In the Matter Of:

Diablo Canyon Decommissioning Engagement Panel

PUBLIC HEARING AND PANEL DISCUSSION

April 20, 2022

Job Number: 870917

DIABLO CANYON DECOMMISSIONING ENGAGEMENT PANEL PUBLIC HEARING & PANEL DISCUSSION APPEAL HEARING

--ooOoo--

WEDNESDAY, APRIL 20, 2022

6:01 p.m. - 9:29 p.m.

SAN LUIS OBISPO COUNTY GOVERNMENT CENTER

1055 MONTEREY STREET, SAN LUIS OBISPO

--ooOoo--

Transcribed by: Trudy O'Brien, CSR No. 13641, RPR

Job No. 870917

DIABLO CANYON DECOMMISSIONING ENGAGEMENT PANEL:

CHUCK ANDERS, FACILITATOR

CHARLENE ROSALES, PANELIST

SCOTT LATHROP, PANELIST

DENA BELLMAN, PANELIST

BILL ALMAS, PANELIST

DR. TIM AURAN, PANELIST

KARA WOODRUFF, PANELIST

LINDA SEELEY, PANELIST

SHERRI DANOFF, PANELIST

MAUREEN ZAWALICK, PANELIST

ALSO PRESENT:

PHILIPPE SOENEN

DR. ROBERT BUDNITZ (Remote appearance)

TOM JONES, PG&E

PG&E STAFF

RAHEEL HAROON, Orano Design Engineering Director

ROGER MAGGI, Chief Commercial Officer, Orano

MEMBERS OF THE PUBLIC

SAN LUIS OBISPO SHERIFF'S DEPARTMENT

DIABLO CANYON FIRE

PUBLIC COMMENT

WEDNESDAY, APRIL 20, 2022

DIABLO CANYON DECOMMISSIONING ENGAGEMENT PANEL PUBLIC HEARING & PANEL DISCUSSION

-OOO-

MR. ANDERS: Let's go ahead and begin the meeting. My name is Chuck Anders. I am the facilitator for the Diablo Canyon Decommissioning Engagement Panel, and I want to welcome the panel members, the members of the audience, and everybody on the Zoom webinar to the 21st meeting of the Diablo Canyon Decommissioning Engagement Panel.

This is a hybrid meeting; so we have -- this is the first time in two years that the panel has actually met in person and the first time they had the opportunity to have a public meeting and have the members of the public here in the audience.

Also, we have combined this meeting with the Zoom components; so we also have online participants, and the online participants can view the meeting, and they can also provide public comments and testimony when we get to that portion in the agenda of the meeting.

So without any adieu, further delay, I would like to introduce Linda Seeley, a member of the engagement panel. Linda.

LINDA SEELEY: Hello. Welcome tonight. My

name is -- whatever your name is, Chuck -- is Linda Seeley, and I have been on the panel since 2018.

I want to first of all thank you for being here in the audience, and we have a lot of people who are Zooming in tonight; so I want to thank our Zoom participants for being here too.

And remember, as a Zoom participant, go to our website and submit comments or questions. This is going to be a meeting, kind of a -- we are going to talk about the cask system that we already have at Diablo Canyon, and we are also going to be introducing you to the new cask system that PG&E has selected for storage of the remainder of the nuclear fuel that will be produced at Diablo Canyon until it closes down in 2025.

And I want to review the agenda with you tonight, and there will be time for public comment here. Unfortunately, we do not have the capacity to take phone calls from the public from outside, but you can do it online and those questions and comments will be addressed, I can assure you.

We're going to review -- going through this agenda, Kara Woodruff, who is sitting here to my right is going to talk about -- we have created a document called the "Strategic Vision" that we've been working on for the past four years.

We have gathered a lot of information from the community, and we have met many, many times ourselves to look at the various issues around the closure of Diablo Canyon and the decommissioning.

And this particular part of it, the spent fuel is -- you know, if we don't store the spent fuel safely, the rest doesn't even matter.

