CEP REGULAR MEETING
DEPARTMENT OF ENERGY AND
PACIFIC NORTHWEST NATIONAL LABORATORY
SPENT FUEL TRANSPORTATION UPDATE
and SONGS DECOMMISSIONING UPDATE BY
SAN ONOFRE DECOMMISSIONING SOLUTIONS

Via Microsoft Teams

TRANSCRIPT OF MEETING

October 26, 2023

Reported by:
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Assignment #5698409
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SAN ONOFRE DECOMMISSIONING

COMMUNITY ENGAGEMENT PANEL MEETING

STATE OF CALIFORNIA, COUNTY OF ORANGE

Transcript of video-recorded meeting, via Microsoft Teams commencing at 2:01 p.m., Thursday, October 26, 2023.

COMMUNITY ENGAGEMENT MEMBER ATTENDEES:
CEP CHAIRMAN - DAN STETSON, THE NICHOLAS ENDOWMENT
CEP SECRETARY - MARTHA McNICHOLAS
VICE CHAIRMAN - HON. VICTOR CABRAL - SAN CLEMENTE CITY COUNCIL MEMBER

CAPTAIN MEL VERNON - SAN LUIS REY BAND Of MISSION INDIANS
MICHELLE ANDERSON - ORANGE COUNTY SHERIFF'S DEPARTMENT, EMERGENCY MANAGEMENT DIRECTOR

TED QUINN - AMERICAN NUCLEAR SOCIETY

HON. JOHN TAYLOR - SAN JUAN CAPISTRANO CITY COUNCIL
GARRY BROWN - PRESIDENT/CEO - ORANGE COUNTY COASTKEEPER

SCOTT KIBBEY - CALIFORNIA STATE PARKS, SOUTH SECTOR SUPERINTENDENT
MARNI MAGDA - SIERRA CLUB
MIKE BALSAMO - SR. VP, GOVERNMENT RELATIONS RANCHO MISSION VIEJO AND SOUTH ORANGE COUNTY ECONOMIC COALITION BOARD MEMBER
HON. KATRINA FOLEY, ORANGE COUNTY SUPERVISOR, 5th DISTRICT

KEVIN BARRIOS: ALTERNATE FOR VALENTINE "VAL" MACEDO - LABORERS' INTERNATIONAL UNION OF NORTH AMERICA, LOCAL 89

KRISTAL JABARA - (Alternate for Jim Desmond)
SAN DIEGO COUNTY SUPERVISOR, 5th DISTRICT
HON. JIM DESMOND - SAN DIEGO COUNTY SUPERVISOR, 5TH DISTRICT

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SOUTHERN CALIFORNIA EDISON SCE REPRESENTATIVES:
DOUG BAUDER - RETIRING CHIEF NUCLEAR OFFICER AND VICE PRESIDENT OF DECOMMISSIONING

FREDERIC BAILLY - NEW CHIEF NUCLEAR OFFICER AND VICE PRESIDENT OF DECOMMISSIONING
VINCENT BILOVSKY - DIRECTOR DECOMMISSIONING PROJECT

JERRY STEPHENSON - SCE INDEPENDENT SPENT FUEL STORAGE INSTALLATION (SFSI) ENGINEERING MANAGER
RANDALL GRANAAS - SCE NUCLEAR FUEL AND ISFSI ENGINEER

RON PONTES

GUEST SPEAKERS:

ERICA BICKFORD - DEPARTMENT OF ENERGY

STEVE MAHERAS - PACIFIC NORTHWEST NATIONAL LABORATORY

SCE TECHNICAL SUPPORT PRESENTERS:

MANUEL CAMARGO - Strategic Planning & Stakeholder Engagement
JULIA MARTINEZ - Presentation Slides

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CHAIRMAN DAN STETSON: Okay. Well, welcome to today's meeting of the SONGS Community Engagement Panel. For those of you who are new and don't know me, my name is Dan Stetson, and I am the volunteer chair of the CEP.

Let me first thank the members of the CEP and the general members for joining us this afternoon. And I would like to give special thanks to Vice Chair Victor Cabral and Secretary Martha McNicholas. Please note, as you can see, this meeting is being recorded.

Today's meeting we've really got two key important topics that we're going to discuss. First, we'll hear from the Department of Energy, and the Pacific Northwest National Lab about their work on railcars to support the eventual transportation of spent nuclear fuel sites from sites like SONGS.

Secondly, we'll hear from the decommissioning general contractor, San Onofre Decommissioning Solutions regarding the status of the dismantling of the plant.

A draft presentation, as you might have

seen, was posted a week ago.

Let me thank Julia Martinez from SONGS for advancing the slides for us. And thank you, Julia, for pretty much keeping me on track. If we can move on to the next slide.

As you can see, we have a really full agenda. We also have a modified approach to the public comment today. After a few brief comments, we'll go to our first main topic with the Department of Energy and the Pacific Northwest National Laboratory. Immediately following this, we'll have our first Q and A session. There will not be a break.

Our first Q and A will be about the railcars, and I think the presentation that I just mentioned. After that is completed, we'll turn over to matters including our second main topic with the decommissioning contractor.

We'll then wrap up with the second general comment period, and there will be a break just before that. In all we have a total of at least one hour dedicated to public comment. Going through the agenda, we will hear about the latest work of the Spent Fuel Solutions Coalition from coalition co-chairs/CEP members/county supervisors

Katrina Foley and Jim Desmond.

SONGS new chief nuclear officer is Fred Bailly, and Fred, we welcome you. Welcome to tonight's meeting -- this afternoon meeting. We'll also hear from decommissioning director Vince Bilovsky who will help us understand the latest project and the schedule.

Then we'll hear from Rich Kalman who will cover the nuts and bolts of the community dismantlement work.

For members of the CEP, we welcome your comments during the presentation. For the general public, we'll have a full hour dedicated to public comment as mentioned below.

If we could move onto the next slide. With reference to the meeting timing and format, we're starting our meeting early today in recognition that our guest speakers from the DOE is participating from Washington, D.C., and back there it's already 5 o'clock.

Today's meeting is a virtual only meeting, and this is really because at the last two meetings they were hybrid, and as you may recall, we had a few folks that showed up in person, a good number that showed up virtually but

because of that and because of the expense of that, we're going to be having this meeting in a virtual format.

Also, with respect to the meeting format we're going to have two public comment periods for a total hour, which is our normal custom. That's one half hour for the DOE (Department of Energy) and the PNNL (Pacific Northwest National Laboratory) and later half an hour for other topics.

Finally, on behalf of the CEP let me thank Doug Bauder for his work as a chief nuclear officer. As you know, Doug is retiring at the end of this month, and this is his last CEP meeting.

Doug, I want to say that you've never been shy about answering questions and have always appreciated when you put the word out to accept the challenge, and we really want to thank you for that and wish you the best on your retirement.

Do you have anything that you would like to say at this time, Doug?

DOUG BAUDER: Thank you, Dan. I really appreciate that. I appreciate the comments. I enjoyed my four years here as chief nuclear officer, I've enjoyed working with the panel. I

think the panel leadership under your leadership and with Victor and Martha and others is going to continue forward in a way that encourages openness and sharing what's happening here at the site with the public.

I want to mention that the last CEP meeting that I hosted, that you hosted that we had on site here on August 17th was, in my mind, very successful, and that was a really good time for folks to engage and tour and see what's going on. I completely understand why we have this meeting now all virtual due to the format and time zones, as you mentioned.

So this will be my last meeting. I plan to retire on November 2nd. I want to -- once again, I want to thank you and the rest of the panel members. I think we should be proud of what we've accomplished here in terms of engagement with the public, and being able to answer those questions as you mentioned and to be introspective when we're challenged with something, to think back how could we have done something better, and how could we improve for the next meeting.

So I think we'll continue to do that, I think we'll continue to do that under Fred's

leadership, and with that, I'd like to pass the torch to Fred, Fred Bailly our new SCE vice president and chief nuclear officer.

I want to mention, Fred and I have done a pretty thorough turnover already for the past month or so, so now, Fred, if you would like to say a few words, that would be great.

FRED BAILLY: Yeah, thank you, Doug, and thank you to the CEP members. I'm happy to be here today, and to meet you all, even if virtually. I'm definitely committed to continuing our efforts to keep CEP members and the community updated about the SONGS decommissioning project.

A little about myself, I have almost 30 years experience in the nuclear industry, more than half of that in the U.S., experience in Europe as well. My experience is mostly in spent fuel management and decommissioning as well as investment projects or Department of Energy contracts. So that's just a little bit about myself. With this, Dan, turn it over to you.

CHAIRMAN DAN STETSON: Thank you, Fred.

And, Doug, once again, thank you so much for all your efforts and really be careful as you get on your bicycle and hit those mountain trails.

I know that's one of your favorite things to do, but be careful out there.

At the same time, Fred, we welcome you to Southern California. We look forward to working with you. I know that just like Doug said, you will accept the challenge for the questions that come and accept those also in the spirit in which they're given.

I also want to say a quick word and thank David Victor for his almost decade lead efforts on behalf of the CEP. He really has laid the groundwork, and he's got big shoes to fill, and I'm certainly going to do my best.

If we can move on to the next slide, please. As I've said, I'm a volunteer in the CEP. I've actually been on the CEP since 2014, but this is really my first day as chairman of the panel, so I ask you to please be kind and understanding.

You also see here on this slide a list of the stakeholders and the members of the CEP. You know, it's a very diverse list. Some are appointed by third parties, and others are selected by SCE. All of the elected officials were either appointed by the city council or represent the community, especially those that are

closest to the plant.

Let me say that I look forward to working with all of the members of the CEP. Some of you I know from working before, and some of you are new, and I hope to actually spend some time and get to meet you over some coffee.

Let me remind everyone that this group plays an important role as the primary interface between SCE and the surrounding communities. If I may, I really like to ask all of the CEP members individually to really lean in, engage, ask questions, request information, and as Doug Bauder would say, challenge, challenge SCE, because I'm sure that they will not shy away from answering the questions.

For the CEP, let us know what's on your mind what you're hearing from the constituents. I would also ask all of the members of the community to connect with the members of the CEP, let them know what's on your mind. I would ask all the CEP members to please share what you learn about the SONGS decommissioning with others in your network.

On behalf of the communities that you represent, the members of the CEP, thank you. You're all appreciated, we're all volunteers, and

this truly is important work. Thank you.

If we could move on to the next slide. We have a few -- and I'll go ahead, and we'll go on to the next slide after that. We've got a couple of brief updates. First the item on the left, during our third meeting of the third quarter meeting of the CEP on August 17th, Paul Blanch talked about the tour and the engineering-to-engineering meeting he had requested of SCE. I'm happy to report that that meeting did occur on September 7th, and I was like a fly on the wall, and I listened to the discussion online.

SCE engineers Jerry Stephenson, Randall Granaas, and Bob Yale provided a tour of the Spent Fuel facility and engaged in an engineer-to-engineer discussion with Paul Blanch and David Lochbaum. Charles Langley and Gary Headrick also attended in person.

SCE was able to provide responses to a list of follow-up questions including a 1972 study by a Dr. Wilson that helped to establish the design basis for a flood or Tsunami at SONGS. Even just over the last couple days there's been quite a number of e-mails and a batch of materials

was circulated by e-mail late yesterday, which will be posted on the SONGS website.

Overall, I think the September 7th meeting was very productive. We all learned a number of things, and it really provided a foundation for an ongoing dialog on a number of topics.

The second item, the one on the right, are things that I would like to give you an update on as well. As you may recall, I assisted Surfrider in their independent ocean water sampling analysis performed by two prestigious universities. This was taken on without any funding from Southern California Edison. It was funded by outside donors, and it was completely independent of SCE.

The two universities, as I mentioned, were quite prestigious, Woods Hole Oceanographic Institute and the University of California, Irvine. At Irvine, this is actually the same lab that discovered and reported the ozone depletion in the atmosphere due to chlorofluorocarbons (CFCs), so they're both very important and both very independent.

If you'll recall, I took the Surfrider

team out on my boat to collect water samples over three days before, during, and after a wastewater discharge. Orange County Supervisor Katrina Foley actually joined me on one of those days, and I have to say that was a picture perfect day.

This is after the water was cleaned up to federal standards through ion exchanges and the like. I noticed that Katie Day of Surfrider has signed on, and she's going to be giving some comments in the public comment section. So I'm going to wait to say a little bit more until after that, but I will say that the data from both of these studies by both of the universities, the data measurements did not reveal any increased levels of radionuclides due to the wastewater releases.

Okay. If we could please move on to the next slide. And now it's my pleasure we're going to introduce Supervisors Desmond and Foley for the Spent Fuel Solutions (SFC) update.

We could go ahead to move on to slide 8.

Supervisor Desmond, are you there?

JIM DESMOND: Yes, I am. Thank you very much. Am I unmuted?

CHAIRMAN DAN STETSON: You are. You are

loud and clear.

JIM DESMOND: All right. Thanks for the opportunity to provide an update on our coalition, which we've been very busy over the last few months. We're continuing to work with our federal leaders to raise awareness of the Department of Energy's consent-based siting process and demonstrate our support.

The Department of Energy recently announced that Paul Murray will serve as the new deputy assistant secretary for spent fuel and waste disposition. Filling that leadership role should be helpful for moving spent fuel in the future, so we look forward to working with Mr. Murray as we continue to support the Department of Energy's efforts.

In addition to raising awareness we're working on a strategy to facilitate legislative changes that would provide a more durable and integrated spent fuel management program that includes both storage and disposal, and this effort will include working with our congressional leaders to amend the Nuclear Waste Policy Act. We hope to have more progress and share that in our next CEP meeting.

Finally, I'm pleased to announce we added three new members to our coalition, the Spent Fuel Solutions Coalition. Over the summer we had two city councils, the city of Vista in San Diego County and Laguna Beach in Orange County passed resolutions of support.

So the Southern California leadership council has also officially joined. Their membership includes presidents and CEOs of some Southern California top companies as well as three former California governors.

So we appreciate the support of our members and look forward to continued growth and outreach and trying to get the politicians and communities educated on what's going on and how they can help out. So appreciate it, and thanks a lot, Dan.

CHAIRMAN DAN STETSON: Jim, thanks so much. Really, I just want to say a special thanks to you and to Katrina Foley, because I know that both of you have a lot going on in your district bordering the Mexican border. We're hearing a lot about that, so I really want to thank both of you for making your work one of your top priorities.

And with that if we could move on to the

next slide. And Supervisor Katrina Foley, are you there?

KATRINA FOLEY: Yes, I'm here. Can you hear me?

CHAIRMAN DAN STETSON: We can hear you loud and clear, thank you.

KATRINA FOLEY: Great, wonderful.

Good afternoon. I'm happy to share an update on our spent fuel solutions recent webinar, which took place September 15th, and before I do that, I would like to thank Doug for his support and all the work that he has done and wish him very much success and wellness and happiness in his retirement.

We assembled a panel of national experts to participate in the webinar, which focused on shifting influences and evolving narrative in the spent fuel space. You can see from the graphic that's up here some of the members of the expert panel. One of our advisory council members Tom Isaacs participated as the panelist in the discussion. Tom also serves as our independent strategic advisor to SCE, Southern California Edison, for Nuclear Waste Management and its former director of the Office of Nuclear Waste

Policy within the United States Department of Energy.

Katrina -- not related -- McMurrian from the Nuclear Waste Strategy Coalition and Rod McCullum from the Nuclear Energy Institute also joined Tom Isaacs on the panel. The panel provided insight on topics such as reprocessing and recycling, as well the history of the United States Spent Fuel Management program and current efforts related to the consolidated interim storage efforts.

