so we're stuck with it. Our only option is to replace these canisters with thick wall casks that meet American Mechanical Engineering Standards ASME, M3 standards. Switzerland is an example of doing interim storage right, they have monitoring inside and out, they have maintenance inside and out, they have redundancy, they store them in buildings for environmental and security protection, Sanonofresafety.org. You can learn about the Swiss system and how it compares to what we have.

And this is really the only option we have left regarding Holtec's letter. You know, I agree, millions of curies radiation comes right through the wall of those thin canisters there and Kris Singh, the president said that, you know, he could -- he recommends using a transport cask to put failing canisters in. Well, the NRC has to request to use that for storage, none at all, nobody submitted a request, they're not even anticipating any. So that's just, you know, smoke and mirrors. The repair technology is

nonexistent. The NRC has not reviewed or approved it, no one submitted an application for it. The Edison admits it can see precursors to some cracks. They're not even looking really, they can't see cracks.

So this is our number 1 problem. So I -- and to on regarding WIPP, Isaacs didn't mention that they had a hydrogen gas explosion there that shut the place down for three years. I have a long list of items but I think that's my time is up right now. But thank you.

CHAIRMAN DAVID VICTOR: Thank you very much, Donna, for your comments.

I want to go next to Charles Langley. Let's see if we can get you on the line here. Let's unmute Charles Langley's line.

Charles, your line is unmuted. Can you hear us?

CHARLES LANGLEY: Great, can you hear me?

CHAIRMAN DAVID VICTOR: Loud and clear.

CHARLES LANGLEY: Terrific.

Mr. Isaacs underscored the importance of community trust this evening and Sweden and Finland, and Edison lost a significant portion of this community's trust when it lied about a

near-miss canister drop on August 3 a couple of years ago, and I was pleased to hear tonight that we heard about another accident at the facility, but this apparent dig-in event where a piece of mobile equipment hit an electrified cable apparently, but what I'm wondering why wasn't the dig-in accident reported at the NRC's event notification page? This seems to be another violation of federal reporting laws that occurred on August 3rd.

And you'll recall that Southern California Edison misinterpreted, that was their claim. They misinterpreted the law on the August 3rd event and were fined for it.

So getting back to the issue of trust, I think it's great that Edison mentioned another potential accident at San Onofre that was averted, but when you don't report to the federal government and violate federal law, that's a matter of concern. The second matter of concern I have is that TEPCO, the owners of Fukashima, claimed that Fukashima was something called bono vacantia under the law. It's a Latin term. Bono vacantia means ownerless property for whom no one is responsible, and I heard Mr. Isaacs echo this

concept this evening when he talked about avoiding customer liability in the future. And this issue of why are customers, why would the public be liable for a privately-owned nuclear power plant with a government -- publically funded $4 billion fund for disposing of that nuclear waste that was essentially created by this private corporation and the NRC Southern California Edison, why are we going to be on the hook when Southern California Edison exceeds that $4 billion estimate, and they appear to be suggesting in their latest budgets that they will, and that they will be coming after us in the near future for rate hikes and that it's unlikely that the Department of Energy is going to assume control of this stuff, so if he can we get a little bit of clarification on this unfunded liability that ratepayers are suddenly expected to foot the bill for. Thank you.

CHAIRMAN DAVID VICTOR: Excellent. Thank you very much for your comments.

I want to say that whoever is at line 1379 if you do want to make a comment, please let us know. We're going to go to the last comment before that one, which is from George Allen, who is at line 2778.

So, George Allen, if we could unmute line 2778.

SANJAY GUPTA: For George, press star 6.

CHAIRMAN DAVID VICTOR: Okay. George, if you're hearing us at line 2778 if you could -- there you go.

GEORGE: Okay. I have appreciation for Randy Granaas and Ron Pontes because I was technician in the start-up of the ISFSI pad, and those dose rates are equal to or less than what I used to get in radiation survey.

My question was Greg Becker explained in the SC Times that the effluence at San Onofre letting out was reasonable, then someone from the Lawrence Foundation rebutted and said the effluence was not safe, and I was questioning or wondering if you could explain to the public that the type of emission that we produced did not give people the amount that someone like the Lawrence Foundation might put out that it's diluted, and we don't drink the water that comes out of the plant, so could you kind of explain the difference between what a Lawrence Foundation person might say and someone like Greg Becker could say?