So Kara is going to go through the panel's recommendations for storing the spent fuel as safely as possible.

Then Philippe Soenen, who is down here in front of me, will talk about our current ISFSI, that's an acronym, believe it or not, Independent Spent Fuel Storage Installation, and what we call it is ISFSI for short.

And he is going to talk about our current ISFSI, what's stored there, and how it's maintained, et cetera, and he will address, I think, the points that Kara brings up.

And then they have applied for a license renewal of that ISFSI, a 20-year license initially. Now we are applying for a 40-year extension to that license.

And then we will be followed by Dr. Robert Budnitz, who is a member and I believe the chair of the Diablo Canyon Independent Safety Committee.

This is a committee made up of three nuclear engineers who oversee, commiserate with PG&E about issues of safety significance, and they meet here three times a year, and it's an excellent panel that -- where we can find out a lot of information about what's going on at Diablo Canyon.

Then we will have a break. Oh, and Dr. Budnitz is going to give a presentation about his panel and address some of the questions we have here tonight, and we will have the opportunity to ask him questions.

And then Tom Jones who is a -- I don't see him right here -- but he will talk from PG&E. He will talk about the new cask system, the Orano cask system that was selected by PG&E, and he will also go into some depth about that.

And then Bill Almas, our esteemed panel member, will be taking questions, guiding the discussion after that.

Chuck Anders will take it from there, and then we will be done. It is going to be a long meeting, but I think it's a valuable meeting. I'm very glad you came. Welcome.

And this is not the last of these meetings. This is the first. We will have another one on May 25th to dive deeper into the Orano system.

And then we're planning to have an open house on June 4th to do more talking and understanding about this system.

It's an incredibly important decision that is being made about this, and PG&E went through a long process to select the system that they did select, and we as a panel were not privy to that selection process because of privacy concerns for -- we just weren't privy to that.

And so we are going to be learning a lot tonight along with you. It's not -- this is brand new for us too. Okay. Thanks very much.

MR. ANDERS: Thank you, Linda. And I do appreciate your comments. I think it's important to reiterate and set expectations for tonight for people.

This meeting is to learn about the new system that was chosen and also learn about how the current system will be managed and licensed in the future.

And the purpose of this meeting is to learn and then solicit questions from the public and then members of the panel about the new system that can be answered at the next panel meeting on the 25th, as you said, and that will even be followed by some tours and an open house.

So just -- it is important to set expectations

about this meeting. And we always have an opportunity to have a safety moment or safety orientation before our meeting begins.

So I would like to introduce Dr. Tim Auran to provide the safety orientation. Tim. Can we go to the next slide.

DR. TIM AURAN: Thanks, Chuck. Welcome, everyone. We do like to start every meeting of ours with a safety message. In the event of an earthquake make sure you know the safest place to drop, cover, and hold.

In case of a fire, make sure you know your exits and escape routes; with those of us attending in person here, those would be through the two sets of double doors in the back.

In the event of an active shooter, determine the best option for a safe outcome -- get out, hide out, take out. For those in person, also please remember the San Luis Obispo County Sheriff's deputies are in attendance as well.

In the case of a medical emergency, we have an EMT available who has an automated external fibrillator device with him, and the two of us will provide CPR as necessary. For those at home, please just dial 9-1-1 in case of an emergency.

If anybody has any emergency issues, please feel free to contact one of the PG&E employees who are dressed in a PG&E shirt who may be nearby.

For everyone's psychological safety, please remember be to respectful of one another. A lot of emotions can be involved with these discussions. Please have -- please be mindful of other's opinions when raising your questions.

This will be a long night. Try to remember to stretch every 30 minutes or so for 30 seconds. As COVID remains prevalent, if anybody would like to continue wearing a mask, please do so.

Thank you, Chuck.

MR. ANDERS: Thank you, Tim. Next on the agenda is a PG&E update, and I would like to introduce Maureen Zawalick.

MAUREEN ZAWALICK: Thank you, Chuck. Good evening, everybody. So I want to provide a PG&E update. Although the focus of tonight's discussion is on our spent fuel management, I want to give you a general update on the decommissioning project itself.