This discussion generated significant interest and questions from the audience, and we encourage people to watch the video if you didn't attend, and you can, in fact, see all of our webinars on the spentfuelsolutionsnow.com/events. It's spentfuelsolutionsnow.com/events. You can access all of our webinars there.

We'll continue to keep you informed about these quarterly events and encourage you to follow Spent Fuel Solutions on social media, on Facebook, Twitter, and LinkedIn to ensure that you receive regular updates.

I'm also pleased to share about an update we did an Op Ed in August that I authored that ran

in the Los Angeles times. The Op Ed commended secretary of energy Jennifer Granholm and our congressman representative for this area Mike Levin for their leadership and their progress with regard to the Spent Fuel Solutions initiatives.

And in this column we outlined the three steps needed to move forward with the National Spent Fuel Solutions solution. One, ensure reliable funding -- can't do anything if we don't have any money, right -- identify permanent sites, and three, advocate for legislative action. The call also called on readers to take action by encouraging congress members to join Representative Levin's bipartisan Spent Nuclear Fuel caucus and join the Spent Fuel Solutions discussion, and also to petition your city council to join.

It's great to see that the city of Laguna Beach, which is in District 5 as recently joined, and I thank our Mayor Whelan for helping me to get that done.

Finally, would like to share details about an upcoming Department of Energy webinar that's next week. This virtual open house will encourage public dialog with the Department of

Energy and 13 consortia receiving $26 million in funding to help communities explore the consent-based siting. The webinar will take place on Thursday, November 2nd from 4:00 to 5:00 p.m. Eastern Time. So remember that's Eastern Time, 4:00 to 5:00 p.m. Eastern Time. If you can't make it, watch the video by visiting energy.gov/consentbasedsiting, and we encourage you all to stay informed, and we thank you for your participation.

And I'll turn it back over to you, Dan.

CHAIRMAN DAN STETSON: Thank you very much, Supervisor Foley. I have to say you are amazing just the amount that you're able to get around your district. Every time I look on the Web I see that you're visiting another spot, so you really must be tired at the end of the day, but thank you so much, again, for making this a priority with all the important things that you're already doing.

SUPERVISOR FOLEY: I did enjoy our outing collecting water samples, so thanks for that tour.

CHAIRMAN DAN STETSON: You're welcome. It turned out to be a perfect day out there. We had sunshine and dolphins and everything. A

couple days after that it was like victory at sea, so you picked the best day, that's for sure.

So let's go ahead and move on to the next slide, if we could, please. Shortly we're going to have our guest speakers from the Department of Energy and the Pacific Northwest National Laboratory joining us from Washington, D.C., and we're most appreciative, and the DOE is Dr. Erica Bickford director for the Office of Integrated Waste Management, big responsibility.

And also joining us from Washington State and the PNNL (Pacific Northwest National Laboratory) is Dr. Steve Maheras a nuclear engineer involved with integrated waste management activities up there. If we could please move onto the next slide.

This is the part where we really want to pay attention to, because it's going to relate to how you're able to participate, so please recall that we will have a dedicated comment right after this upcoming segment. Here you will see the directions for the online public comment. For online participation, as always, members of the public have had the opportunity to submit questions and comments in advance.

And I really want to submit a quick apology, because online it said that it was almost mandatory that you submit the questions two days in advance, and really what we meant to say was we encourage them, because you can actually still submit comments and questions right now as we're speaking.

Anyway, you always are welcome to submit those two days prior. Really what those do is you receive priority if you set them up in advance. For those participating in public comment during the meeting, please submit written comments and questions or sign up for oral comment using the online SCE form, and you've got the link that's on the screen here.

For CEP members, this is important, please raise hand, raise the hand on the icon under reactions at the top of the screen so you can identify yourself and make a presenter. If you are CEP members who are late, we may be unable to see you or your name to change your status from a guest to a presenter, and thereby, allowing you to open and close your microphone. In that case, you will have to use the raise your hand icon in order for us to see your name and make yourself a

presenter.

Again, the CEP members are encouraged to ask questions along the way. For CEP members calling in audio only to open and close your microphone, please use star 6, I repeat, use star 6 and keep yourself muted until you wish to speak. To raise your hand by phone, CEP members use star 5. Boy, that's a mouthful.

And then shortly after this with any questions, Victor and Martha will facilitate the public dialog. So hopefully that has been explained and we'll -- I'm sure we'll do our best to get through with that, and we have any questions, I'm sure that Lorraine and Manuel will help us get you on the screen.

With that, if we could move on to the next slide. Slide -- yes.

MANUEL CAMARGO: Hey Dan, Manuel here, pardon the interjection. We're a little ahead of schedule. I do not believe that we have Erica or Steve online at this point. They're expected at about 2:35 so in about ten minutes. If you wish, Dan, I was thinking we could jump to Fred's -- first off, is that correct, are Erica and Steve online and I just don't see them?

We could, if you wish, Dan, we could jump to slide, I think it's 46, and ask Fred to provide his brief updates at this point.

Fred, if you're okay with that, just want to be respectful of folk's time. So just thinking maybe we reshuffle here a little bit here, Dan.

FRED BAILLY: Absolutely.

CHAIRMAN DAN STETSON: That sounds great.

FRED BAILLY: All right. So the big picture let's start on the next slide with the decommissioning principles that guide our work here. Safety is number one both radiologic and industrial safety. It remains a top focus for us, and particularly workers, workers' behaviors, workers' safety.

Safety means being prepared for change in conditions during the dismantlement process and keep workers out of harm's way.

Stewardship is next, and it applies to everything we do here at SONGS. We're the stewards for safe storage of our spent nuclear fuel until DOE comes and picks it up. That's why the presentation by DOE and PNNL today is important update to us at SONGS, but also to other utilities around the country.

We have SCE and SDS, our subcontractors, some SONGS decommissioning solutions experts dedicated to dismantlement, waste packaging and transportation, and dedicated to protecting the environment during our dismantlement work.

Engagement, well, I see today, but that's not only today, our commitment to openness and public meetings like this one as well as our website, public speaking engagement and public tours. We hope those of you who participate on our onsite tours enjoyed seeing the progress that we've made with decommissioning and would share the experience with their friends and neighbors.

The last public tour was last Saturday, October 21st. Our next public tour is scheduled for Saturday, November 4th.

If we move to the major workstreams going on at SONGS right now, one is the dismantling, continued dismantling of the above ground structures, a process that's now halfway done and on track for completion in 2028.

Number 2, safely managing the used fuel, as long as it remains onsite.

And number 3, advocating for offsite storage and disposal solutions to allow us to

clear the site, the site of spent fuel. So those are the major workstreams at the big picture level.

If you want to learn more, on the resources our website is a good source for nuclear facts and updates on decommissioning, including time lapse videos of dismantlement. Also, look for us on various social media, and if you want to learn more about the decommissioning process, please join us on a public walking tour and reserve a spot at songscommunity.com, I think it's songscommunity.com/getinvolved, request a walking tour.

I encourage you to visit our website songscommunity.com and reach out to us with any questions you may have. And that would conclude my big picture address.

CHAIRMAN DAN STETSON: Thank you very much, Fred. I think real quick I'll turn to my fellow CEP members and see if there are any questions, and while we're waiting to see if there are any, do I detect an accent in your voice?

FRED BAILLY: Yes. Well, you did detect an accent in my voice. I was born in France, and that's probably where it's coming from. I lived

for 15 years on the East Coast, but I'm not sure that's what it is.

CHAIRMAN DAN STETSON: Well, it's a good one.

We've got a question from our vice chair, Victor Cabral.

Victor.

VICTOR CABRAL: I have a question only because we have four or five minutes before our guests come. My question is really about you've been here about a month now, and is this what you expected? Is there anything new, unusual that you've seen here in terms of the progress that it's made, and how do you see the progress over the next few months in terms of taking down the outside facilities?

FRED BAILLY: Thanks, Victor, for the question.

Yes, it is pretty much what I expected. I'm very impressed by the teams at the site, whether it's our SCE teams or our subcontractor team. I also got the opportunity to have a good transition period with Doug which has been -- which has been very helpful, so I think one of the areas where I was -- I did not know how much

complexity there was going to be with all the environmental and regulations specific to California, and I'm up to speed now, and I need to say again, I'm really impressed by the way the team is organized in tackling those regulatory and compliance issues.

Again, one last point, I'll continue to be focusing on safety, because that's my top priority.

VICTOR CABRAL: Thank you.

CHAIRMAN DAN STETSON: Good to hear. That's number one for all of us as well, not only safety for the workers but safety for the general community as well.

So are there any other questions before we move on? I believe that our guests have arrived.

Seeing no additional questions, Julia, if you could please go back to the slide -- perfect.

So Dr. Bickford and Dr. Maheras, we would like to welcome both of you to our CEP meeting. Your input and comments here are very important to us so I'll give --

ERICA BICKFORD: Hi everyone.

CHAIRMAN DAN STETSON: Why don't I go

ahead and without further adieu, go ahead and turn it over to you, Dr. Bickford.

ERICA BICKFORD: Thanks very much. Thanks very much for the invitation to speak to the Community Engagement Panel. It worked out that Steve and I were both on travel to Argonne National Labs, so we're joining you from the greater Chicago area. We're both going to present this.

And I also want to acknowledge that some of what we're going to present is the work of Dr. Kevin Connolly from Oak Ridge National Laboratory who won't be joining us today.

I believe we have 30 minutes to present and then a 30-minute Q&A period. I'll plan to stick to that time, but please let me know if we need to speed things up.

CHAIRMAN DAN STETSON: Sure, and you may get some questions along the way from our CEP members.

ERICA BICKFORD: That's fine. Just feel free to call out if I don't see the hand raised. I think we tell you next slide.

This is the legal disclaimer that just says that there are contracts in place that govern

DOE acceptance of spent nuclear fuel, so to the extent anything that we present that could appear to conflict with those contracts does not change the fact that those contracts still stand.

Next slide, please. All right. So I'm -- my name is Erica Bickford. I'm the director of the Office of Integrated Waste Management at the U.S. Department of Energy. We're in the office of nuclear energy, and our mission is to construct one or more federal consolidated interim storage facilities ready to accept spent nuclear fuel as soon as practical and site those facilities using a consent-based siting process.

In parallel with our consent-based siting process we're also working on all the technical aspects that we need to have in place ready to construct -- or ready to design, license, construct and operate the facility and of course, operate the transportation system to move the spent nuclear fuel there.

We have a strong safety record in the U.S. with transport of spent nuclear fuel. I know it may not be something that's visible to most people, but the U.S. has been transporting spent

nuclear fuel since the 1940s, especially through defense-related programs. We have some historical incident summary information at the end that Steve will present, and in general, during the transportation of spent nuclear fuel, all of the radioactive material will be contained in very robust Type B packages that we'll also talk more about later that are certified by the U.S. Nuclear Regulatory Commission.

The challenge with transporting spent nuclear fuel possibly and surprisingly for some people is not so much that it's radioactive, because we have well-established regulations and operational understanding of how to do it as well as safety and security requirements, some of the challenges that they're just large, heavy packages, and those can be challenges due to size and weight restrictions and overhead clearances.

We'll talk a little bit about how we're planning to transport spent nuclear fuel and the specialized railcars that we developed to support that.

Next slide, please. So I mentioned that we're planning to primarily use rail to transport spent nuclear fuel. If you wonder why rail, I'm

going to talk about that next. We'll talk about the standard that the railcars are developed to. We'll talk about our Atlas railcars specifics, which is first cask carry railcar that we designed and is nearly qualified, also talk about our Fortis railcar design that's undergoing initial fabrication of a prototype right now.

We'll talk about the safety and security monitoring system that we've developed to support transporting these railcars, and then we'll also talk about the safety record for transport of spent nuclear fuel, internationally and in the U.S.

Next slide, please. Why rail? In the U.S. we have a lot of spent nuclear fuel that's loaded into storage canisters. I can see behind Manuel he's got the ISFSI at SONGS behind him. And so in a transport configuration, these as loaded canisters of spent nuclear fuel will weigh between 80 and 210 tons. The legal weight truck limit for most highway transport in the U.S. is 40 tons.

Obviously those are much bigger and heavier than you typically have in standard roadway transport. And so that's what leads us to

rail transport, where rail is a mode that is very commonly used for heavy, heavy moves, whether it's commodities like gravel or stone or electric transformers or automobiles or other big heavy things.

Moving 210 tons is not a problem for rail. So that's where we land on a primarily rail-based transport system is what we're focusing on. Another reason for that is why we're building these specialty railcars is that the U.S. Department of Energy as well as the U.S. Navy have entered into settlement agreements with rail carriers, and those are the major transportation providers for the rail system in the U.S. that the government would use freight railcars that meet the Association of American Railroad standard called S-2043, which is a performance specification specific to transporting high-level radioactive material.

The U.S. Navy, as I mentioned has been transporting spent nuclear fuel by rail I think since the late '40s, but here we see the 1950s. For all rail transport in the U.S., all the rail routes would be pre-approved. There would be a security analysis as well as a route clearance

analysis done to ensure that the height, width, and weight can operate safely on the rail infrastructure. And again, there are existing safety and security regulations that would be applied to these shipments, including the casks that they use to transport would be certified by the U.S. Regulatory Commission, and that's written in the Nuclear Waste Policy Act.

Next slide, please. So here's just a visual illustration of kind of the range of cask sizes and their dimensions that we're planning to transport. I think between this graphic and the next graphic we have 17 cask designs, but I believe two more, I think, two more are in the process of being certified. Here you can see the range that we're looking at.

Certainly from a transportation perspective, it may have been much more preferable to have a more standardized transportation system or standardized package, but just the system that we have in the U.S. led to more sort of individual decision making based on what was commercially available in terms of loading spent nuclear fuel.

Next slide, please. And so here you just see some additional packages that we're looking

at. The one all the way to the right on the end is the one that's currently the heaviest. So that's the 420-plus-thousand pounds that will may be the most challenging in terms of weight, but again not difficult to move by a rail. Rail regularly moves packages, you know, 400 to 500,000 pounds.

Next slide, please. As I mentioned, the Association of American Railroads, AAR, has a standard specific for transporting high level radioactive material. The reason for that is the Association of American Railroads is a standard setting organization for great railroads in North America. So you may be familiar with standards from other organizations, such as the American Society of Mechanical Engineers, or ANSI, or other entities that set standards for freight rail. It's the AAR.

Their S-2043 standard is specific for transporting of high-level radioactive material, and the intention of that standard was to apply sort of the latest and greatest technologies to reduce the risk of a train derailing. So we'll talk more about that in the design part.

Next slide, please. So here's a graphic

of our Atlas railcar. So we have two cask carrying railcars that we've designed. The Atlas railcar was the first and has been designed, fabricated, and just completed all of its physical testing requirements. We're in the last phases of that project. It's been ten years operating that project and about $33 million total cost for that project.

Here's the design. It's a 12-axle railcar, and it's a flat deck railcar and what you have is an attachment mechanisms on the surface of that railcar that would be compatible with a variety of attachment mechanisms for different casks. Even though here we have illustrated the HI-STAR 190XL cask, the attachment mechanisms on the surface of that railcar are compatible with all of those casks that we showed in the graphics and the attachment mechanisms that they would have.