CHAIRMAN DAVID VICTOR: Excellent. Thank

you very much for your comment.

My guess we'll be putting that comment back to Randall Granaas and Eric Golden. I don't know if they have a report from the Webinar Samuel Lawrence Foundation had today, so we'll get to that in a moment.

So I'm not seeing any other folks who want to the floor on the sign up list here and so I want to pause for a moment and ask Manuel, if indeed, that is the case, and if so, I want to give the floor to Dan Stetson and Martha.

MANUEL CAMARGO: Yes, David, I do believe that you've covered -- we had about five folks, so I think we're covered.

CHAIRMAN DAVID VICTOR: Okay. Thank you very much.

Dan and Martha, I want to give the floor back to you to help manage the questions in addition to the questions that were raised tonight, a number of questions came in advance, so let's put some of those as well to the folks we have here, especially since we have the benefit of the experts here tonight.

So Dan and Martha, the floor is yours.

DAN STETSON: Thank you, David.

Martha, would you like to go first?

CHAIRMAN DAVID VICTOR: Can we stop sharing the screen, so we can see people's faces? Maybe it's just me that's over zoomed. It's nice to see people's faces instead of slides. There you go. Thank you.

MARTHA MCNICHOLAS: Okay. Thank you. There were a couple of things that were brought up tonight that were also brought up on the pre-questions, and one is the batch release and safety of the effluent coming out and kind of combine that with how often we sample the water out there, so I think those are all related. Can somebody cover that one?

RON PONTES: Dave, do you want me to cover that? This is Ron.

DOUG BAUDER: Ron, this is Doug, why don't you cover it. I want to point out at the last meeting, we provided a very detailed presentation on the batch releases and how much -- what were the potential biological effects of radiation dose and the fact that we were well under limit. For example, this year I think we're of the 6 millirem dose limit, which is quite low to start with, I think we're only around

0.5 percent of that limit for the year so far, so I'll hand it back to you, Ron, if you want to work on the response.

RON PONTES: Thanks, Doug.

We're at about 0.47 percent of the 6 millirem limit so far. I think a better -- a more independent source of information about this I'd like to refer people to the Surfrider Foundation's blog where they engaged Dr. Buesseler from Woods Hole institute and Mr. -- Dr. Buesseler is an expert on radioactivity in our oceans around the world. He's done a lot of studies. He looked at what we're releasing in the oceans here, and he concluded it's completely safe.

There's a quote, I might not have it exactly right, but a person swimming here every day of his life for a hundred years wouldn't pick up any radiation hardly at all, less than a dental x-ray. So I think, you know, context is needed here. The releases that we're making are extremely low, and you know, there's already -- we live in a radioactive world, let's face it.

A lot of radioactivity surrounds us every day. The oceans unfortunately have some of that radioactivity there. The releases we're making as

we discussed many times, and this independent expert, Dr. Ken Buesseler has said aren't contributing anything to the background.

The other thing I want to say that is we have a very active radiation environment monitoring program. We share that information with the Nuclear Regulatory Commission, as we're required to in annual reports, and we've gone further. We've agreed to suggestions made by Surfrider in the certification of the EIR to add requirements to share that information on our website in a means that's easily understandable by a layperson, and we post that information. And it's clear that we're not adding any radiation to the environment.

You know, so I really think -- and I'll just mention one more thing, there was a webinar today, I didn't attend but it was by a gentleman, a doctor from the UK and, you know, he had a different view on it, but I really think his opinions are really misguided, but I would leave that to the members of the public to look for themselves.

I really encourage them to see what's posted on the Surfrider's Foundation website.

This is something that they engaged Ken Buesseler for, and we were not part of it. So I kind of leave it at that.

MARTHA McNICHOLAS: There were two references to, and I didn't see it, a rebuttal on Greg Becker's article from Samuel Lawrence, and I didn't see that or I don't know if Ron or anybody had seen that, and what was behind that or --

RON PONTES: That's what I was discussing. Samuel Lawrence Foundation sponsored a webinar today.

MARTHA McNICHOLAS: Okay.

RON PONTES: And they invited a lot of people, and, you know, I didn't attend, but my understanding is that that doctor had a different view on things than Dr. Ken Buesseler, but Ken Buesseler is an expert of radiation in our oceans, but personally I would trust him more about that particular subject.