So big picture, the decommissioning project at Diablo Canyon remains on schedule and on budget and so on track overall.

And, again, as Chuck and Linda mentioned, I'm

excited about this evening's discussion and conversation as it being one of the first -- the present system that we have selected -- but one of the first meetings to gather that input and feedback from the public and from participants so we can form our next meeting on May 25th and open houses and tours at Diablo Canyon and other things to make sure we maximize things happen to that participation as much as we can to get that input into this process.

So other things to mention: In December of 2021, we filed the next Nuclear Decommissioning Cost Triennial Proceeding with the California Public Utility Commission.

So one of the things we have been focused on is, you know, addressing the schedules with that and so forth, data inquiries and data requests that we have been getting from interested parties.

There will be a public participation hearing that the California Public Utility Commission will be announcing coming up in the next few months. The California Public Utility Commission is working on the overall schedule for that and if hearings are needed and so forth. So key take away there is that the CPU will host another public participation hearing like they have done in previous triennial proceedings and so forth.

Other news to share is this week we did receive approval from the California Coastal Commission for the 1,200-acre conservation deed restriction that we have been working on; so Kara wanted to share that with you.

Excited about that. Our next steps are to be working with the Port San Luis Obispo Harbor District for approval and then working through some other logistical items. Tom Jones is here to discuss any of that if you would like to.

And then, finally, there has been a lot in the news lately from the Biden administration. The Biden administration's $6 billion Nuclear Program for the DOE.

And I just wanted to address some questions that we have been getting on that. First and foremost, you know, Diablo Canyon is not closing because of financial reasons or financial challenges like other plants in the United States are.

And that that program, that $6 billion is focused on -- on those reasons. We are closing, as most of you know, because of the California energy policies. Okay. So, you know, we are committed to the California energy policies, and we are a regulated utility, so we do what the State tells us to do.

And, as we know, you know, the position regarding the future of nuclear energy in California was

basically introduced in 2016 with our plan to retire Diablo Canyon but also through legislation and then Governor Brown in 2018 approving the closure of Diablo because of the energy policies of California.

So we are regulated, we do what the State says, and that's what has been on record since 2016 and 2018; so we are continuing with our preplanning and our plans to decommission Diablo Canyon on its license expiring in 2024 and 2025.

So with that, Chuck, I will hand it back over to you.

MR. ANDERS: Great. Thank you, Maureen. Now we are released to start the discussion of spent fuel storage. We are going to start that discussion with a presentation from Kara Woodruff that is going to review the engagement panel's recommendations on spent fuel storage management and storage.

So, Kara, I'll turn it over to you. You have the clicker?

KARA WOODRUFF: I do. Let's see if it works. Yeah, it does. Great. First of all, welcome, everyone. It's really great to be in person, and it's been a while, so welcome back.

The engagement panel has had an extensive history regarding the issue of how spent nuclear fuel is

to be stored and managed from here until many years from now.

I wanted to begin the discussion with a brief summary of acronyms that we'll use tonight because it can get pretty confusing, but I think Linda covered most of them.

But the one thing I just want to reiterate is, when you hear the word "ISFSI," it simply means the almost parking lot on-site at Diablo Canyon where the spent fuel casks are held.

So if you hear "ISFSI," it's just simply a big lot where these casks are on-site. It doesn't mean anything more special than that.

So going back a little bit on our history of the panel. We had a couple of workshops that began the discussion back in February of 2019. At that time we had an overview of the spent fuel system, we had presentations by the Nuclear Regulatory Commission and the California Energy Commission.

We had presentations by three different manufacturers of casks, including Orano, GNS, Holtec, and, as you know, Orano will be speaking today. They are the entity selected to actually construct the next casks in the future. And then we had a presentation by Kevin Kamps who represents the organization,

Beyond Nuclear.

The next month we had another panel meeting. We had a presentation by a member of the Independent Safety Committee, which you will also hear from today, and then PG&E provided an overview of their storage strategy and schedule going forward after the decommissioning.