So in this particular cask design you have a cradle, a mechanism in the middle, and then you also have end stops at the end. Not all designs have end stops. There's, I think, about roughly kind of four different design themes among them, but they're all certified by the Nuclear

Regulatory Transport -- Nuclear Regulatory Commission.

Next slide, please. Here are some photos of the fabricated Atlas railcar for the testing purposes. There's a number of physical tests that the railcar has to undergo. There's requirements for single car testing of the railcar on its own, as well as multiple car testing the railcar to perform in a train configuration. All those tests have been completed.

As compared to the only other entity in the U.S. has that qualified an S-2043 railcar is the U S. Navy. They did it with their M290 package, which was a single package. In our case because we have this range of different packages, we worked with the association of American Railroads to determine how we would test the railcar to accommodate a range of package sizes.

So what you see in this photo is the smallest test load that was used. We designed a modular weight system so that we could test the railcar with low weight loads, as well as heavy weight loads and look at the results and ensure that the railcar can be qualified under both load conditions.

Next slide, please. And here is a picture of the Atlas railcar on its final demonstration run. This was just done in September. The railcar -- a whole train was transported from Pueblo, Colorado up to Idaho and back. This is the Atlas railcar with the heaviest weight load configuration on it.

And in the picture at the bottom is Pat Schwab from my office who was the federal lead for this project as well as our contractors that supported it.

You can see from the scale of the people in this photo that this is a very large railcar and that these packages, you know, the representative package of the weights here that represent a heavy spent nuclear fuel container are also very large. And yet, you know, it's fit just fine on our Atlas railcar.

Next slide, please. In addition for transporting spent nuclear fuel in the U.S., federal regulations require having armed escorts travel with the shipments to accommodate the transport of the armed escorts in the train. We've developed a rail escort vehicle. This was developed in collaboration with the U.S. Navy.

They were in the process of a designing a new railcar for their use, and we were able to take the opportunity to collaborate with them and provide some resourcing to the project and use the same design. The Navy did the single car testing for the rail escort vehicle qualification, and DOE did the multiple car testing as part of our Atlas testing project, so it was a great collaboration between our two programs.

It's the exact same design of what the Navy uses. Their rail escort vehicles are blue, navy blue, and ours is gray. But otherwise, the same railcar.

Next slide, please. Here you can see the full railcar concept. This is, again, from the demonstration run that was required to qualify the railcar that was done last month. You see there's two locomotives at the front, then we have what's called a buffer railcar next it, that's just the four-axle flat deck railcar that separates the locomotive from the radioactive material in the cask. Then you have our Atlas railcar with the test load on it, followed by another buffer car, and then the rail escort vehicle.

So this is the demonstration run that was

shipped from Colorado up to Idaho and back. It was about 1600 miles with that shipment. They did some testing along the way and some observation of the performance of the railcar. What was reported back, I think the only incident they ran into is they hit an elk on the way. The elk didn't turn out so good from that, but the locomotive and the railcar were just fine and able to continue on.

Next slide, please. So in terms of our railcar projects, the Atlas and buffer railcars have completed all the single car and multiple car testing, as I mentioned, including the final demonstration run.

The rail escort vehicle has completed its testing as well. Again, we split with the Navy, and now the next step is to document all the data that was collected from that final testing. There's a lot of analysis that has to be done to compare the physical performance of the railcar, which -- with what was modeled based on the design, write that up into a report, submit it to the Association of American Railroads Equipment Engineering Committee, which is the authorizing body, and then the next step, assuming that all goes according to plan, would be to receive what's

called conditional approval from the AAR either at the end of this year or early next year that would allow that railcar to be used in commercial transport service in the U.S.

Next slide, please. If you're interested in some lengthy reading on the documentation of the Atlas railcar project, it's all publicly available, and we have links here. For each phase of the project from the design to the fabrication, to the certification testing as well as the interface control, and that's the interface control documents is what guides how different cradles and packages will be affixed to the surface of the railcar.

That phase 4 certification testing report is 800 pages long, so it is some hefty bedtime reading, if you're interested. The railcars that DOE developed, so the Atlas railcar and the buffer railcar are publicly available designs. We didn't copyright them so that they can be available for anyone to use.

The rail escort vehicle is designed owned by the Navy, and because of its security features, that railcar design is not publicly available.

Next slide, please. So next I'll talk

about our Fortis railcar. The Atlas railcar is a 12-axle railcar. Our Fortis railcar is eight axles. We often get to the question of why did you design two different railcars. If you think back to the graphics I showed with the 17 different packages ranging from 80 tons to 210 tons, we have quite a range in packages.

In rail transport you pay by weight. And so we found it potentially advantageous to have flexibility in our transport system, be able to use a smaller eight axle railcar to transport smaller, lighter packages, and use the heavier larger 12-axle railcar to transport the larger heavier packages.

And part of that is also due to the conditions at sites. I think San Onofre has a good amount of space for rail on their site but not all sites do, and so there is a consideration of how much space you have within a site boundary for loading railcars.

So the Fortis railcar is shorter than the Atlas railcar, and so if you have smaller packages at the site, then having a shorter railcar may allow you to more freedom of movement and ability to load, and so that's part of our operational for

pursuing the eight-axle railcar. Eight-axle railcars are also lower costs to fabricate and maintain due to the nature of having fewer axles on them. So the idea of having multiple cask carrying railcars in our fleet is to be able to efficiently operate the transportation system and essentially use the right equipment for the job.

We've designed the eight-axle railcar. This was a project that started several years after the Atlas railcar project. Sharma and Associates based in the Chicago area led the design efforts. The surface of the railcar has all the same attachment mechanisms as the Atlas railcar. We didn't change anything there. The way that you would attach a cask to the surface of the Atlas railcar is the same that you would attach a cask to the surface of the Fortis railcar, and that was done for just, you know, engineering efficiency purchases.

It's compatible with our existing buffer railcar design as well as the rail escort vehicle, and this design was approved by the AAR in February 2021 to proceed to the next stage of fabrication and testing.

Next slide, please. So our Fortis

railcar we signed a contract last summer for fabrication. The contractor is ENSCO Incorporated using Kasgro Rail as their primary rail fabricator. Kasgro is also the rail fabricator that constructed the Atlas railcar and buffer railcars, as well as the Navy's F-290 railcar. They are a specialty heavy duty railcar fabricator in the U.S. There aren't many of them. So they're really one of few.

The project formally kicked off a year ago September. The early phase of the project we ended up agreeing to some design adjustments. In conversation with the fabricator, the initial deck plate thickness and design was 3/4 inches thick, and the fabricator was concerned about the some of the welds causing some warping in the surface, and so we agreed to an adjustment to 1 1/2 inch deck plate. That also resulted in some changes to the weld configuration, but otherwise, the design is currently as you see here in the graphic.

Next slide, please. So here he's just kind of what's called a blown-out view where you can see the different pieces. You have swing motion trucks. In rail parlance trucks are what we thing of -- non-rail people think of just the

wheels. So you have these eight-axle trucks underneath it, you have what's called a span bolster on top of that, and then you have your deck, and then the cask will go on top of that.

Next slide, please. Next steps for the Fortis railcar is to complete the fabrication, the prototype. I think we're hoping for around an 18-month fabrication timeline, but it's likely to take longer. We've had some supply change challenges getting some of the steel components. Some of the specialty components that the railcar is designed to use we're told may have two-year lead time, so we're kind of working those things out and seeing if we can compress that schedule at all.

There's instruments and wheel sets that have to be fabricated. Those have a lot of -- that's what does all the recording of the railcar performance. There's, you know, wires and calibration that has to be done in order to support all the testing, and it's about a year lead time to get those instruments and wheel sets, so that's underway.

The testing of the railcar will be done in Pueblo Colorado at the U.S. Department of

Transportation, Transportation Technology Center, which ENSCO is also the contractor for that site. It will use the same test weights that we use on the Atlas railcar project, so it's an advantageous timing to have the Atlas railcar project coming to a conclusion, no longer needs a test weight. And then for the Fortis railcar project hopefully in the next year or so we'll be able to start be fabricated and ready to start testing and we'll use those test weights.

For the multiple car testing that will have to be done with the Fortis railcar, we plan to use the buffer railcar and the rail escort vehicle. We're currently expecting the Fortis railcar to be qualified for use by around 2026, but due to some of the delays in fabrication, that date might get pushed out a year or so.

Next slide, please. So another requirement for transporting spent nuclear fuel by rail in the U.S. is there are safety and security requirements. Specific to the AAR S-2043 railcar design, there are safety requirements for monitoring the near real-time monitoring of the railcar's performance and the U.S. Department of Energy has security requirements for monitoring

the shipment in transit.

The department has embarked on developing our own integrated security and safety monitoring system. In 2020 we had started the Atlas railcar project with the commercial off the shelf system, however, it was the company that developed it ended up getting bought out, and the division that was performing that work was not included in the buyout, which created some uncertainty on the future availability of that system long term, and so the Department of decided to go out on its own and develop its own system to ensure it's continued availability for transport in the future.

We're still working on prototype design and fabrication. It's gone through a couple of different iterations. It is planned to be used to support the Fortis railcar testing, so should be available for use in about a year is our current timeline. There some questions on how big the box is that this system will go in and how it fits on the railcar that we still need to work out. So far it's on track to support our testing.

This system is being designed to integrate with DOE's existing TRANSCOM system for

tracking DOE shipments. So currently the Department has highway-based shipments of radioactive material that move and use this TRANSCOM system, so we have been talking to TRANSCOM on how to integrate the system for rail shipments. This provides access to state and tribal governments for shipments of radioactive material the Department is moving, so that they can see the shipments when they move through their jurisdictions.

Our state and tribal partners have told us they like this system, they're familiar with it, and they would prefer that for rail-based transport that DOE use the same system, and so that's our current plan.

Next slide, please. All right. So how this system works there's three subsystems: There's an On-Car subsystem, so the cask carrying railcars, the buffer railcars, and the REV each have monitoring elements on them, and then there's the system that's on the rail escort vehicle to relay the data, and then you have a system in the cloud.

The purpose of the safety component of this is to detect any equipment malfunctions

before a failure occurs and a potential derailment happens. So there's 11 near real-time performance parameters that this system will monitor, so it will include GPS, it includes roller bearing temperatures, and it includes lateral, vertical, horizontal accelerations, something called truck hunting, which kind of is the how much the trucks are wobbling under the railcar, and other performance features that are significant for identifying anything that may be amiss with the railcar.

If you've seen in the news, not quite a year ago now, a high profile hazardous material rail derailment in East Palestine, Ohio, and I know that the final report in what caused it as not yet been published, but I think the preliminary analysis may have be an overheated roller bearing that caused the railcars to derail and due to a wayside detector on the rails not detecting in time.

In the case of our S-2043 railcars we have near real-time monitoring, so if you had a roller bearing overheating, it would be detected immediately, and there's procedures in place for if there is any performance outside the allowable

parameters. If it's slightly of concern, you get a yellow light that signals a need to inspect the railcar at the next stopping point. If there's a red light signal that there's something being significantly outside the expected parameters, and then you stop the train immediately and inspect it. So that's where the design of these railcars are intended to prevent the risk of derailment due to performance or equipment failure.

Next slide, please. All right. So now I'm going to hand it off to Steve to talk about some of the safety record of spent fuel transport.

STEVE MAHERAS: Like Erica said, I'm going to talk about the transportation safety. We collected information on shipments made since the 1950s through 2021, and we've compiled these into a report that you can access on the Web at the link that's at the bottom of the slide.

At least 90,000 tons of spent fuel has been shipped safely worldwide in at least 25,000 cask shipments. All of these shipments were undertaken without injury or loss of life related to the radioactive nature of the cargo.

Next, please. So this graphic illustrates for the United States shipments made.

So we've had shipments made from prototype power plants in the United States, Puerto Rico to West Valley. We've had shipments made from nuclear power plants to various destination sites. We've had shipments made, and these are ongoing shipments from research reactors to primarily SRS in Idaho. We've had shipments made from overseas to Savannah River Site (SRS) in Idaho, and we've had Navy shipments made from primarily shipyards to Idaho.

Next slide, please. So of possible interest to the group are the shipments that were made of spent nuclear fuel from SONGS to Morris, Illinois. These were shipped in casks that contained one spent fuel element per cask.

The IF-100 was one of these casks, and the NAC-1/NFS-4 casks. These two casks are no longer certified by the NRC and have not been in use since the 1960s. They shipped approximately 100 tons of spent fuel all together.

Next slide, please. So packages that are used to ship spent fuel are designed to withstand severe transportation accident conditions. We conduct a series of tests on these casks. These tests are done using a combination of scale model

testing and in computer analysis where we look at a 30 foot drop onto an unyielding surface. We look at 40 inch drop onto a steel bar that's designed to puncture a cask. We analyze the cask performance in a fire, and we immerse that cask under water. There's two specific immersion tests done for most packages and a third immersion tests that's done for spent nuclear fuel packages. That last test is equivalent to immersion in 200 meters of water.

Next slide, please. There have been very few incidents involving spent nuclear fuel transport. We've been able to identify 14 accidents involving six casks that are loaded and eight casks that were empty in the United States.

In two accidents there were injuries or death from the crashes, i.e., from the accident itself but no radiological effects have been observed.

Next slide, please. So I'm going to outline a couple of these accidents. The first accident was when the Atomic Energy Commission was shipping spent fuel from the Peach Bottom reactor to Oak Ridge, a truck driver left the roadway to avoid a head-on collision, lost control of the

truck you can see in the photo on the right.

What you're looking at is the bottom of the transportation skid and you can see the cask is the curved object embedded in the dirt at the bottom right-hand corner of the photo. The driver was killed in the cash. The package and it's skid separated from the truck, and the package was thrown into the ditch. There was minor damage to the package, damage was repaired and the package returned to service. There was no release of material from this accident and no damage to the fuel inside the cask.

Next slide, please. We also had a derailment of the Navy spent fuel cask. Basically what happened in this derailment was one of the railcar wheels slipped off of the rail causing it to derail, but it was still upright. It was then hit by another railcar, which caused it to tip over.

The railcar was righted after approximately 36 hours, repairs and inspections of the car were completed after approximately 60 hours, and the cask went on its way. So you can see the cask over on the left. It's the vertical thinned object that is sitting in the

collar arrangement that holds the cask onto the railcar.

Next, please. So another accident that has involved spent nuclear fuel has been what we call the pineapple accident where a train carrying another empty spent fuel cask collided with a truck at a grade crossing in Indianapolis. That truck was contained pineapples.

There were no injuries, but the pineapples were scattered all over the landscape. The truck was stuck on the intersection. He tried to make a -- he tried to make a turn to cross the train tracks, he didn't have sufficient room to make the turn, got stuck, got hit by the train, and scattered pineapples all over the landscape, and that's what caused the accident.

Next please.

ERICA BICKFORD: All right. So to wrap things up, again, our office, the Office of Integrated Waste Management at the U.S. Department of Energy we're planning to implement what we called an integrated waste management system that includes transportation, storage, and disposal of our nation's spent nuclear fuel on high-level radioactive waste. This activity includes

development of these Atlas and Fortis railcars, as well as the integrated security and safety monitoring system.

We envision an integrated waste management system that includes the transportation and infrastructure necessary to boost spent nuclear fuel primarily by rail, but also by road and barge where we may not have rail available at points of origin.

In the U.S. we have a strong safety record for transporting spent nuclear fuel, and when future shipments take place, DOE will work in concert with a local public safety officials along the pre-approved routes to ensure the protection of those communities and the safety of our the public.