MARTHA McNICHOLAS: Thanks.

Dan, do you want to go, or do you want me to continue?

CHAIRMAN DAVID VICTOR: Dan? Why don't you continue, Martha. I just got ejected from the system.

MANUEL CAMARGO: Dan is in the same place. We're letting Dan back in, so go ahead, Martha.

MARTHA McNICHOLAS: Okay. I can tap dance for a while, if you want.

There are couple of things regarding the crack mitigation and the metallic overlay, and I think that was -- as I recall that was fairly well-documented in the last EP and on the SONGS Community website, but can we clarify that again that about any qualification of that process.

JERRY STEPHENSON: Yeah, Martha, this is Jerry Stephenson, I'll take that question. Can you hear me?

MARTHA McNICHOLAS: Thanks, Jerry, yeah, I can, I don't know about David and Manuel.

CHAIRMAN DAVID VICTOR: Yes, yes, we can hear you.

JERRY STEPHENSON: If you can hear me, thank you.

First I want to correct the characterization of the nickel overlay as paint. It's much more accurately compared to a weld overlay, because it's metallurgically bounded to base metal, but it has an advantage over weld in

that doesn't heat the base metal to cause a heat affected zone, which sensitizes the base metal to cracking, so it's a kind of the best of both worlds there. I call that we -- we refer to it as simply metallic overlay, so that's what I'll call it here.

We made a presentation in December as noted in the questions since then. There's been a lot more testing out there. EPRI reported at a meeting last week a very positive development, the metallic overlay process actually impacts -- imports a compressive stress layer onto the surface of the base metal.

Remember, compressive stress arrests stress corrosion cracking, that's why we did all the peening. That's very positive. Additionally, the Coastal Commission hired a third party reviewer, a very esteemed engineering firm out of New York City called LPI Incorporated. They did a review of a lot of things including the metallic overlay process. They found it to be an appropriate repair.

That report -- as far as documentation that report from LPI as well as Coastal Commission staff report that approved the process are both

linked on the SONGS Community website.

MARTHA McNICHOLAS: Thank you for summarizing that. That is what I remember from our last meeting.

CHAIRMAN DAVID VICTOR: Can I just jump on this issue, Martha, for a moment?

MARTHA McNICHOLAS: Please, yes.

CHAIRMAN DAVID VICTOR: Help us understand this issue with NRC approval. I'm still -- maybe there was covered in the various times I was being ejected from this, does this need to get approved? Would that be something we can do after an event or some situation arose and you needed to get approval and has to be done a specific condition or how would that happen?

JERRY STEPHENSON: So the NRC isn't in a position to give us a generic approval, pre-approval to use this process. That's not the way they do business. However, they are very interested in this process because they get the same questions we do about what would happen if there was crack and they're happy that SONGS took the lead in developing this process.

They reviewed our process, they reviewed a draft 7248 that we had unofficially in a

meeting. We showed it to them. They didn't keep it, because if they kept it, they would have to -- I don't know what -- but they reviewed it, they gave it back to us, they didn't have any comments, any negative comments about it. They told us in the meeting that they felt like the metallic overlay process could be used with the 7248.

7248 is the process in the Code of Federal Regulations that allows a utility to do a repair in this case without prior NRC approval. So at the time that we need to do the repair, if that should ever happen, we would do our engineering evaluation, we would prepare a 7248 evaluation that would conclude that it could be done without prior NRC approval, we would at that time probably get a third party review again, because we always want to make sure that we have all of our ducks in a row, and then we would proceed with it.

After we did that, the NRC has the opportunity to inspect all 7248s. They might even choose to inspect a 7248 evaluation before we did the repair. All of those things would be handled at the time that they're needed. It's hard to put something like that on the shelf.

CHAIRMAN DAVID VICTOR: Thank you very much.

Martha, back to you, and I think we may have Dan back as well. But what do I know?

MARTHA McNICHOLAS: Okay. There were a couple of things brought up regarding transportation, and I think one of them is the transportation of the debris that we've already had the first shipment go out and how we monitor that during the transportation, and the other question, I believe, is more related to the transportation of the spent fuel canisters.

I don't know if you want to separate those two questions or all be part of transportation.