And then more recently, last year, we had an update on the ISFSI license renewal, and we talked a bit about interim consolidated storage options, which we will again be addressing in the future; so we've had quite a bit of time devoted to this topic.

As a result of these workshops, the meetings, public comments that we have received, a lot of input by experts in the field, PG&E, the community, et cetera, we created a document called the "Strategic Vision."

And if you want to see any of the meetings, the agendas, the materials that came out of it, the public comments, you will find it in the Strategic Vision. It's easy to find. You just go to the website that's named on the site here DiabloCanyonPanel.org, and you can search the panel meetings and get as much background information as you would like.

As a result of all of this public input, we did include in our Strategic Vision a number of

recommendations of this panel concerning the future of the storage of spent nuclear fuel.

And you can find an extensive list of those recommendations on page 98 and 99 of that Strategic Vision.

Also, if you want a bullet-by-bullet list of all the recommendations, you can look on the panel website, and there is a link called "resource materials," and on that is a complete list of our recommendations and PG&E's response as to the status of those.

But if you take a look at our recommendations, they kind of fall into five different categories. Number one, the timing of the offloading of those materials. And just as a sidenote, when you off-load nuclear fuel, it goes from the reactor to spent nuclear pools, and then after being there for some time it then goes to the ISFSI or the dry cask storage. That's the cycle. So, in general, we had a lot of recommendations on the timing of that cycle.

We also had recommendations regarding the features of the casks, the management of the casks, a recommendation regarding the management of the storage facility itself, and then we had recommendations regarding the transport of the spent nuclear fuel to an

off-site repository.

So I am going to go through these briefly one by one. On the timing of the offloading, it's been an interesting history. The casks that are now in dry cask storage were in the pool after they left the reactor, typically, about ten years.

In 2015 PG&E filed its triennial report, and the goal was to change that time period to seven; so it would go from the reactor, in the pools for seven years, and then out to the ISFSI.

By 2018 that time frame was reduced to four years. By 2021 that document that was filed just in December, the goal was 3.25 years, and now the proposal by Orano for the new casks will be less than two and a half years.

Shorter time frame definitely supported by the panel. It's supported by a 2020 UCLA report that took a look at the safety of various offloading campaigns.

There's a general consensus that getting into the dry cask as soon as possible is the safest method, and we can show absolute good progress on that cycle. I think that does leave the question open as to whether two and a half years is maybe too short, and I think the panel would be interested and wondering whether we need additional studies on that question.

But, in general, this is moving in the right direction, and I think the panel can be very pleased with that progress.

The second issue really focused on the features of casks themselves, and that is what we are focusing on at today's meeting, and Orano is going to make a detailed discussion about the proposed dry cask storage going forward.

The concerns that were raised by the panel are listed here on the slide. Generally speaking, we are looking for a cask that has overall safety and protection indefinitely against radiation exposure, primarily for the workers, but also for the community.

We want to know: Can it withstand a jet crash test? Is it sufficiently defendable against terrorist activity? How about corrosions from coastal elements and tsunamis? The various general things that might threaten the viability of these casks going forward.

We also were very interested in making sure that the casks can withstand any kind of seismic activity. As you know, this is a very seismically active region of the world, and we certainly want our casks to be able to handle anything that would come from that direction.

We are looking for 24-hour monitoring of the

radiation that could be occurring on-site. We want our casks to be fully inspectable, fully retrievable, have the capacity to be repackaged, repaired as needed, and then ultimately transportable to an off-site facility away from the coast.

The status on this is really unknown, and that's why we are here today. We hope to hear from Orano and hear a lot more about the details of the casks, and we hope and expect that it will meet all of these standards and objectives and more.

The third issue is the management of the casks themselves once they are out there on ISFSI. I think you can summarize these three bullets by we are looking for training and supervision of the people that are doing the cask loading, the management of it, the monitoring; making sure there's sufficient funding to manage these casks into the future; and also the development of what they call an "Aging Management Program." Are we adequately looking at these casks, monitoring when they are aging elements like corrosion from the salt air, et cetera, and can we respond to that?