During the transportation radioactive material is contained in large, sealed containers that are certified for transportation by the U.S. Nuclear Regulatory Commission. And as Steve outlined, go through a robust set of modeling and testing to certify their robustness, and these packages will protect people in the environment during routine transport, as well as in the very unlikely case of a severe transportation accident.

That concludes our presentation, and we're happy to take any questions.

CHAIRMAN DAN STETSON: Well, thank you very much. I see right away we have some questions. That was very informative, so I want to thank you first of all.

Ted Quinn, you've got your hand up. Go ahead, Ted.

TED QUINN: Can you hear me okay?

CHAIRMAN DAN STETSON: Yeah, I can hear you fine.

TED QUINN: Good. Okay.

Thank you, Erica and Steve, really nice to hear. I'm not going to ask you questions on safety. It appears you're covering all that, and meeting all of the federal guidelines, and it will be a similar manner as the precedent you set with earlier cars.

My question is on a simple question does this railcar easily match both of the designs for SONGS? And the second question is what is your anticipation of supply chain on availability of these railcars?

ERICA BICKFORD: Sure. Thanks for the question.

Yes, if you'll remember back to earlier in our presentation we had the different cask designs, the 17 different cask designs those include the two models that are in service at SONGS. Yes, the railcars will be able to transport those with one caveat that because the HI-STAR 190s are heavier, it's unlikely that we would use the Fortis railcar to transport those casks. We will very likely use the Atlas railcar, because it is the bigger, heavier railcar, but in terms of attachment mechanism the Fortis railcar could carry it, but we might have some axle loading challenges that way.

And then in terms of the supply chain, as part of the involvement of these railcars, we have the design contractors give us estimates of fabrication timelines. Our expectation is that the Department of Energy will either fabricate these railcars and own them and operate them ourselves, or we will enter into a leasing arrangement, contracted leasing arrangement where another entity will fabricate and maintain these railcars under a contract of the Department.

We've been told that the fabrication timeline is on the order of two years for a

railcar. I think that was kind of pre-COVID supply chain issues, so it may be a little bit more than that, but in terms of our transportation planning, we currently expect to notify sites that we're planning to pick up spent nuclear fuel about five years out, and so if we do need to fabricate additional railcars to support that transport, that fabrication timeline for railcars fits within that five-year window.

TED QUINN: Thank you. Please let us know as soon as -- we'll buy train tickets as soon as they're available.

ERICA BICKFORD: Thanks for the question.

CHAIRMAN DAN STETSON: While we're waiting for the questions, I had a couple I was wondering about: We know the military is transferring fuel, spent fuel all the time, and it appears that we don't know when they're being moved and that the cars might actually be -- these are my words -- be camouflaged. If the cars that are planned here, it is pretty evident that they're carrying spent nuclear fuel, has there been any discussion about camouflaging them whatsoever so that you can't really tell what they're carrying?

ERICA BICKFORD: Yeah, that's a great question. And I do believe that sometimes happens with truck-based, shipments, in the U.S. when smaller truck-based packages are moved. They're able to put what's called an ISO container, looks kind of like a standard shipping container so that it fits over it, so it looks like any other freight moving down the highway.

With our spent fuel packages, unfortunately they're too large. The challenge is because they're so large, you have certain clearance challenges, you know, moving through tunnels, under bridges, making turns, and things like that, so if you added an additional, say, over pack or container over them, then it would be much more challenging or possibly not possible to move them by rail.

If we can go back in the slides a couple to -- two back or three back to the pineapple truck one, do we have the option to go back in the slides? Here's an example. This is a Navy, the current Navy railcar and container to move their submarine spent nuclear fuel. You can see it's not inconspicuous.

Then if you go to the pineapple truck

slide I think is after this one. Go forward two maybe. Yeah, this big silver one is an M-290. It's a newer cask model. It was designed specifically for the spent fuel that comes out of aircraft carriers. This one looks like -- our folks in the Navy that we work with told us that if you Google alien-looking railcar thing, this is what comes up. It definitely gets a lot of notice. At least for transporting spent nuclear fuel, the naval packages and our packages will be somewhat noticeable, because of the size just unfortunately don't have the opportunity to put a standard shipping container over them to make them blend in a little better.

CHAIRMAN DAN STETSON: Thank you very much. Those are excellent answers.

With reference to the authority from the individual communities where the spent fuel is moving through, you know, since you've been moving fuel already and that the Navy has or the military has, do you have to receive special permission, or who has the jurisdiction and whether or not someone can veto spent fuel moving through their community?

ERICA BICKFORD: Sure. There's existing

regulatory frameworks, federal regulatory frameworks depending on the mode. For example, by highway, state and tribal governments have the ability to designate preferred routes for transporting hazardous material, including class 7, which is radioactive material. That's the avenue that state and tribal governments have in terms of designated routes.

In addition where you might have a nuclear power plant origin site that does not have rail and you might have to transport heavy haul truck to get to a location where you can transport to rail, that will require permitting. Depending on the road, whether it is a state road or county road, you would have to go through the appropriate local or state authority for that permitting. That's an example for highway transport where state and local tribal governments have input an oversight of the transportation.

For rail-based transport, that's federally regulated. And the federal regulations have a process for determining routes for transporting certain hazardous material, including spent nuclear fuel. In 2008 they passed regulations specific to transporting hazardous

material that requires consideration of 27 different factors, and among those 27 different factors are considerations from state and tribal governments specific to security concerns from those routes.

How that regulation works is that the rail carriers have to evaluate the available transport options, considering their safety and security risks, and the regulation expects that the least risky route is what's selected to move forward. Keeping in the mind that among the routes to evaluate are the routes that the shipment can move on without hitting any overhead clearances.

So you start with the rail network, narrow that down to the parts of the rail network that the shipment can fit on, and then among those options evaluate the safety and security risk of the options in the route that will be used.

CHAIRMAN DAN STETSON: Thank you very much.

Another question, you know, you talked about a lot of testing for the cars themselves. Has there been any testing, or do you plan to do any testing with relation to the spent fuel

assemblies and the rods themselves whether or not if there's an accident, any damage that will occur and what the consequences of that might be?

ERICA BICKFORD: Sure. We've actually done not in my program but in our kind of sister office that does a lot of research and development, they did what they called the triathlon study. This is an international collaboration that in the U.S. was led by Sandia National Lab, also partnered with the entities in Spain and South Korea, and what they did was they took a Spanish transportation cask, and they put weights in it as well as what's surrogate assembly, so they look just like spent nuclear fuel assembly in terms of the cladding and the rods, but inside is a ceramic that is not uranium, so they're not radioactive.

They loaded those inside a cask, they put accelerometers and other instrumentation inside that cask, and they transported by road, by barge, by marine vessel to the United States, it came into the port of Baltimore, and then went by rail from Baltimore out to Pueblo, Colorado to that rail testing facility, and they did a number of tests on it.

So tests of coupling the railcar at different speeds, and they measured data of the impacts, the forces impacting those assemblies during all of those transportation conditions, they collected something like 2 terabytes of data, and analyzed it, and in the Cliff Notes version of that analysis is that the packages are robust, and the fuel assemblies themselves receive little to no force in operating in a variety of transport conditions.

CHAIRMAN DAN STETSON: Thank you very much. I don't see any other questions from our CEP. I have one last for you, and this is actually you posted recently on LinkedIn, you've done some traveling I see.

ERICA BICKFORD: It's all economy travel. It's not as clever as it sounds.

CHAIRMAN DAN STETSON: I'm still jealous, but you wrote that you learned a lot from today's International Conference on Emergency Medicine (ICEM) 2023 panel on Finland's path towards a deep geological repository about building public trust and confidence, community benefits from hosting a spent fuel disposal facility, communicating failures transparently, and the one-minute golden

rule for communication in the social media age.

My questions are, you know, what did you learn? What do you have that you can share with us, and also what's the one-minute golden rule?

Erica Bickford: Sure. So this is a panel I attended at the International Conference of Environmental Management on radioactive waste. It was my first time attending, so for those who don't know, Finland has become the first country to successfully construct and seek a license for a deep geologic repository for a disposal of spent nuclear fuel.

So they are leaders of the pack in terms of disposable solutions for their spent nuclear fuel. This has been a long-running project, and they found a willing host community that wants the facility in their community, and has partnered with the implementing entity to do it.

In many countries, including the U.S., we have a lot of engineering and scientific knowledge and know how to site a design, license, and construct these facilities and manage the spent nuclear fuel, but a big challenge has been public trust and acceptance that it can be done safely.

In Finland they've been able to gain

public trust and confidence. There's a lot of interest how they went about doing it, what the best practices and lessons learned are, and how other countries can learn and adapt their models to try and reach our own disposal facilities or in our case right now are pursuing storage, but they eventually need to be disposal.

In terms of the one-minute golden rule that was a form of discussion point of their public affairs person who said previously in public affairs or communication space there was a one-hour golden rule that if something happens, something went amiss, within an hour you want to have a press release or some other publication out about it.

In the modern age, especially with social media, if you take an hour before you're ready to put out a public statement about it, then there's often a vacuum that will be filled by people who put whatever information out there, which may be misinformation or disinformation, and so what they -- how they operate -- and in Finland it's a little bit different because the same company that operates nuclear power plants is also the entity that is constructing and operating their nuclear

disposal facilities, so they have sort of broader corporate knowledge from operating a nuclear power plants. So the context of this was when they've have a nuclear power plant and there's a pump that breaks or something happens, and the plant has to be shut down, what they do is put it out on their social media platforms and say, there's a problem, we don't know what's happening yet, but watch this space, and we'll be updating as soon as we have more information, which directs interested members of the community to be getting their information from the operator and for the operator to be a trusted source of that information, rather than leaving just kind of, you know, empty space for everyone to speculate or concerns or fear to raise. They ensure that they're the first and best source of information if anything should go wrong, and that helps build public trust when you're transparent and say something went wrong, but we don't know what it is quite yet, but we're going to figure it out, and we're going to communicate out and keep giving updates.

So that's something they recommended from their experience as a way to be building public trust and confidence in their company.

CHAIRMAN DAN STETSON: Wow, thank you very much. Those are both really, really helpful.

We've got a couple questions from our CEP members.

Nina, we see your question, and we'll be returning to you as part of the public comments very soon.

First we're going to turn to Garry Brown. Garry, you got a question?

GARRY BROWN: Yes, I do.

First, thank you for your presentation. It's really informative and interesting. You showed the -- you talked about the derailment of the train in Ohio and you saw the photographs of the package in a ditch that separated from the carrier. I'm just curious, what special protocols have you developed or must be developed and special equipment developed to handle such an accident? If you've got a package in the ditch, I'm sure there's special protocols that will have to be in place no matter what's going on in the close vicinity, and are there any lifting harnesses or bars or spreader bars that need to be developed and transported onsite to where you can handle these safely?

STEVE MAHERAS: Sure. So what we will be developing is something called recovery plan. So these recovery plans typically detail the process that you would use to recover a cask in the event of an accident. They would have detailed equipment lists like spreader bars, hoists, slings, the crane capacity that you need to bring in, et cetera.

So we can provide you -- we can provide you the recovery plans that the waste isolation pilot plan has in place. We do not have our recovery plans in place yet. We would develop those closer to the time when we actually shipped.

ERICA BICKFORD: I can also add that in the U.S. the rail carriers are required to have contracts with remediation entities in the event of a derailment. So we have been in conversation with Rutgers and what would that look like. We often get questions on what happens if there is derailment of this 400,000 pound cask, there's not going to be any equipment that's capable of lifting it up, and we've heard from rail carriers that the locomotive weighs on the order of 400, 500,000 pounds, and they have cranes that are able to lift up a locomotive in the event of a

derailment.

That equipment is available and could likely be used to support an incident that could occur with the transportation of a rail cask as well.

GARRY BROWN: Thank you.

ERICA BICKFORD: Thank you for the question.

CHAIRMAN DAN STETSON: Martha, you had your hand up. Did you have a question?

MARTHA McNICHOLAS: Yes. Regarding the safe routes that you -- all the restrictions and the 27 different things you have to do to get a route, now realizing we don't have a destination yet but we know it's going to be leaving. In the case of SONGS, we know it's going to be leaving SONGS, so assume there's some work it can do now that says, well, what is the safest route to get it out of here, whether it's south or north or east, has that already started, or you kind of wait until we have a designation before you kind of decide the safe routes?

STEVE MAHERAS: Yes, I can speak to that somewhat. We have conducted for SONGS what we call a nuclear power plant site evaluation where

we actually came out to SONGS, looked at the onsite infrastructure, looked at the near site infrastructure to develop options for transporting fuel off site. The follow-on work to that is what we call a site specific inventory report. I received the draft report for SONGS two weeks ago, we provided comments to the preparers, Orano is the team lead yesterday, and we would hope to have a final report available to the public this fall sometime, but in that report they go through a comprehensive evaluation of potential modes and routes for moving spent fuel from SONGS to the geographic center of the United States, which is the destination that we use in lieu of having an actual site to ship to. So stand by.

MARTHA McNICHOLAS: Okay. Thanks.

CHAIRMAN DAN STETSON: Okay. Let's see, I don't see any other questions from our panel.

MARTHA McNICHOLAS: Victor had his hand up.

CHAIRMAN DAN STETSON: Victor, sorry.

Victor Cabral.

VICTOR CABRAL: I do have a question, and it's relative to the statement you talked about Finland. What are our plans if over the next ten

years Finland says, yeah, we're ready, it's available? Obviously we're not transporting by train or for truck. Do we have a plan for that or is that still too early in the process?

ERICA BICKFORD: Let me see if I understand your question. Is your question that the Finland repository is available to take spent nuclear fuel from the U.S.?

VICTOR CABRAL: Yes.

Erica Bickford: Okay. So the short answer to that question is the Finland repository is only taking spent nuclear fuel from Finland. In general most countries have requirements that limit the material that they can go into their deep geologic repositories, mostly it's the country it was generated.

In addition, by comparison Finland is a country of 5 million people, so their repository -- I don't know what their capacity is, but the U.S. has the largest inventory of spent nuclear fuel, so it's almost zero chance that any other country is going to be willing to take on construction of repository that would accommodate their own spent nuclear fuel as well as the U.S.'s spent nuclear fuel.

It may be conceived, you have a country like maybe Denmark that has 5 kilograms of spent nuclear fuel, they might be able to come to an arrangement with another country for their spent nuclear fuel to go into another repository, but when you have as much as we have in the U.S. we need to have our own disposal capability here in the U.S. is the only option.

Good question.

CHAIRMAN DAN STETSON: Thank you, Victor.

Jim Desmond, I think you have a question.

JIM DESMOND: Yes, Dan. Thank you very much.

Thank you for the presentation, and I apologize that this question was already asked. I had to jump off and take another call here real quick. One of the reasons I hear that Yucca Mountain is no longer a viable option is because -- I forget what it was -- some administration is being blamed for cutting off any type of access to Yucca Mountain for via rail or any spent nuclear fuel.

Is there any truth to this rumor is that a fact could -- is there potential transporting of spent nuclear fuel to Yucca Mountain?

ERICA BICKFORD: Yes. There were transport plans to move spent nuclear fuel to Yucca Mountain, including constructing a new rail line. What I think you might be referring to there was a plan for a site in Utah called Private Fuel Storage that was a consolidated interim storage facility that was going to be hosted on a tribal reservation that was at Skull Valley of Goshute. However, the state of Utah objected to the project and worked with their congressional representatives to designate land around the reservation as conservation land that prevented construction of the rail line to the site, which meant that the site was -- that facility was never constructed or operated.