RON PONTES: Hey, Martha this is Ron. I'll take the first part there about the rail cars that we carrying the waste away from SONGS. And so those rail cars are monitored and surveyed for radiation prior to departing the site, and they're tracked until their delivery at Clive, Utah. When they're loaded, the rail cars will meet all NRC Department of Transportation and Federal Railway Administration requirements for radioactive shipments.

I think what would be really appropriate, though, would be to ask SDS, our contractor to come back at the next CEP meeting and really show the rail route out of here, out of SONGS and up to Clive and how they intend to move it so that people could understand how that would work precisely.

Generally speaking, the rail cars are going to travel over existing rail lines between here and Clive. The possibility that probably going to take some of these cars a little bit south of here to a rail staging area that's just south of the marine corp base until they get a few cars there, and they'll take them onto Clive from there.

SDS is better equipped and more knowledgeable, and they can give the details, and I think that would be much better for the public to hear.

CHAIRMAN DAVID VICTOR: So we have for procedural reasons, I think the first quarter meeting is going to be very focused on spent fuel and moving it out of here and so on, but I think the second quarter-ish, we've got an invitation our to SDS, a major dismantlement will be

underway, and I think we should start organizing some questions around what are the issues around rail, are going to be seeing 100, 120 car trains leaving and how often, so things like that.

Back to you, Martha, are you going back and forth at the end?

DOUG BAUDER: Actually, David, Ron and I were conversing when this question came in on transportation. We'll put together an appropriate package on that, given the number, magnitude of rail shipments to Clive, Utah, and all those controls that the railway system has including being able to track the rail cars through a GPS system. We'll bring it in. I agree it's a little too much for the first quarter. We'll address it.

I think Martha's second -- the second part of the question had to do with the shipping of the fuel canisters, which I'll hand off to Randall for. Randall inserted -- can put together the answer but really the shipping component of the canisters of both the 24 cell design of the BN system and 37 cell design under the Holtec system was covered under part 71, and the specific certificates of compliance for that are on register.

But, Randall, if you're still on, if you would provide additional details, that would be great.

RANDALL GRANAAS: Yeah, Doug, I think you got it covered.

So the NRC does post the certificate of compliances for each transportation cask online. We can provide that link, and you can go to certificate, and you'll see that our canisters are listed as an approved canister to go with that they call package, and that's all online for the three different canisters, which they all have a different transportation cask. I don't think there's much more that I can add to that.

MARTHA McNICHOLAS: Thank you.

Dan, do you want to --

DAN STETSON: Yes. Thank you. I'm back, but I don't know all questions that were asked. I'll jump to some of those towards the end. Charles brought up a couple questions, one of those had to do with the potential liability.

Joe, do you think that there's a potential to exceed the $4 billion in the trust fund and if so, Doug, is there a potential for the SCE customers to be on the hook for some

additional costs?

JOSEPH HEZIR: I would say that it's a risk factor that cannot be quantified, but if the liability issue would involve if there was some sort of a release or accident when the spent fuel was -- if it was moved off the site, but it was still technically or legally owned by SCE and the federal government did not take title to it, and so that would be, you know, it would be that kind of scenario that would arise, and I think it's very hard to put a number on that right now.

But it's something that we identified in our analysis of the alternatives for private storage in an area that we would be very concerned about because it is -- because you cannot quantify it. It is a major risk factor.

So it's hard to say right now whether or not it would be something that would bust the $4 billion budget or not. I guess all I would say I don't think the $4 billion budget assumes an allowance for that kind of event.

DOUG BAUDER: Right. Thank you, Joe.

Maybe to talk briefly about the trust. We have a healthy decommissioning trust we discussed the trust more than a few times.

There's an allocated portion of the trust to cover nuclear fuel. The way this works is under the Waste Policy Act of 1992, the federal government was to supposed to start taking title of fuel I think by 1998. Joe would have all the numbers, but that did not occur.

For SONGS, like many nuclear stations around the country, we periodically enter into settlements with the Department of Energy to reimburse us for costs of things like constructing the ISFSI facilities and the operating and maintenance costs for properly storing and inspecting and maintaining the fuel, and these settlements come in tranches, and when we receive the settlement dollars from the DOE, we simply allocate them back to ultimately through to the customer.