In general, I would say we had a lot of progress made on this point. In that 2021 NDTCP Triennial Report by Diablo Canyon, it does include

programs and details about radiation monitoring.

In the license renewal application for the ISFSI there's a lot there about the Aging Management Program; so I think there's a lot of information and good progress that has been made on this front.

I found, personally, getting that information is a little difficult. It's kind of hard to follow; and so, from my perspective, one recommendation, PG&E might make that information in a much more readable, accessible format so that we really understand about how these management activities will take place going forward.

The fourth recommendation area was related to the ISFSI itself. And there was a recommendation contained in the Strategic Vision that, to prevent corrosion due to coastal location of the ISFSI and natural degradation that could occur over time, does it make sense to look at, to study, to conduct a feasibility assessment of enclosing all these dry casks in some kind of containment structure, possibly one that's controlled by climate.

On this recommendation no progress has been made. I think we asked for that study. It hasn't been pursued at all, and I think that is something for us as a panel to consider whether we really want to urge PG&E

to look into this issue.

It might be something that is very important for the future. Maybe it doesn't pencil out. We have not seen these studies, particularly how they relate to Diablo Canyon and what that might mean for the protection of the casks going forward.

And then, finally, there were a lot of recommendations about the transportation of these casks ultimately away from the site.

The majority of us recommended transportation of casks away from Diablo Canyon to a more interior location in the United States as soon as some kind of consolidated facility was available to accept those.

There were a minority of the people on the panel who believe that the casks should actually stay on-site until a permanent, federal consolidated facility is constructed.

The status on this is absolutely uncertain. There are no licensed facilities in the United States that can take any kind of nuclear waste right now. This is a topic -- I think it's really, really important. We are in a seismic zone, we are by the coast at a time of rising sea waters.

Ultimately, it is my opinion that we should get those casks off the coast and into a safer location, but

there's no place to go right now; so I think we're hoping by the end of this year we will have another meeting of the panel to discuss that issue.

That summarizes the recommendations of the Strategic Vision, and back to you, Chuck.

MR. ANDERS: Great. Thank you, Kara. I just want to mention that the panel actually had -- if I recall right now -- two two-day workshops and multiple public meetings where they heard from experts and also many, many members of the public within the community about the issues of management and storage of spent fuel, and these recommendations are a result of all of that input from the community and from a whole range of experts.

Before we begin or next discussion, we are going to have a short opportunity for public comment after the next series of presentations.

And this meeting is really divided into two parts: The first part is talking about the current casks that are in place right now and how those casks will be licensed in the future and managed in the future.

The second part of the meeting is talking about the new cask system that was just selected by PG&E that allows for the faster loading of spent fuel into the

casks, the dry cask storage.

So we have a short -- we have a question -- opportunity for public comment after each one of those two segments.

So for those folks who would like to make a public comment on the existing system, which is what our next part of the presentation is going to be about, please go and grab a blue card up here and fill out that card and hand it to one of the folks in the blue shirts here that are supporting the meeting.

And for folks that are listening online, go ahead and raise your hand if you would like to make a comment on the existing system.

There will be another opportunity for public comments toward the end of this meeting after we hear about the new system that is also being proposed and that was just selected. And so let's jump into the discussion with the new system.

And we are going to hear from Philippe Soenen who is going to discuss the existing system, the inspection process, and the licensure process. And Philippe in charge of the regulatory process of the decommissioning for Diablo Canyon. Go ahead, Philippe.

PHILIPPE SOENEN: All right. Good evening. So, as Chuck mentioned, my name is Philippe Soenen. I

am the decommissioning environmental licensing manager, and what I'll be discussing is providing an overview of the background of our current system at our dry cask storage at the ISFSI.

I am going to be talking about the design, capacity, and the capabilities to address some of the items that Kara listed there.