I think that may be what you're referring to.

JIM DESMOND: No. I just wanted to make sure that Yucca Mountain was still a viable option, I guess.

ERICA BICKFORD: There are multiple rail lines. The plan for Yucca Mountain was to build a 300-mile rail line to serve. From my personal assessment, I don't know that was the best option. There's likely some other -- I think there's two

other rail lines that may be kind of more efficient options, but I understand that one of them went through a tribal reservation, and there was some objection from the tribe and some other things, but yeah, being able to transport by rail would not be a limiting factor for Yucca Mountain. It was really kind of sociopolitical acceptance from the site, particularly objection from the State of Nevada that was the reason that that site was discontinued.

JIM DESMOND: Thank you.

ERICA BICKFORD: Sure. Thank you for the question.

CHAIRMAN DAN STETSON: Thank you both. As you can tell, this has sparked a lot of interest from our CEP members, and I'm sure from the general public as well.

I don't see any other questions from the CEP members, so let's go ahead and move towards those and our audience for the questions that they might have.

CHAIRMAN DAN STETSON: So if we might please move to slide 44. All right. 44, okay. We're now going to set up for the DOE public comment and facilitated public dialog. Once again, here are the directions for public comment: CEP public comment form link, as you can see there, is available to speak online. We will now open the chat feature.

I will call your name when it is your turn to speak. Please remember you have three minutes. There will be a countdown timer on the screen. We are holding 30 minutes for this portion of the meeting. After the public comments, then Victor and Martha will facilitate the public dialog.

Let me first call on our first presenter, and that is Nina Babiarz.

Nina, can you hear me? I know you're there.

NINA BABIARZ: Can you hear me?

CHAIRMAN DAN STETSON: Yes, we can hear you loud and clear.

NINA BABIARZ: Thank you very much, Dan.

Well, good afternoon Erica and Steve. I got a question specific to slide number 31, which is your Integrated Security and Safety Monitoring System, the ISSMS, as well as Steve's slide 36, I believe it is, the last bullet on slide 36 the transportation accident conditions.

Just a little bit of background with regard to specific to San Onofre in my question is back on October 2019 Edison was required by the Coastal Commission in order to be granted their demolition permit, their coastal development permit, to have a third -- an independent third party and maintenance program conducted. At its conclusion, Edison refused to accept the primary recommendation that the independent third party used an appropriate, in other words, extreme value method to measure the depth of the gouges in the San Onofre canisters.

Edison insisted instead upon using both an inappropriate and appropriate method. So my question to you is specifically is that prior to loading any San Onofre damaged cans into a DOE railcar will the Department of Energy adhere to the nuclear regulatory transportation related regulations that includes requirements that

address structural integrity, criticality control, radiation shielding, thermal analysis, and containment analysis, and specifically the NRC guidance for spent nuclear fuel review that also contains prescriptive acceptance criteria? And it's relevant to those two slides I believe number -- Erica's 31 and Steve's 36.

In other words, before these canisters go onto the railcars that you're talking about, you know, I want to address the transportation specific criteria of both the Department of Energy and the NRC with regard to the structural integrity of those cans.

ERICA BICKFORD: Do I answer?

MARTHA McNICHOLAS: No. We're going to wait until all the speakers have asked, and we'll go to the online questions and back to these. Sorry, Erica.

CHAIRMAN DAN STETSON: Thank you, Martha. So, yes, we'll go through all the public comments and some of them will have questions and some of them will just be comments, then afterwards both Martha and Victor will take and disseminate those questions, some of them may overlap, and then they'll direct them back to you, if that's okay.

We would like to go ahead and reset the clock, if we could. And the next person I see that would like to -- actually I see Hannah Burns, but it says here you don't want to ask questions, but you would like to ask them respond to -- so I think the next one is Donna Gilmore.

Donna, are you there?

Can you hear us okay, Donna? Is Donna on the line do we know?

LORRAINE SANDSTROM: Dan, Katie Day also had a question related to the DOE.

MARTHA McNICHOLAS: At least on her online question said she didn't want to speak.

LORRAINE SANDSTROM: You're right. I'm so sorry. Thank you.

CHAIRMAN DAN STETSON: I know that Katie wants to speak in the second half when it relates to a few other things. She does have some questions that she doesn't need to speak right now, but you can re-address.

I see Gary Headrick's name here as well. If we move to Gary, and see if there's anything he wants to respond to or ask some questions right now, and we'll come back to Donna.

Gary, we see your hand.

GARY HEADRICK: How's that? Can you hear me?

CHAIRMAN DAN STETSON: Loud and clear.

GARY HEADRICK: You're doing better than I am, Dan. Congratulations on your new position. You're doing great so far. I appreciate your efforts. I have a few questions that came to mind while we're listening carefully here, and I'll go down the line and hope you can answer them at the end.

Let's see, I'll come back on the next section I'll ask you, Dan, about some other stuff. Pertaining to the transportation, I'm wondering what the timeline is to move 7 to 10,000 canisters from one location to the permanent site, and then -- well, to a temporary site, and then we have to move them again, I'm wondering has there been an estimate about how long it would take to actually move that many canisters and how does that relate to the actual 20-year warranty on the thin canisters that are already 17 years old.

I'm just wondering how old are these canisters going to be by the time they arrive at their final destination if we don't repackage them first?

Then if it's necessary to repackage the canisters, wouldn't it make sense to make the new storage cask uniformly thicker and smaller for easier transportation, and address that issue now before all the nuclear waste has been packaged into thin canisters, and that way it will also be smaller for camouflage? I heard that mentioned before.

And then I'm wondering what are we going to do -- how is the timeline affected if we don't have rail transport due to sea level rise, because we're already impacting the railroad along the coast? It's already collapsing in some areas and all these things are time-related. I'm wondering if you study that see if we're going to run out of time before these canisters start to fail.

I think I'll leave it there for now. I still have a minute. I might as well try to squeeze these in. I think Garry Brown asked a good question how do we respond to an accident. That was on my mind, so I think we can go into that more, because I'm surprised there's not a policy in place already, because we're already moving this stuff.

And then I wanted to make the point that

Yucca Mountain was not a political decision. It was based on science. It was chosen for political reasons, but then it was dismissed because the water penetration. Anyway, let me leave it at that. I hope you can answer those completely at the end, thanks.

CHAIRMAN DAN STETSON: Thank you very much, Gary. I think we're both as a team effort on all of these things, thanks for your efforts as well.

I'm looking to see if Donna Gilmore is still with us. I don't see her.

Donna, by chance are you there? If not, we're going to go ahead and move on. One last chance, Donna.

Looks like Katie would like to say something.

Katie Day.

KATIE Day: Hi Chair Stetson, can you hear me okay?

CHAIRMAN DAN STETSON: I can hear you fine.

KATIE Day: Thanks. I'm sorry for the confusion. I'll give my full comment during the normal general comment section. I did have some

specific questions to DOE presenters that I submitted through the portal, but I'll say them out loud as well to make sure they're on the record.

I would love to first thank you for your time and sharing this progress and all the work to date. It's really exciting.

I do, however, have some questions, for instance, how quickly can the railcar stop if it did get an urgent warning? I wish I wrote down the slide down as you were going, but that was mentioned with the early warning system.

I'm also curious about the track inspections of the actual track themselves for the planned route. And then for the package certification all of the testing being done, I heard you mention computer modeling of the impact, but I'm curious if there's actual physical testing also being done for those package certifications. And then lastly regarding accidents, it was mentioned that of the accidents that happened in the past, there were no radiological effects, but I wanted to confirm whether that meant that there's been no radiological releases as well.

So that's it for me for this immediate

portion. Thank you all so much.

CHAIRMAN DAN STETSON: Thank you very much, Katie. I think we'll now go ahead and turn it over to Victor and Martha.

And Victor and Martha, first of all, I want to thank you, because this is the first time that I'm out of your shoes, and I understand it's always a little tricky to write down all these questions. So thank you in advance for helping in this regard. I'm going to turn it over now to you Victor and Martha.

MARTHA McNICHOLAS: Victor, I'll go ahead -- Victor, go ahead and start the easy part and that's reading the ones that were submitted online.

VICTOR CABRAL: Okay.

MARTHA McNICHOLAS: If that's okay. And then we can kind of shuffle consolidating some of the questions that were brought up by the speakers.

These are from Alice McNally, and there's seven different questions, and I think they may go to different people for asking or for answering.

Number one, do you understand that our rail and road infrastructure is not in shape to

handle the weight and size of railcars and heavy trucks needed to transport nuclear waste safely?

Number 2, are there enough funds from the recently passed infrastructure bill to rebuild the roads, tracks, bridges, tunnels, and quote, onsite dry transfer facility, hot cell, so that the infrastructure can accommodate the bulk and weight of the trains and trucks that will be needed?

Number 3, did you understand that the 5/8 inch thin wall stainless canisters now used to store nuclear waste are not transportable?

Number 4, does the DOE understand the need for an onsite dry transfer facility, hot cell, for handling, repairing, and transferring the canisters while in storage and in preparation for transport? If not now, when?

Number 5, do you understand that these canisters are warranted by the manufacturer for only 16 to 20 years and many are as old as 40 years?

Number 6, will the towns along the route be notified prior to these shipments? How so and what precautions will the local governments and citizens be instructed to make?

Number 7, the sea level is rising and the

1800 tons of nuclear waste is stranded indefinitely? And the last part of that question is cut off.

VICTOR CABRAL: It ends there.

MARTHA McNICHOLAS: Okay. I'm thinking the infrastructure bill and the notification of the communities are probably the ones that Dr. Bickford and Dr. Maheras might be able to understand. That's as far as the funds of the recently passed infrastructure bill to rebuild roads and the notification of towns along the route.

ERICA BICKFORD: Sure. Thank you for the question.

In terms of infrastructure condition, I don't personally know how exactly how the funds from the bipartisan infrastructure law have been used and what the overlap is with the routes that we plan to use. There likely is overlap. I just don't know off the top of my head. However, any infrastructure we plan to use for future transport of spent nuclear fuel we would do evaluations of that infrastructure beforehand.

For rail routes, there's inspections. The Federal Railroad Administration is the

regulatory body responsible for that. They have recently updated their compliance and coordination oversight plan. That's a specific oversight plan for shipments of spent nuclear fuel. That's a publicly available document if you're interested in that. That outlines what the processes would be.

In terms of the safety of the public in considerations, our program operates under the Nuclear Waste Policy Act including the interim storage pursuit in the Nuclear Waste Policy Act is referred to as the monitored retrievable storage, but we use those term interchangeably.

Section 180 of the Nuclear Waste Policy Act includes transportation section. It requires that the Department of Energy use transportation packages certified by the U.S. Nuclear Regulatory Commission, it also requires that advance notifications be made to state and tribal governments, and that training in technical assistance be provided to state and tribal governments along transportation routes.

We have long been engaged with state and tribal partners currently through the mechanism of the National Transportation Stakeholders Forum,

and we also have cooperative agreements with state regional groups and the Tribal Radioactive Materials Transportation Committee to discuss how those operations will go, how training will be conducted, public communication and outreach along those routes as well.

The current structure of that policy would be five years before shipments are planned to commence from a specific site. The jurisdiction, state or tribal will be notified eligible to apply for funds, and they'll develop a training plan and request funds from the Department to do that training and request support from the Department for any technical assistance or public outreach they may want to do.

The Department of Energy already has a pretty robust training program called TEPP, the Transportation Emergency Preparedness Program, has a number of modules from awareness level to a specialist level, it also includes medical training. That would be the primary training tool that we would make available, but jurisdictions would also be welcome to use other comparable training methods of their choice to ensure the public safety officials are adequately prepared

for these shipments.

MARTHA McNICHOLAS: Thank you. I think that the questions on the hot cell and the canister warranty are probably going to Vince Bilovsky.

VINCE BILOVSKY: Sure. With respect -- I think the question is the need for a dry transfer facility, and we think that with the robustness of the design, our aging management program that includes periodic inspections and with the repair methods we have available, we don't ever anticipate a need for a hot cell, but maybe in decades, the century come, hopefully that's not the case, but if a hot cell were needed, and that was a solution that made sense, we would go down that path. At this point we see that as very much unnecessary.

MARTHA McNICHOLAS: And the warranty of the canister, the question was 16 to 20 years, and I'm not sure that's accurate.

VINCE BILOVSKY: I'm not sure exactly what they mean by warranty here. The canister systems are good for a hundred years, that's per the NRC service life or more with aging management program. They're licensed for a fixed amount of

time. Those licenses are renewable, as the nature is with most licenses, but the canisters themselves have a hundred year service life, and again with an aging management program and periodic inspections, we believe that could even be extended.

And the warranty does that refer to the manufacture warranty so the commercial agreement, like if you buy a refrigerator and it's warrantied for three years, obviously you would expect it to last longer than that. I'm not sure what they mean by manufacturer's warranty here.

MARTHA McNICHOLAS: Okay. Any comment on the -- I'm not sure what the question was about the sea level rising and the 800 tons of nuclear waste, but is there a plan if there is sea level rise?

VINCE BILOVSKY: There is. We do have a plan to move the ISFSI to higher ground if ever needed due to sea level rise, and we are monitoring the coastal studies. We need to go back to the Coastal Commission before 2028 on the latest science and on sea level rise as well as the studies that are specific to the SONGS location.

So we do have a plan if that becomes necessary.

VICTOR CABRAL: Can I chime in too about the question?

MARTHA McNICHOLAS: Yeah.

VICTOR CABRAL: Another part of the question was that the 5/8 thin wall, they call them stainless steel canisters, that those are not transportable. Do you want to respond?

VINCE BILOVSKY: I'm not sure where that comes from. The canisters are designed for both onsite storage and for offsite transportation. All of the canisters are transportable.

We do need some of the last few canisters, there's I think about 20 of them that have some more cooling time that will be needed before they're qualified for transportation but that will be the case for all of them by 2030, which is probably ahead of the DOE's forecast for the availability of a storage location.

MARTHA McNICHOLAS: Wouldn't that be nice if it was available by 2030.

VINCE BILOVSKY: Then we wouldn't ship those until the end. I think probably take a while to ship the first --

MARTHA McNICHOLAS: Yeah.

VICTOR CABRAL: One of the other part of the question, maybe this is for the DOE, whether the towns along the route will be notified prior to these shipments and whether the precautions will be given to local governments and citizens.

MARTHA McNICHOLAS: I think she already answered that.

VICTOR CABRAL: Okay. All right.

MARTHA McNICHOLAS: Okay. I think we'll go on to the let's see --

VICTOR CABRAL: Katie Day that asked her question.

MARTHA McNICHOLAS: Yeah, and then Nina Babiarz actually, can you address slide 32 security monitoring system and slide 36 the last bullet, transportation. Edison refused to accept the recommendation from a third party regarding depth of gouges. Will DOE accept the NRC criteria related to the information on the slides? Will the DOE and NRC criteria met as it relates to slide 32 and 36? And I don't remember what 32 and 36 were but --

ERICA BICKFORD: I think there was a question about stopping distance, how long it

would take the train to stop with this in terms of an early warning notification, if there's something amiss with the railcar.

The stopping distance will depend on the length of the railcar, the weight of the cargo, as well as the speed that it's traveling. It will depend on the configuration at the time. As a reference point, you know, a long freight train that is more commonly used today that's on the order of, say, two miles long takes about two miles to stop, so about the length of the railcar to stop.