So you could postulate for SONGS a scenario where if we go out many, many years, and we're actually looking at that now, what does our trust look like beyond 2050 as we go through our decommissioning cost estimate process for the CPUC, you could go into a scenario where if we go out many, many years, presumably beyond 2050, we would be in a position where we would be directly

allocating from the DOE back, and the trust funds would be depleted in the area of fuel. That's not to say we wouldn't have trust allocations elsewhere, so I think it's very premature to assume that we just run out of dollars in the trust to cover the fuel storage and the maintenance, but once again, it's our desire for the federal government to step up and take care of their obligations, which is, in part, to address the title situation that Joe mentioned, because, you know, it wouldn't be a good situation for us to transfer the fuel and not be able to transfer title and still maintain that risk to the company and that risk to our customers.

DAN STETSON: Got it. Thank you.

I have a question I would like to direct to Tom Isaacs.

Tom, as we went through the discussion of the interim storage it was also brought up that we should reevaluate a permanent storage. I know you've been involved with this a long time, and there's some other potential sites besides Yucca Mountain that were identified as potential sites. I guess question number 1 is where are they, and do you think there's a possibility that any of

these may be revisited as a potential site for permanent storage?

TOM ISAACS: So that's a very good question. I don't think I've been asked that question before, Dan. Those -- when the Nuclear Waste Policy Act was passed, sites were what we called grandfathered in as candidates for the repository. There were nine sites. They were seven in salt, because salt had been seen in the earlier days as a potential good medium for disposing of waste, and the other two were federal reservations. One was at Yucca Mountain, and the other was called Richland, Washington, the Hanford reservation, because it was thought if you already had nuclear activities at a site, maybe there would be some advantages of siting it there.

Those were the only nine candidates, and they were evaluated strictly on their long term safety implications. There was no attempt to in any sense to establish a dialogue of leading to partnership with any of those sites in any of those states. It was based on the idea that the site that looks the most promising to isolate the waste for the long term, is the one we should pick. That's how we got Yucca Mountain in

addition to the political side of it.

Yucca Mountain looked at the time like the most promising site when you looked at long term safety implications. So I think your question I would say if you were to go back, you wouldn't go back and say let's, once again, revisit those specific sites. You would go back and say, We need to find a marriage potential between a site that's suitable, and fortunately the good news is lots of places in this country that are scientifically suitable to isolate the waste and a local community and ultimately a state and if any affected Indian tribes that we can work together to build a reservoir of trust and cooperation and partnership so that we -- all we need is one. We don't need to win the Miss Popularity contest.

We need to find one situation where we could make people's lives better in a local community, at the state level, at the regional level while solving this important national problem.

DAN STETSON: Thank you.

CHAIRMAN DAVID VICTOR: Can I just while you're getting the next question ready, Dan,

somebody has put into the online form, can we mention the names of the people asking the questions, because they didn't hear their names. So if that's you, could you go submit the form again and tell us what your name is and how you want to get the floor, and we'll give you the floor. Please do that.

And, Dan, back to you or to Martha.

DAN STETSON: Okay. I'll do one last one and hand it back to Martha, and this is from Charles Langley, and it has to do with the recent incident, and this is a question, I guess, directed to Doug. Were you required to notify the NRC because of this incident?

DOUG BAUDER: Great question, and the short answer is absolutely no. This was an incident that occurred outside of the nuclear power block. It was actually the electrical line that was contacted by the excavating equipment was for the line that feeds the administrative building, so there was no require to report to the NRC operation center.

Reflecting on the original question or the comment, back in the 2018 nuclear fuel near-miss event, there was a required report to

the NRC operations center that was not made, and SCE was cited for that by the NRC.

In this case there was no required operational center report. This was a near-miss event involving nonnuclear components. It affected personnel safety, so we stopped work. There was nobody injured. We did, however, make a report to the NRC promptly, I believe the next morning. I would need to verify that with the licensing folks, but I'm really sure it was the following morning we placed an informational call to region 4.

I would encourage anybody who had a question about that to reach out to region 4 if you don't trust what we're saying here, but once again, I and the team here, our desire is to be very open about our successes and things that need improvement around the decommissioning work, and we will continue to share those things.

CHAIRMAN DAVID VICTOR: Thank you very much.

So is it back to Martha now, Dan?

DAN STETSON: Yes.

MARTHA McNICHOLAS: Okay. There was one on the pre-questions about debris, dust, and

run-off from the dismantling operations, and if that's safe to the public and the environment, and there's the caveat here is acceptable and feasible is not proof.

So I know that was addressed in the EIR, but maybe, Ron, you can cover what the mitigations are for any sort of debris and dust.

RON PONTES: I would be glad to. Thanks, Martha.

Let me start at the beginning here. The decommissioning activities at Edison and its contractor SDS were both required to comply with state, federal, and local laws, ordinances, regulations, you know, the whole thing. And all those mitigation measures that are identified in the -- both the coastal development permit and environmental impact report that was certified by State Lands, so for debris we've got a number of things we have to do. We'll follow the waste management plan, that's APM 1 in the EIR, and that details the waste types and its expected regulatory requirements for disposal, and that plan includes both radioactive and nonradioactive waste streams and how they're processed, packaged, transported and so on to meet all of those

regulations that I just mentioned.

For dust suppression, you know, the demolition will generate some dust, but we'll control it. As buildings are demolished, they will be sprayed. We'll use water to spray the dust down so it doesn't become a problem. So, you know, we'll water it, we'll cover it, we'll treat it, we'll stabilize it with a dust suppressant. We'll do all those things to minimize the dust from leaving the site. That's another APM, APM 3.

And then, you know, trucks will be coming and going from the site too, so we'll be using track-outs to minimize -- shaker plates to minimize dirt and debris getting onto our roads, and all the trucks that will move and the rail cars will be tarped or covered, so there's no fugitive dust emitted from those as they travel.

And then just to remind everybody again about the releases that we make about water. We have a couple of things, one is the NPDES permit, that's the National Pollutant Discharge Elimination System permit that we have with the Water Board. That's how we -- that's the permit that allows us to make discharges to the oceans, and it has very strict and stringent requirements

that we have to meet, that along with the requirements of an NRC license, so we follow those requirements very strictly.

And then there's the Storm Water Pollution Prevention Plan, that's another plan that's approved by state agencies and by the Water Board, and that provides that -- the control so that we're complying with federal, state, and local storm water regulations, so we're following all of those, including best management practices that are implemented along with that.

And then, you know, there's other things there's a spill prevention and control countermeasures plan, there's a spill contingency plan, there's a hazardous materials business plan. There's a whole number of plans that we have to comply with.

I know that doesn't go to the point of the person asking the question to provide proof, but, you know, we're inspected by federal regulators and state regulators that come to the site and inspect our compliance with these programs to make sure that we're doing what we said we would do and what we committed to do in these permits and licenses.

MARTHA McNICHOLAS: Okay.

RON PONTES: I hope that helps answer the question.

MARTHA McNICHOLAS: And, Ron, while I have your there, this is a question that was asked and I actually have a question to the -- what do they call it -- the intake conduits that are actually out in the ocean. I thought I remembered back with the California Coastal Commission that those were going to be left in place, but there was a question about when those might be removed and how does that fit in the overall schedule?

RON PONTES: That's a two-part answer. In this phase of the decommissioning come about 2024, 2025 in that time frame we'll stop making batch releases to the ocean through those conduits. We'll close the conduits at that point. And we're going to remove the intake structures off of the intake conduits. There are four large intake structures, and they'll be removed.

We'll also remove from the discharge conduits all of the man-way access ports. Those are vertical risers that come off of the discharge conduits, and we'll remove a small number of the diffusers from each of those conduits. Now the

horizontal conduits, the big conduits that are installed below the sea floor, that disposition of those conduits won't happen until later.

We believe in the future they are likely to be dispositioned to remain in place because it will be very environmental disruptive to pull them out of the sea floor, but right now we don't know how that's going to be finally dispositioned. That will be performed after -- during the period of time we're doing site restoration here.

The reason for that is we want to maintain at least one of those conduits available to us in case we have to dewater the site to remove all of the substructures that are below the water table. That's a future item decades down the road.

MARTHA McNICHOLAS: Okay. Thanks. That helps clarify it for me too, because I was getting the two under the floor sea floor and above sea floor confused. Thank you on that.

Let's see, there was one, and this one I didn't know about but somebody brought up that there was an ad for seeking bids from the cities of Riverside and Anaheim to sell their interest in SONGS.

And, Manuel, this may be one for you. I -- you know, this was kind of I don't remember that or where did that come from? Is that -- are those -- do these cities own an interest in SONGS, and why would they want to get rid of it?