Another consideration for stopping the railcar would be having a safe place to do it. So if you're on a mainline rail route that has rail traffic, you know, kind of one right after the other, the same as you wouldn't come to a dead stop in the roadway where there's a traffic moving. You want to find a sighting or rail yard where you can safely pull off and do those inspections.

It will depend on what the condition are, again, whether it's a yellow light that's kind of something to look at the next stopping light or red light where you should stop the train

immediately.

It would be possible to stop the train immediately. You would have to coordinate with the control center for the rail period and make sure that the traffic that's coming behind you is aware that the train is stopped and diverts and stops accordingly.

We'll have procedures in place, and we'll work with rail carriers who are -- rail carriers have existing procedures for when a train is disabled en route, so we'll coordinate with those existing procedures and adapt anything that we need to specific to our transport regulations.

We'll also have had the benefit of learning a lot from the Navy's experience. The Navy has been using these S-2043 railcars for several years now. For us if the Navy does it well, then we don't see any reason to, you know, develop something new on our own. To the extent that the Navy is willing to share their operating plans with us, we're very happy to follow their lead.

MARTHA McNICHOLAS: Okay. I'll go onto the some of Katie Day's other questions about track inspections, and I think in your

presentation you answered one of her other questions is the certification of the package just a computer or model or were there actual physical testing as well?

I thought you showed that there were actual, physical drop tests and that sort of thing.

STEVE MAHERAS: So a transportation cask is typically certified based on computer analyses and scale model testing, not full scale transportation cask drops onto a concrete pad that's an unyielding surface. So we have a project in the planning stages called the package performance study that would actually do full-scale cask testing of an actual transportation cask likely in the rail environment. We're still in the planning processes so we haven't decided which specific test to do, which specific cask to use or where we're going to conduct the casks but this is ongoing work and stay tuned.

MARTHA McNICHOLAS: Thank you.

Just a word about track inspections, that's kind of routine I would say.

ERICA BICKFORD: That's currently

regulated again by current Railroad Administration and in some places there's delegated authority to state governments. There's state safety rail participation programs.

I believe California has one of the bigger programs to the number of inspectors they have. There's five inspection disciplines under the Federal Railroad Administration for track, for bridges, for hazmat, for motor-powered equipment, I'm blanking on the fifth one right now.

Yeah, there's an existing robust inspection requirement. Rail carriers are required to inspect their own track I believe typically weekly but more frequently depending on how high a traffic level it has, and so in advance of our shipments we would expect that it's a likely that additional track inspections could be done.

As we mentioned in our presentation or maybe as Steve likes to say if it doesn't fit, it doesn't ship. So in advance of all of our shipments, you would have to do a route clearance to confirm that the height, width, and weight can be accommodated by the infrastructure.

MARTHA McNICHOLAS: Okay.

VICTOR CABRAL: I'll go ahead with Gary's question.

MARTHA McNICHOLAS: Yes, thanks.

VICTOR CABRAL: He talks about the timeline to move to the 7 to 10,000 canisters. He's concerned about moving it first to the temporary and then to the permanent site with how old those canisters will be by the time they reach their final destination and whether that's a concern or if they to be repackaged in order to make it easier to transport those canisters and possibly even making them smaller for transportation. That's the gist of the question, and I'm not sure --

ERICA BICKFORD: Sure.

VICTOR CABRAL: Go ahead.

ERICA BICKFORD: Sure. So in terms of timeline, we've developed what we call a reference concept for consolidated interim storage facility. This is kind a draft design. The final facility may be larger, may be smaller depending on what a voluntary host community prefers.

Our reference concept is a facility that would have 70,000 metric tons of spent nuclear fuel which is on the order of 7,000 casks and the

timeline that we've estimated it would take to transport that amount to the facility would be on the order of 30 years. There's some flux there, because it makes assumptions about how you ramp up operations of the facility, that you start accepting a smaller amount of fuel, and then progressively accept more and more fuel, kind of up to 3,000 metric tons a year.

We've also looked at options where you could accept more fuel if you operated, say, around the clock operations at the facility. So it depends on the exact operations and the design of facility, but it would take on the order of 30 years to ship 70,000 metric tons or 7,000 casks to an interim storage facility, and then 30 years to ship them off, give or take.

VICTOR CABRAL: All right. The second part of the question is he's concerned about the rising seas and along the coastline here in San Clemente and SONGS. Are we going to be able to do this before we're flooded along the coast lines?

ERICA BICKFORD: Sure. Certainly lots of concerns about the availability and condition of the infrastructure moving in order to the future.

As Steve mentioned, we did a site infrastructure evaluation of San Onofre back in 2016, 2017 and had gone back and visited a couple of times to look at the condition of the site, and we expect that would be continued to be the case. We have an understanding of how the people would move off in the near term based on the existing infrastructure, and we'll continue to evaluate as the infrastructure may change.

Even with sea level rise we would expect there still need to be highways and railways, and so as the sea level changes, those highways and railways may change as well. We'll look at the condition of those at the time.

VICTOR CABRAL: Thank you.

MARTHA McNICHOLAS: I think maybe, Manuel, maybe you can address Nina Babiarz' repeated comment about the depth of the gouges and the third party analysis on that. I think we've addressed that before --

MANUEL CAMARGO: And forgive me, I'm not going to get the names of the various entities correct. In working with the consultant that supported us on the development of the inspection and maintenance program for the Holtec system, we

had -- engineers had a difference of the opinion, but in the end we agreed to everything in the report, and full compliance with the requirements of that report.

MARTHA McNICHOLAS: So not an issue and not relative to repackaging or packaging for transport?

MANUEL CAMARGO: No, no, not in my view.

Vince, is there anything you would add to that?

VINCE BILOVSKY: No, I think you covered it.

Jerry, if you want to say anything?

JERRY STEPHENSON: We agreed to do the analysis requested by the third party, and we said we'll do ours also, and we'll take the most conservative. We agreed not just implement what they recommended but to be even more conservative. It sounds like that's been misinterpreted as rejecting what they asked for. That's not our intent at all. We fully accepted what was requested by LPI, the third party that we worked with. We are implementing their recommendation.

VICTOR CABRAL: There was a question from Hannah Burns, I'm going to try and paraphrase it,

but I think the concern is that when, you know, we're obviously the waste, nuclear fuel waste is safe as long as it remains onsite, but there's an outstanding need for monitoring and concerns of damage to the canisters during the loading process, and they're concerned about what's been done in that process for loading or unloaded to an offsite storage and what plans or updates do we have in regards to this?

JERRY STEPHENSON: I'll take that one. Good question. We agree that progress toward development of an offsite storage or final repository by the DOE has been slow, but the good news is that a new consent-based initiative by the DOE is underway. It will facilitate inclusive community engagement and elicit public feedback on consent-based siting, management of spent nuclear fuel and federal consolidated interim storage.

Good progress there. It still may take a while. Until that facility is available, though, storage of spent nuclear fuel at San Onofre and other nuclear plants around the country is safe, reliable, and we can continue to store fuel here as long as it's reasonably required.

Vince mentioned earlier the hundred year

service life, which could be extended even further with the aging management programs that are required by the NRC. We're especially well positioned for long term storage, because we've implemented design requirements that are well above and beyond the minimum approved configuration.

We use 3/16 stainless steel when 304 is required. 3/16 is much more resistant to stress corrosion, cracking and corrosion. Our canister walls are 25 percent thicker than required. Our Holtec welds are laser-peened. Stress corrosion cracking cannot occur when you have a compressive stress on the surface. That's what we installed with the laser peening.

So while there were some concerns with the scratches, which we just talked about with the LPI, we went through that in great detail with tremendous technical rigger. The scratches were very shallow. The deepest of them was about the thickness of a credit card. The questions were all thoroughly and rigorously addressed and we currently have no concerns about the longevity of the canisters.

We recently completed inspection of two

canisters that have reached 20 years of storage. We found no great degradation. They really looked like they did the day we put them in there except for a little bit of dust on them.

We do monitor canisters at both the ISFSI pads. We have a program that's modeled after NUREG 2214, which is called the MAPS or Managing Aging Process in Storage, which is the industry in the regulatory standard. And we inspect canisters every five years, so no degradation has been identified or expected.

VICTOR CABRAL: Can I add one part to that, because I know you addressed it, but maybe a little bit more because it's been asked several times. There's an assumption that these canisters only have a very short life span or 20-year life span, some people have said. Can you address that?

VINCE BILOVSKY: Victor, the 20 years is in a contract somewhere. It's a guarantee. It has nothing to do with the actual design life of the canisters. It's a commercial number. It's like when you buy a car, it has a commercial warranty. It might be one year but your car doesn't fall apart at the end of one year. It's a

question of who pays for repairs after one year, right? So that's what the 20 year number was, I believe.

The service life that's stated in the regulatory documents is a hundred years, and with the thought that that could be extended probably with an inspection or maintenance program, you know. Stainless steel is very robust when it's kept in a proper environment. And there's really -- you know, we won't know until we've had 75 years of operational history but we anticipate that much, much more than 20 years, much -- probably much more than a hundred years could be achieved if we do the right maintenance, inspection and maintenance.

VICTOR CABRAL: Thank you.

MARTHA McNICHOLAS: Victor, unless you see anything else, I think we've covered pretty much all the questions for the DOE and transportation and --

VICTOR CABRAL: I agree.

MARTHA McNICHOLAS: Okay. Dan, we'll turn it back to you.

CHAIRMAN DAN STETSON: Okay. Well, thank you very much, everybody. I think that you can

see from the number, the depth of the questions that there's a deep public interest and concern about this, and we really want to thank you, Steve and Erica, for coming today and talking with us and informing us about the situation, and if it's okay, we would like to invite you back again in the future, not quite sure when, so you can continue to give us updates on this entire project.

ERICA BICKFORD: Absolutely. Thank you so much for having us. We're always willing -- very happy to talk about our program and share what we're doing with as many as people as we can find.

CHAIRMAN DAN STETSON: Okay.

STEVE MAHERAS: Thank you very much.

CHAIRMAN DAN STETSON: You're welcome to stay, but it's getting late back there. I'll leave it up to you if you want to say goodbye now but you're welcome to hang around.

ERICA BICKFORD: We do have to jump off, because we have somewhere else to be, but thanks again.

CHAIRMAN DAN STETSON: Thank you. Adios.

And with that, let's see, we're going to

move ahead. Fred has already given us a little bit of the big picture, but I think we want to -- we're a little bit behind, we want to keep moving pretty quickly.

Vince, I think we're moving to slide number 50 with some decommissioning projects schedules.

VINCE BILOVSKY: I'll be real quick. First I wanted to mention that this morning we started the process of releasing approximately 140,000 gallons of cleaned up water from the plant to the ocean that was all done in accordance with our NRC license, and we're expecting that batch release to be completed early tomorrow morning.

As with previous releases, we did post that 48-hour advance notice on our website. And also like those prior releases, the radiation consequences are negligible. They're very, very small.

Moving on, I just want to talk about the project schedule a little bit here. At this point we're right around a third of the way through the project for what we call phase 2, which is the decontamination and dismantlement of the station's aboveground structures.

This here slide shows a high-level schedule of key activities for the remainder of the project. The first line there represents the RVI segmentation and placement of GTCC material in the dry storage. RVI stands for reactor vessel interns, the internal guts that kind of held the fuel in the reactor vessel.

We'd expected this activity to be completed by the end of this year, but we've had a few delays that's pushing the completion of our RVI into the next year, early next year.

But for my overrule all schedule perspective for the project, we should be okay based on the durations and schedule logic. So if you look at the next three items, those are the three workstreams that have to be completed in order for us to get to the point where we can start demolishing the containment domes.

These are pretty much mostly independent of each other, so they can be run in parallel not a lot of interaction there. So in the second line, that shows the reactor vessel segmentation, and that's the main successor activity that's tied back to RVI segmentation.

But of the three workstreams there

leading up to the containment demolition, we're expecting the reactor segmentation to have the shortest duration, so that the shift in the RVI schedule shouldn't impact us overall, and that's what's reflected there on the schedule with that RVI finishing just a little bit before the end of 2025.

If you look at third line, that's what we're calling the large component removal. That's where we're taking out the big items out of the containment domes, like the steam generators, the pressurizers, the reactor coolant pumps. That work is well underway. It's making really good progress, and I'll let Rich talk about that when I turn it over to him in a minute.

Instead I'll jump over to the fourth line, and that's what we're calling the auxiliary building demolition. These are the support buildings that are located between the two containment domes. As I mentioned before, this is the one that we're expecting to have the longest duration, so that's what we expect to be the critical path workstream early next year. In other words, we're expecting it to be the last to finish before we start taking down the containment

domes.

So we're looking at spending the next two years working on those three middle activities there and then in 2026 we'll start the demolition of the containment dome buildings. That's on the fifth line there, and we'll have about eight months in the schedule for each unit, so total of approximately 16 months of work on the containment demolition. And then in 2027, we should start doing all the final backfill and site grading work, and then the comprehensive final status survey report should be produced towards the end of the project in 2028, and that's when we'll also be doing all the final waste shipments.

So that's a high-level rollup of the remaining third of the project. I say "high-level" because each of these activity workstreams that I laid out here actually represent thousands of detailed activities.

I'll stop there and see if there's any questions before I turn it over to Rich Kalman.

CHAIRMAN DAN STETSON: Thank you, Vince. I'm looking, I don't see any questions from the CEP members, so let's go ahead and continue making forward progress.

Let us move on to the next slide, if we may. And we have Rich Kalman here and, Rich, I'd like to go ahead and turn it over to you. You are here helping us talking about San Onofre Decommissioning Solutions, an update from there. Take it away, Rich.

Rich KALMAN: Thanks a lot, Dan. Every time I see myself on camera, it seems like I've aged.

I've been here seven years. I'm the patriarch of the family on the project. I've been here from day one on the project. So I've seen a lot of change obviously.

It was interesting when the CEP came out here, everybody remarked about the progress, because you can't see it from the 5 freeway obviously. And they also remarked about how clean the site was, the housekeeping. And housekeeping, safety and environmental compliance all work hand in hand, and we have a good handle on all three, and I'm going to talk a little bit about that as we go forward in the presentation.

Next slide. Here is the progress against the map at SONGS. You can see that black area closest to the ocean there. When you came here

last CEP meeting, you saw that area as the turbine building and intake structure, that's all complete now. And we are setting up a working mat to approach the control building, which is in between the domes there, and we'll start moving through that area in the spring of next year once we get the surgical removals done and we release and process all the water out of the cavities. That's our major limiting factor before we can go there and aggressively knock out a control building and other buildings.

There are a lot of preparations to do that obviously. We're investing a lot of money in controls and vents and negative air to make sure that we contain all the concrete dust. These are the radiological buildings, so it's imperative that we have tight controls on the entire process.

Next slide. So obviously safety and management commitment. You know, safety I live and breathe it 24/7. My wife always asks me what do you do for a living, and I say get paid to worry. It's the key to my success over the years. I worry every day about what we're doing new, what the new first operations. When I come to work I challenge my organization, make sure we do it

safely, and we keep everyone out of harm's way. That's my major job here at SONGS. We'll talk a little bit about that, decommissioning progress. We'll talk about the waste, and then we'll talk about environmental stewardship and mitigation measures.

Next slide. So the worker safety there's a lot of -- there's a lot on here. I will say that we were approaching a million in hours without an OSHA recordable. We were about 52,000 man hours off and unfortunately we did have an OSHA recordable. We had a laceration, a hand grinder bounced back and cut someone in the chest. He received stitches and staples, he took a vacation after that, actually, him and his family and he returned to work.