MANUEL CAMARGO: I can speak to that. There are four either current or former owners of the SONGS. There is of course SCE San Diego Gas and Electric, and that as well we have Riverside and Anaheim. So both Riverside and Anaheim have expressed an interest in transferring their share. Collectively they own about 5 percent or have owned about 5 percent collectively of SONGS and they're looking to transfer that to another party. I can't speak to their motivations for doing so. So that's with the two cities.

I would tell you that with SCE and with SDG&E certainly at present we have no plans to transfer our ownership of SONGS.

MARTHA McNICHOLAS: Okay. Those are basically all the ones that I kind of understood.

Dan, did you have any others?

CHAIRMAN DAVID VICTOR: Any other questions, Dan?

DAN STETSON: Yes. This would be for the

North Wind team and during the discussion you talked about leveraging congressional delegations and also building alliances with other stakeholders to amplify advocacy efforts.

Could you speak on that a little bit in terms of how we would do that. Would that be connecting with other utilities and pressuring their local congressional folks?

JOSEPH HEZIR: This is Joe, I'll speak to that. I wanted to check to make sure I wasn't on mute here.

I think it involves working in two dimensions. Obviously one dimension is the local stakeholders of the business community, the environmental community around SONGS, and then the other dimension that I think gets to your question is the, you know, some of the issues in finding a suitable offsite storage facility is not unique to SONGS but is shared by many other plants.

As I indicated, I think there were 19 currently are shut down, going through some stage of decommissioning, and there will be more coming in future years, and it covers now 16 states. And so to the extent that there is some commonality of interest there in terms of getting movement and

putting pressure on the federal government to kind of, if you will, do its duty under current statute and current contracts, the idea would be to work -- work with the California delegation, which is a very formable delegation in congress and some of these delegations in these other states.

I think is David Victor pointed out earlier this is an issue that we're working on now that we'll try and flush out in more detail that will be, I think, very important for the final report, and in particular also for the final SCE action plan that will accompany the strategic plan.

So a simple answer is we want to move in two dimensions, the local dimension and national dimension.

DAN STETSON: Thank you. That's all I've got, David.

CHAIRMAN DAVID VICTOR: Excellent. Thank you very much, Martha and Dan.

I want to pause for a moment and see if any of the other CEP members want to come back on any of the questions. I do know the hour is late, but I want to make sure we have the opportunity, and I'm not seeing any of the other CEP

microphones open.

I see Tom Isaacs, did you want the floor?

TOM ISAACS: No, I'm sorry. I apologize.

CHAIRMAN DAVID VICTOR: No worries. Okay. Well, thank you very much. This has been a full meeting we're going to go to the last segment here, first some closing comments. First I'll give the floor to Doug Bauder on any closing comments, and I'm going to make two clusters of brief closing comments.

Doug, the floor is yours.

DOUG BAUDER: Thank you very much, David. I appreciate the engagement tonight. We had a lot of material so I guess we'll look at, you know, how to streamline for the next meeting, but I would say we always say that, and we always have a lot of material.

I appreciate those on the SONGS team that were able to step up and provide some of these details, and I appreciate the questions and the challenge. And I've said this before and I'll say it again, the decommissioning is a long path. We're in this project through about 2028, and there's going to be challenges to the project, there's going to be successes. We are going to

continue to share that and even getting to a finer point where Ron proposed, you know, the proof answer as to our environmental mitigation controls. I'll tell you as time goes by, we'll be inspected by agencies more and more, we will share those inspections results, we're going to be open it about, we're going to be open about errors we need to improve on, and I think over time the project itself will continue to improve.

Last thing I'll say is I really appreciate the sharing by North Wind's team here tonight. I think it was a good way to status where we're at. I like the discussion the around coalition forming, because I think that's something that simply has to be done, and so we'll hear more about that later. Once again thank you.

CHAIRMAN DAVID VICTOR: Excellent. Thank you very much. I want to echo what you said at the end there, Doug. I really appreciate the North Wind team, along with Tom Isaacs coming in to talk about something that's still a work in progress, and I know that's awkward I think that's important for us to be more engaged with that work in progress so that we are in some sense ready for the first quarter next year.

I also want to thank you, Doug, for all the candor and also for getting -- continuing to bring in members of your team who have frontline responsibility for the different topics so the members of the community can see and learn from the different folks who are responsible for things.

I want to draw out very quickly six key takeaways for tonight. Before that, I want to suggest to all of you short sellers out there that I would go after Skype for business. I think pretty dark on them right now.

But six quick takeaways. First, we thank tonight Rich Haydon and Paul Wyatt for their service to the CEP. We really appreciate all your contributions.

Second, the phase demolition of structures is going to be begin at San Onofre in earlier 2021, and we're going to hear more about that in future meetings very soon.

Third is that a full program for monitoring at the fence line realtime radiation levels almost unparalleled to the industry is now in place and is finding, as expected, extremely low levels that are effectively and

distinguishable from background.

And I also appreciate -- I can appreciate that there are different points of view about the need for monitoring on the top of the NUHOMS system. I'm glad that folks raised their concerns, and I'm glad also that you went and measured. I hope we continue to have a fact focused discussion about where the risks are and where the risks aren't. And I appreciate the update what you're finding at the plant including this trace quarter teaspoon of potassium chloride equivalent at the plant. I think it's a very, very important part of this ongoing transparency that needs to be built and maintained.

Fourth key takeaway is about sea level rise. We had a pretty extensive discussion about that. I hope we're going to segment that out and put it up on the website, update it where it needed concerning the robustness of the system against even the extreme H plus plus scenario.

Fifth take away is the strategic plan, which we're going to hear about more fully in the first quarter, but we heard about in part today, and it's got all the different elements. It's got questions about where the fuel would go, spent

fuel would go, questions about transportation, questions about policy strategy, collective action and so on, and also frankly, sobriety about which options are viable and which options are not viable. So that's very important and that would be on the agenda for the first quarter.

The sixth takeaway is just directly on that issue of the strategic plan. What I interpret from what was said tonight is that consolidated storage is the leading option. The site is unknown. It seems not viable to do that without some plan for restarting a permanent repository program, and that's going to require getting communities where that were might be located more engaged, and that is a long haul and has to be done properly was not done properly in the Yucca world, and that's not nature of where we are.

And I think the kind of concept that seems to be emerging is we need to ready for WIPP like opportunities, by which it's the concept of how that was done, not the particulars of WIPP. And the concept was to get the pieces in place to the best that's feasible and then work hard to either make sure you know when an opportunity

arises or create those opportunities in a responsible way, and that's where I think we want to be learning more about how to turn that into reality and when and how people need to do things to help contribute that to come the new year.

So those are the six takeaways that I think come out of today's meeting. I want to put up one slide before we go, which is slide 69. And slide 69 will come on the screen and while slide 69 comes up on the screen, which might not actually not happen, I want to say the first quarter meeting, which is going to be roughly March-ish next year, is going to be about the strategic plan implementation. The second quarter meeting, which will be May-ish next year will be about the dismantlement overview, and in particular SONGS Decommissioning Solutions, SDS, a lot of acronyms in this business apparently pause and turn them into English. SDS will be in to talk about what they're doing with the dismantlement. Hopefully we'll get some input from what they learned at other sites, because we're not the first to go through this and a lot of learning has happened, and that will be beneficial. And we need to be attentive to the

other kinds of questions that might want to be addressed at later meetings next year and certainly invite any and all comments, send them to us by e-mail or through the e-mail address on songscommunity.com more directly if you've got ideas about other things we should be covering.

With that, I want to thank everyone for your patience. We are a bit over time, but not spectacularly so, at least compared to our standard and want to urge you stay healthy. Unusual times, we're going to get through it and have a nice evening.

MARTHA McNICHOLAS: Happy holidays to everybody.

CHAIRMAN DAVID VICTOR: Indeed.

(WHEREUPON THE MEETING WAS ADJOURNED AT 8:46 P.M.)

(CERTIFICATE OF COURT OFFICER ATTACHED ON FOLLOWING PAGE HEREOF.)

CERTIFICATE

OF

CERTIFIED SHORTHAND REPORTER

I, the undersigned, Certified Shorthand Reporter of the State of California do hereby certify:

That the foregoing proceedings were taken before me at the time and place therein set forth; that any witnesses in the foregoing proceedings, prior to testifying, were placed under oath; that a verbatim record of the proceedings was made by me using machine shorthand which was thereafter transcribed under my direction; further, that the foregoing is an accurate transcription thereof.

I further certify that I am neither financially interested in the action nor a relative of employee of any attorney of any of the parties.

IN WITNESS WHEREOF, I have this date subscribed my name

January 3, 2021

Certificate Number 12983

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