So it's unfortunate, we had a detailed investigation. We found that some of the contributing factors he did have multiple pair of gloves which could have restricted his grip, and we had grinders there that didn't have automatic brakes. We since have retired all the old grinders, and now we have grinders that as soon as you come off the trigger, they automatically stop. They don't slow down the RPMs.

So that's unfortunate. Our goal was zero, obviously. We had four OSHA recordables last year, we have one this year, and we don't expect to have another one throughout the year here. So obviously our focus is to make it zero. We were almost there this year, but these unfortunate things do happen.

The employee is fine, he's back to work, he's back to work for several weeks now working.

On the positive side, we're approaching 1.7 million man hours without a lost time accident here at SONGS, and that's 16 months since we had a lost time accident. That's excellent performance since we are doing the most intrusive part of the demolition at multiple work fronts here at SONGS. That's a tribute to the workers that we have here, the local workers here from the different unions and the people here. I mean, they're committed to keep themselves and others out of harm's way.

We developed a very, very strong safety culture here. We're out with them, we're constantly talking about what we can do better, and there's a real open dialog between the field and my leadership team here at SONGS.

Next slide. The decommissioning

progress, that's a shot from the north looking south down the turbine building and the intake structure, and then we will start approaching the building through that sort of ground area, the control building through the spring of the year. A lot of progress there. That's a lot of work there. These turbines were substantial structures and that work is behind us now.

Next slide. Just a real quick overview of the progress. You can see the material handling tent in the photograph on the far left. That will be wrapped with canvas, vinyl, we'll also have a negative air system in it. The rails, you can see the rails spur going through there.

The waste from the nuclear rod will be loaded inside the tent into gondolas, and that's under negative air so we have no dust or any particles that come out of the tent.

So that supports open air demolition and at the end of the day we don't want to find any particles, if you will, in places we're not supposed to be. We're making a big investment in that tent and there's two others to make sure it's very, very well contained.

These are all the lessons learned that

we're incorporating from previous demolition projects.

Overall project completion is 63 percent, and Vince talked about RVI. We're 95, 96 percent complete there. That last 5 percent has been a challenge. On the building, the surgical removal is about 50 percent. You can see the turbine intake structure is 100 percent, and we have shipped all the spent fuel racks to Clive for final disposal.

Waste shipments offsite about 28 percent, and we have started the large components removal. That's going very well. And we will be starting reactor vessel cutups as soon as the RVI is complete.

A good progress on a lot of fronts as we move forward here.

Next slide. So some of the 4th quarter focus areas for us was obviously zero OSHA recordables and lost time accidents. We did have the one OSHA, so we missed that by the one OSHA. But other than that, the performance has been great as far as the safety performance.

ALARA we're doing well. We're going to be, as of today, we're 72 Rem against the 88 Rem

goal, and that's very good performance in this type of work. We've been tight environmentally. You can see it when you come out here how clean the site it. We take it very serious obviously and the all the workers know exactly. They live in this community, so they like living in So Cal, they appreciate the environmental aspects of it, and they take stewardship very personally quite honestly here at the site, more so than other sites I've seen around the country, which is a good thing.

CHAIRMAN DAN STETSON: Interrupt real quickly. Martha has a question.

RICH KALMAN: Sorry.

MARTHA McNICHOLAS: Remind me again what ALARA stands for.

RICH KALMAN: It's As Low As Reasonably Achievable.

MARTHA McNICHOLAS: Okay. Thank you so much.

RICH KALMAN: Ourselves and the customer, our obligation is to keep the dose as low as possible.

MARTHA McNICHOLAS: Okay.

RICH KALMAN: We do everything in our

power, there's a lot of planning so we reduce the dose of the employees here.

MARTHA McNICHOLAS: Thank you for the reminder.

RICH KALMAN: Okay. Waste, we continue shipping. We're in excess of 120 million pounds in 2023 just as a data point. Project to date we've shipped 300 million pounds of waste offsite, and it's been done through rail up to Clive. It's been off the radar screen and the local communities. It's been shipped out there safely, so it's very, very good performance.

I would add that we've shipped 300 million, and we have 700 million more to go. There's a substantial amount of work in railcars and about 4500 more that have to be shipped offsite.

Advancing the critical path, you can see there's pictures of the steam generator, the top of the steam generator where we're removing the piping and starting to work down, and moving -- segmenting those steam generators in place. So good progress on that work front.

Next slide. Next slide, please. Okay. Here's some interesting photographs. This is the

role under water. The one on the left is the unit 2 volume reduction station or VRS1. We're currently working on that to cut the rest of those pieces and to put them in the proper canisters.

In the middle it's the VRS-2 cutting station. That photo was it was getting ready to be disassembled, and then the one on the right is the cutting table being removed from the water that's flown up to a tent on 63-foot where it's downsized, coated, wrapped, surveyed, placed in a proper container, and then shipped offsite.

Next slide. Another photograph here's some large component removal. This is heavy wall stuff. I used to replace these for a living, and now I'm cutting them apart. The whole life cycle I guess the steam generator. There's some photographs of what that looks like. You can see the two holes they are rigging points where they take the section pipe out.

Next slide. We'll go through this pretty quick. That's one of the workers cutting through -- with a torch cutting through the top of the we call the candy cane on top of the generator. He always has a fire watch with him. He's a tied off and the fire watch has to stay

there for a length of time when he gets done cutting to make sure there's no fires in the area. It's very, very tightly controlled.

Going over to the waste management side of it, next slide. So here's a real quick overview and a breakdown of the waste, 1 billion 94 million pounds, 268 million pounds shipped off site to date, that's actually 300 million as of today. So we have about 700 million pounds to go. Total railcars required to support is 5500. We've shipped off about 900 to date, so they're subtracting the two numbers about 4500 more railcars to go.

All those railcars will have to go through that tent there, and then they'll go offsite to be disposed of at Clive.

Next slide. Just some photographs of some of the special boxes. That's called a BARB there. Certain types of waste that go into the BARB and they're shipped offsite, and then on the right is the low level rad waste building. That's the last building that Brandenburg has to complete, then they'll go into the nuclear island and that was up on the south yard facility. They have a week and a half left to finish that scope

of work.

Next slide. Some more photographs of some filters on the left. You can see some fuel racks. These are surveyed and washed, surveyed again, sprayed as a Fixodent, surveyed again, and then they're lifted out, they're racked, several times, surveyed again, and then they're taken outside and wrapped again, surveyed again, and then placed on the trucks for shipment ultimately to Clive.

All of those are -- after the pool have gone through the process and are now in Clive, Utah. It's a fairly substantial amount of work. Each one of those racks about 45,000 pounds.

Next slide. Signs of progress. You can see on July 2022 you can see the gantry cranes and turbine building. August 2023 they're all gone, and we're moving onto the next phase of the project. A lot of progress on the project.

Next slide. Environmental stewardship. I think we talk about this a lot. We have everyone goes through extensive training for environmental awareness. We always are worried about nesting birds every year. We have done a very, very good job by not being impacted by

nesting birds. When we do find them, we maintain the proper distance so we don't disturb the nest and the hatchlings I guess they're called.

Also work monitoring we have a lot of federal, state and county agencies that come here and kind of look at everything we do from emissions to excavations to you name it, they look at it, biological assessments, and to date we've been extremely tight in those areas. There's been no issues.

Waste discharges, air emissions, and excavation monitoring. Vince did talk about a water discharge. That goes through a complex process before we're all confident that we can release it to the ocean.

Storm water management, it doesn't rain much here but when it does, it rains a lot. So we have to be always on guard for proper storm water management, and we've done a real good job there.

And then of course to minimize truck traffic, we want to use railcar because it decreases our carbon footprint obviously, and each railcar eliminates six truck trips, which is substantial when you calculate all the emissions.

Next slide. That's about it. That's a

quick summary. Any questions for me?

CHAIRMAN DAN STETSON: That was a wonderful summary, Rich. Looking to see if there's -- here we have, Gary, you'll be able to ask your question, Gary Headrick, when we get to public comment. I'm looking right now for any questions from our CEP.

Not seeing any we're going to -- first of all, just amazing that you shift -- have shipped 300 million pounds, but there's another 700 million ready -- or will still be coming. Gosh, that's truly an amazing amount when you start thinking about the numbers and volumes here. Right now we're going to take a five-minute break, no more than five minutes, and then we're going to come back to begin our facilitated public comment.

Let's move onto slide number 70, and we'll see you in no more than five minutes.

(Recess taken from 4:31 until 4:36.)

CHAIRMAN DAN STETSON: Welcome back, everyone. Ready to move into public comment. If we can please move to slide 71.

GENERAL PUBLIC COMMENT

CHAIRMAN DAN STETSON: There we go. Thank you very much. Yes, let's reconvene. And here's just a reminder how you can comment, get your name ready to comment. The directions for the comment are here.

We will now, once again, open the chat feature. I will call your name when it's your turn to speak. Once again, three minutes for speaking. We'll have the timer going once again, and I'm about to call the first speaker, and, Donna Gilmore, that is you. Are you around?

Katie Day, you are on deck.

KATIE DAY: Thank you. Can you hear me?

CHAIRMAN DAN STETSON: We can.

We haven't heard from Donna, so why don't you go ahead and maybe we'll circle back to her. Go ahead, the floor is yours, Katie.

KATIE DAY: Okay. Thank you, everyone. I know you heard from me already tonight. My name is Katie Day. I'm the senior manager of -- and thank you for hosting this information session, and the opportunity to provide comment and congratulations to you, Dan, on your new role as

chair.

So Surfrider is opposed to permanent or long term storage of radioactive waste at the San Onofre Nuclear Generating Station due to its proximity to the coastline, susceptibility to geological instability and location within a densely populated area.

Nearly 8 million people reside in the vicinity and is directly adjacent to one of nation's busiest highways. Surfrider is actively engaged in advocating to remove the waste as quickly and safely as possible to a federally-approved geologically secure consent-based permanent repository within a specific timeline. So it's been great to hear about the progress on that front in regards to railcar design tonight.

We also want to ensure that the waste is carefully stored on site while it's trapped there while Edison being held accountable to conduct robust monitoring, maintenance and have contingency plans in place. Same goes for demolition processes underway in the near shore environment.

We were concerned to read about

potentially elevated levels of radiation reported onsite and the potential for any legacy contamination left on the coastline after demolition and the eventual transport of waste offsite. So we wanted to ensure that the Edison will conduct full remediation at the landscape and confirmation through robust and expanded nearby testing of nearby beach sand, offshore sediment, soil, groundwater, biota and more.

As Dan mentioned earlier, hopefully I have a little extra time to share about our testing is, you know, Surfrider did recently finish another round of beach water radiation testing as conducted as a before, during, after study of batch radioactive liquid effluent releases from the San Onofre Nuclear Plant.

Monitoring effort was designed to see if there's a measurable increase in the concentration of the radioactive isotope cesium 137 and cesium 134 in the surf zone as a result of release. We also tested offshore near the outfall pipe.

This is a repeat of our study done last year, which was funded through community donations and completed in collaboration with the Woods Hole Oceanographic Institution. This recent testing

effort was funded through the Nicholas Endowment Foundation, and offshore samples were collected through the generosity of Chair Stetson who donated his time and boat to take us out to the outfall pipe, so thank you for that, Dan.

We also had the pleasure of Supervisor Foley joining us for the sampling -- or joining the sampling team for the before offshore sample collection, and Dr. Sarah Finkeldei from UC Irvine for the offshore during and after release sample collection.

Samples were taken on June 7th to reflect the pre-baseline -- pre-release baseline sample June 8th during a stated release of 140,000 gallons of aerated wastewater from the spent fuel cooling pools, and June 11th representing the post-release sample.

We also took duplicate samples to provide UC Irvine for them to conduct their analysis and ideally look at a larger variety of radioactive isotopes beyond cesium 137 and 134.

Is it okay if I keep going, Dan, to provide a summary of the results?

CHAIRMAN DAN STETSON: Please do.

KATIE DAY: Samples were shipped to Woods

Hole Oceanographic Institution Lab in Massachusetts for processing and analysis. Results came back showing no measurable change in concentration of cesium 137 between the before, during, and after release samples at either location. It remained at a constant 2.5 becquerels per cubic meter of seawater for every sample in the surf zone and 2.7 becquerels per cubic meter for every sample offshore. The margin of error on their processing equipment is 0.1 becquerels so you know.

Even though there was no change in levels associated with the release, the results continued to be slightly higher than the ambient ocean level of California coastal waters since the Fukushima Dai-ichi meltdown, which was 2 becquerels per cubic meter, but at just 2.7 and 2.4 becquerels, the measured levels are considered well below, even well below EPA drinking water limits.

We were unable to confirm the source of the elevated cesium 137 levels compared to ambient ocean level, especially since we were not able to detect measurable changes from a specific San Onofre release. But potential sources could be Fukushima Dai-ichi fallout, legacy radioactive

military testing, SONGS discharges or other sources.

For all 12 samples taken this year and last year, the cesium 134 was below the detection limit. I do want to acknowledge study limitations, all samples were pulled from the ocean surface, even though the outfall and diffusers are located closer to the sea floor. Cesium 137 and 134 were the only isotopes analyzed during the study, because those are the only isotopes that this specific Woods Hole testing equipment is able to determine and quantify. It is possible that other isotopes are present in the beach water.

The study did not test any beach sand or sea floor sediment for radioactive isotopes, which is a study I would be very interested in seeing. We also didn't test beach water directly adjacent to the plant or really anywhere else. I will have a blog summarizing the recent study results posted on Surfrider's website either tomorrow or at the latest next week.

I do want to flag, though, that it is a study that anyone can do through the Woods Hole Oceanographic Institution's Our Radioactive Ocean

Beach Water Sampling Program. If anyone here tonight is interested in doing something similar or testing other locations, happy to reach out to me, but you can also visit ourradioactiveocean.org to learn more.

Thank you very much for the extra time to share that additional information.

CHAIRMAN DAN STETSON: Katie, you're welcome. I think that was really important with the extra time. Also, I would like to also, as you did, thank Dr. Sarah Finkeldei of UCI, and she submitted a whole report and will be posting that report on the SONGS Community web page for this meeting.

It's also great to know that the findings from both of the studies align with the NRC's mandated radiological effluent monitoring program that SCE has been following really for decades. Thank you again for your update on that, Katie, and for all your good work.

Next we're going to turn to Nina. Nina, you have a chance to have some more comments and we look forward -- we're going to reset the clock right now.

Nina, the floor is yours.

Nina are you there? Gary, you are on deck. Get ready if you will, please.

NINA BABIARZ: Can you hear me?

CHAIRMAN DAN STETSON: Yes, we can hear you.

We don't hear you now. We heard you for a moment but nothing right now. We heard you great earlier.

NINA BABIARZ: Can you hear me now?

CHAIRMAN DAN STETSON: Yes, we can.

NINA BABIARZ: Okay. Here we go. I originally intended to comment during this public CEP public comment of what a great opportunity our new CEP leadership represents to revisit Edison's original CEP charter.

Edison's original CEP charter to see if the ratepayers' decommissioning trust fund that's paying for these meetings is actually getting what Edison originally promised. As Doug Bauder stated earlier, how can we make CEP better. We think we can. Public Watchdogs is of the opinion that new leadership may provide an opportunity for the community to actually be engaged in discussing things that are in the charter like open communication, transparent dialog, public

involvement, education of SONGS decommission activities, because we're only hearing one side, we're only hearing Edison's one side, foster, to encourage issues of interest to the community, focus remaining on matters of interest at area communities.

If Edison really wants to engage the public, then let's set up a means by which each member of the CEP, let's review the renewable terms, et cetera, et cetera.

I would like to use my remaining time by indicating that I didn't pose my question to Edison, Martha. I specifically posed my question to the Department of Energy, and I stated two specific slides in the topic within, and I believe my question to the DOE was butchered. And I would like an opportunity to put it in writing and submit it directly to Erica and Steve, and I would like to do that with the facilitation of our chair Dan Stetson.

Are you agreeable to that, Dan?

CHAIRMAN DAN STETSON: Nina, having been in Martha's and Victor's chair I understand --

NINA BABIARZ: Okay. Let me put it to you this way, I'm quoting from the LPI report.

LPI was not a consultant as Manny indicated. They were mandated by the California Coastal Commission as part of special condition number 19, which was the condition by which Edison agreed to take their demolition permit, and I'm quoting, it's not a difference of opinion, I'm reading directly from the executive summary of LPI indicating that what Edison used was a normal distribution, and a normal distribution is not appropriate for predicting maximum flawed depths.

Why? Because the application of a normal distribution underpredicts the maximum flaw depth of the gouges. So, you know, about the last person I wanted to facilitate that question would be Edison who has lost their objectivity with regard to what they are agreeing.

They're constantly, even in the last PowerPoint at the last meeting, put me as a bullet as an assertion that was made. I would like an opportunity since they've been putting me on their PowerPoints, an opportunity to rebut, because they're not reporting to the community what actually accurately occurred. They're using both calculation methodologies, and LPI specifically indicated that one is inappropriate, and the

community has a right to know that they're using an inappropriate calculation method to measure the depth of the gouges.

Something else that's come up several times is that they keep saying the Coastal Commission has agreed and approved this. And, you know, the new executive director Huckelbridge is an attorney. I would like to see that in writing, because Edison keeps touting that this mandated special condition is okay with the Coastal Commission using -- Edison using an inaccurate, inappropriate calculation method to measure the depth of the gouges and the scratches and the gouges in those cans. And that is primary, paramount concern of community interest.

And so I would like to pose that directly to Manny and everybody else that keeps saying the Coastal Commission is approved it. I would like to see that approval to Edison from the Coastal Commission in writing, because I don't believe an attorney that's the executive director of the Coastal Commission is willing to do that, and if she used it, it needs to be questioned in the court of law.

CHAIRMAN DAN STETSON: Nina, with

reference to your first question, yes, we can work together and put your questions in writing and resubmit those to our folks from the DOE and get it --

NINA BABIARZ: That's where they were intended to --

CHAIRMAN DAN STETSON: Direct response from them. So, yes, we can do that, and yes, we can work on these other questions that you had and get a response back to you on those. So I'll good questions, valuable input, and we'll do our best to respond to your concerns.

NINA BABIARZ: Greatly appreciated. They're more than my concerns, it's the community's concerns about the cans being damaged. One other thing I'll send you a copy of the NRC e-mail that this management team of Edison keeps calling it incidental contact, and Scott Moore specifically called out that incidental contact is the method and the means by which the scratches and gouges occurred, and it should not be used interchangeably to describe it.

I'll send you a copy of that e-mail, because they keep violating the intent of that e-mail as well. I appreciate you letting me share

this. Thank you.

CHAIRMAN DAN STETSON: Thank you. We appreciate your input.

So let's see, next we have Gary Headrick. Gary, are you there? We see your hand being raised.

GARY HEADRICK: Hey, that looks better.

CHAIRMAN DAN STETSON: Good job.

GARY HEADRICK: For some reason the microphone doesn't allow me to function real quickly. Sorry for the delay.

CHAIRMAN DAN STETSON: No problem.

GARY HEADRICK. I want to talk a little bit about something I experienced personally in terms of water monitoring at San Onofre. I have a YouTube online that it just happened to catch something in the background when I was being interviewed by a news agency down there, and there was water gushing out, like a geyser about 50 yards away from the Tsunami wall right in the surf line, and I was told that there's regular occurring things where they have to maintain the out flow of pipes, sometimes they have to weld them, sometimes they put rocks over them. I was really concerned that now we're talking about

measuring contamination and that we're just measuring the surface water. I would like to know -- I put 500 into the Woods Hole study myself, and I would like to know what the sediment is like in those areas.

Are there plans to test other things besides just the surface water?

And then I also wanted to ask about something you were involved in, Dan, too that the meeting that you mentioned recently where the SCE engineers interacted with another engineer Paul Blanch, and I learned a lot of interesting things at that meeting, but the one thing that just keeps nagging me looking back on it is the fact that -- and I think you would agree, Dan -- every person in that meeting agreed that Holtec was difficult to work with, they don't share information, and they don't play by the rules, everyone, including Manuel and Jerry and other people that are on this call.

So I'm wondering what are we going to do about this? Why is Holtec even in charge and how does that reflect on ACOM? I think they have a better reputation than Holtec. Can someone please explain that to me so I can rest a little easier,

because that's very troubling.

And then the last thing I wanted to ask is I was involved in the documentary that you saw recently, Dan, the SOS, San Onofre Syndrome, and I just wondered what your impressions were, if you think it's level, evenhanded, worthwhile for other people to see. And I also wonder if you saw the whistleblower who was possible for creating, manufacturing on site the first 37 canisters that he says won't last longer than 20 years, and he's especially concerned about canister number 19 that received a huge gouge.

These are things that I have documented, but I don't know what to do with it exactly except share it with the public. I wonder if you are interested in that. I'll leave it there.

CHAIRMAN DAN STETSON: Thank you, Gary. Let's see, I'm going to circle back now and see if Donna Gilmore -- we're going to try one last time, Donna. Are you there? We kind of only got a few minutes left of the meeting.

I do not see you or hear you, so we're going to go ahead and turn it over to Victor and Martha. We're running a little bit long, but these are important questions, so if everybody is

willing, we're going to hang on for a few extra minutes.

Martha and Victor, do you want to go ahead and take it from here?

VINCE BILOVSKY: You're on mute, Martha.

VICTOR CABRAL: I am too. I'll start. The first two were pretty much presentations as opposed to questions, as I understood it, those but the last one's addressed some -- Gary had some questions about the gushing water out of the sea wall and particularly his question about measuring the sediment. I guess I would presume you're talking about sediment at the bottom of the ocean as opposed to water testing on the surface.

That's part of his question and the second part of it would be about the 20-year life of the canister and also that canister, one canister in particular, canister 19. I'll leave it at that.

CHAIRMAN DAN STETSON: Martha, were there any other questions that you saw that need to be addressed here? We do have some follow-up things, that's for sure from Nina but any other questions that should be. Oh, I know there was one from Katie that referenced -- do you remember what that

was, Martha?

VINCE BILOVSKY: Martha, you're on mute. I think I know what she was --

MARTHA McNICHOLAS: Sorry. Concern about the elevated radiation levels on some of the internals, and I think Vince had an explanation of that. The question, and I'm not sure I follow the cesium 137, 134 question on that and relative to is that a Fukushima outfall, or I think Vince can probably handle both that elevated levels.

VINCE BILOVSKY: I think the cesium issue she was asking the hypothetical what may have been a contributor of that small elevated level. I think that's what she was --

MARTHA McNICHOLAS: Okay. But there was also the activated components.

VINCE BILOVSKY: Yeah, I can speak to that. I believe what she was referring to was there was a very small portion of the reactor vessel internals components that ended up having higher measured levels of activity than was previously estimated. So what they do is initially they make estimates based on calculations, but everything is verified by measurements ultimately. And everything was

characterized pretty much exact, except for this one small portion at the bottom, and they took the measurements, and they had it recharacterized, reclassified that waste, but this material is well-shielded under water, and it's packaged and shipped in the proper qualified containers for the first classification of waste.

This situation didn't result in any impact to the radiation dose levels that the dose field for the workers. So there wasn't higher levels of radiation dose that resulted from this because everything is well-shielded.

MARTHA McNICHOLAS: So it's just basically some of the pieces had to be reclassified?

VINCE BILOVSKY: That's right. They were in the A to B, B to C category, so these are much lower activity than the Greater-Than-Class C.

MARTHA McNICHOLAS: Okay. That's -- the classification thing is what I was little confused about too.

And I think Dan already answered or addressed -- not necessarily answered but addressed some of Nina's concerns that we didn't ask the appropriate question. I apologize, Nina,

for not stating the question accurately to the DOE.

So I think Dan already agreed to do that in writing, submit it to the -- help with the submission to Dr. Bickford.

VICTOR CABRAL: I think that's her point that she wants the DOE not --

MARTHA McNICHOLAS: -- not SCE.

VICTOR CABRAL: -- to respond to that question. I think she's going to articulate in writing, and I think Dan has already agreed to do that, to get that information.

CHAIRMAN DAN STETSON: Right.

VICTOR CABRAL: There's a question for you too, Dan, about the film. I don't know if you heard that, the SOS film, what your impressions were particularly as it relates to the whistleblower and other information in the film.

CHAIRMAN DAN STETSON: Well, thank you, Victor, actually I enjoyed sitting next to you during that film and sharing comments back and forth.

Well, first of all, I mean, I learned a lot from the film itself, especially the early parts of it that I did not know Fukushima and the

whole history of it closing down of the plant. Of course I was at the meeting back in August number of years ago when the gentleman from -- got up and talked about the canister that got stuck and almost fell, so I lived through that, and I think everyone has an important voice and it's important to be transparent as much as possible about those, and I really agree with that what was it the one-minute rule, which we heard earlier from Erica Bickford when things come up that they should be disclosed as soon as possible, even if you don't know the full answer to that.

I also certainly agreed, and I think we all agreed with a couple sediments of the film, and that is we want to make sure that the spent nuclear fuel is stored safely during the time while it's at SONGS. We all want to make sure that that is carried out. And number 2, we want the spent fuel moved out as quickly and safely to a site where there has consent-based acceptance of the spent fuel.

So those are things that I think that we all agree with and those are my -- you know, what I came away from the film from, and there was a lot of work that went into it, and every voice

that was featured in the film is an important voice, and everyone that's out there in our community has an opinion or voice is important, and we need to hear that. So those are kind of my perceptions overall on the film.

So if there's nothing else then --

RON PONTES: Dan, this is Ron Pontes. I would like to make a few remarks about Nina's comments about the inspection and maintenance plan.

CHAIRMAN DAN STETSON: Sure.

RON PONTES: The full California Coastal Commission voted unanimously after hearing about the inspection and maintenance plan on July 16, 2020. It was a rather lengthy meeting, and it was not just the executive director that approved that plan. It was the California Coastal Commission, and I think it might be helpful for Nina, I know she's very, very detailed and she studies all this information very carefully, but she ought to maybe go back and take a look at that hearing, which is well-documented and available on the Coastal Commission's website. I think that would be very helpful for her and her understanding about that report and how it was thoroughly reviewed not only

by staff, but then presented to the Coastal Commission for their review and consideration.

And then the second point, which I don't recall who brought it up, but I think maybe it was Gary, about the sediment sampling. I'll answer that in two parts: The current permit we have with the San Diego Regional Water Quality Control Board requires us to do annual sediment sampling around the conduits for non-radiological purposes, and we're going to do that.

But as far as radiological sampling of the sediment, we've done some of that previously and those results are documented in the California State Lands Commission final environmental impact report for the decommissioning. It was part of the study that the California State Lands Commission performed before they gave us -- they completed the EIR and finalized it, certified it. We are planning additional sampling of the sediment around the conduits, and those results will be tabulated and reported to the Nuclear Regulatory Commission as well, and we'll also take samples inside the conduits, again, so that we can properly characterize them.

So there is more sampling to be

performed, more analysis of those samples and that will all be available for everyone to see for themselves just exactly what we did on the unit 1 conduits when we decommissioned those conduits.

That's all I've got, thanks.

CHAIRMAN DAN STETSON: Thank you, Ron.

And Jerry, was there anything that you wanted to say with reference to the LPI?

JERRY STEPHENSON: Well, I can say one more quick -- I can give a quick example. If you're trying to calculate 2 plus 2 equals 4 by two statistical methods, and one comes up 3.9 and one comes up 4.1, it doesn't matter which one you choose as long as you choose the highest one is conservative. If you do one that comes up 4.1 and other 3.9, choose the 4.1, you will always be conservative.

That's what we're trying to say. I hope that simplification helps.

CHAIRMAN DAN STETSON: Thank you very much. I know time is really short, so we're going to move on now.

And Fred, welcome, this is your first full meeting. What do you think?

FRED BAILLY: Thank you, Dan.

Again, I'm really happy to be here. I really appreciate the support, and I wanted to thank, well, the Spent Fuel Solution Coalition for continuing to engage on awareness of what can be done, what we should be doing to see that spent fuel moving some day.

Thank you also to the Department of Energy and PNNL. I wanted to make a comment that the, yes, spent fuel has been transported safely for decades. I want to mention that it's the 7,000 canister that were mentioned to be shipped over 30 years, that's roughly 230 per year, 240, that's what's happening in Europe right now. They're transporting about 3 -- 240 canisters every single year at the commercial scale transporting spent fuel.

So it definitely is a throughput or a program that is achievable. There are still some work to find the centralized interim storage to ship it to, but I just want the CEP members and members of the public to be aware that it's actively being done, not only in the U.S. but also in the rest of the world at the industrial scale.

I wanted to thank the CEP members for the questions, all who attended and just wanted maybe

to use Doug's phrase that we welcome the challenge, and we'll continue to do so.

CHAIRMAN DAN STETSON: Well, thank you very much, Fred. We appreciate having you here and that you're willing to accept the challenge, because I'm sure it will continue to resurface.

If we can move on to the next slide, please. You know, gosh, what a productive meeting we had. I think we covered a lot of topics. We're running a little bit over, but I really want to thank every for hanging on. We had a great participation, we had great attendance, we had some of the key takeaways, there's a productive meeting with Paul Blanch, we had the analysis from Woods Hole and UCI on the discharges. We are showing progress on the rails and routes. We want to especially Dr. Bickford and Dr. Maheras for that. We want to thank Supervisor Foley and Desmond for their leadership in trying to move forward on some legislation.

Vince, you gave us an updated schedule so thank you for that. And, Rich, you know, I have to say Martha I'm sure loves those photos, because there's was a bunch of them, and you gave us a great update on the dismantlement work.

Let's go on and move on to the next slide, which is kind of all the different things we went through this year. You can see we had a productive year. David Victor and Doug being a big part of that. These are many of the things we covered during this meeting.

If we move on to the next slide to slide number 76, these are the things that we have planned, these are tentative plans for the discussions that we're going to cover at our upcoming meetings. We don't have the dates yet for these meetings, but these are the topics that we're going to initially think about discussing.

The CEP members we're going to be getting together in the December to talk about these and also perhaps editing these, adding or subtracting other ones that may come forward from input from the community. So this is kind of what our plan is for the upcoming year. We plan to have four meetings.

If we can just turn to the next slide. You know, I really want to just say thank you given the crazy turmoil going on in the world today, special thanks to everyone for your civility demonstrated during today's meeting. I

think the sign of a vibrant democracy is the ability to openly express difference of opinions and the sign of a civilization is the ability to express these differences in a safe environment without fear of physical retribution or other. Live long, prosper, thank you, and good night.

(WHEREUPON THE PROCEEDINGS WAS ADJOURNED AT 5:11 P.M.)

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

CERTIFICATE

OF

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