Also, the inspections and the results; so we are going to go through some of those details that are in our license renewal application, and then, specifically, the status of our license renewal.

So to go onto the background. I won't spend a lot of time on this because we've discussed the system in the past. But the primary thing I want point to out here is that we've done seven loading campaigns. We have 58 casks loaded on the ISFSI, 32 fuel assemblies each, and we will go through that. I will go through the subcomponents and really what that leads to for the incapabilities and the inspection results.

So to go into the three main items for the design capacities and capabilities: So for the specific components. So on the right here I have got a picture of the model that we used for presenting this information.

So there is a stainless steel, multipurpose

canister that contains the fuel assemblies, 32 fuel assemblies per canister, and then that canister is stored within the overpack.

But for the multipurpose canister, that is a stainless steel canister that is welded, and the dimensions we have talked about in the past, but the wall thickness is a half inch, and then there's thicker lid and baseplates for that, all stainless steel, integrally welded; so it's considered to be a pressure vessel.

Then for the overpack, it's a one inch inner concentric, metal carbon steel that's coated, and there's also a one inch outer ring. In between those two shells it is filled with concrete, and that provides the shielding for the system.

There are venting systems; so it's a passive cooling. Cold air comes in through the bottom, passes along the side, and warmer air comes out the top. It's a passive cooling system.

For that, specifically, the overpack, it's carbon steel that's coated; so it's important for the inspection results, and what you are going to see in the pictures, they just look a bit different.

So to cover the inspection requirements. So the recurring inspections that we do right now is we do

visual inspections on the exterior of the overpacks on a recurring basis. We make sure that the vents are clear so that the passive cooling continues.

We do the concrete pad inspections. We also do radiation surveys. So that makes sure -- that's one of the ways that we validate there's nothing unusual going on; so that's for around the area, and we get the radiation surveys.

And then for whenever we have to use a transportation equipment, we do preservice inspections to make sure it can handle the load equipment, and all of that is performed before we lift anything.

As was mentioned by Kara, in our current application orders, filing for the triennial proceedings, we have requested or included in our cost estimate a realtime radiation monitoring.

And what's envisioned for that is to be a monitoring system that's around the perimeter; so regardless of the current system or the new system, we will have that capability to monitor the radiation levels, and that will be provided to regulatory agencies for the interpretation and being made available to the public. So that is planned to be installed. We are asking for that within our filings.

So part of the capabilities: So some of the

things that we have demonstrated with our preapplication inspections with license renewal -- accessibility.

So for our multipurpose canisters, we were able to use a robotic crawler, which is in the top right picture there; so they are very compact systems with video probes.

It's magnetic; so we can then -- as shown in the lower picture, we lower it in through the top vent. It's magnetic, so then it crawls down the side, and we can get a high-quality visual through those video probes of both the multipurpose canister surface and the inside of the overpack.

For retrievability -- so all spent fuel systems, dry cask storage systems, are required by federal regulation to be retrievable, and the retrievability can be defined at the canister level.

So that's the ability to safely remove fuel from storage for further processing and disposal, and we do that at the canister level. So we maintain the capability to transfer the multipurpose canister into a transportation canister -- or we will talk about the repairability -- but the retrievability, we have that capability within our current system.

For repairability, one of the things you need to have is for access, accessibility in situ; so as it's

stored right now and with the preapplication inspections, we demonstrated we do have accessibility to do those any future repairs.

At San Onofre Nuclear Generating Station, SONGS, they have demonstrated the capability to apply a surface repair, a cold spray; so it's been demonstrated -- it's possible down there on a vertical system similar to what we would be able to apply here.

With that information, the Department of Energy is doing additional research through the Pacific Northwest National Laboratory to support that application process and cold spray surface repair capability to then go into the ASME, which is American Society for Mechanical Engineers -- that's the code that is a requirement for pressure vessels -- you have that being incorporated into a code to then be reviewed and either approved or endorsed by the Nuclear Regulatory Commission in the future as an allowed prepared process. So there are items in process or ongoing activities to help with repairability in situ, so in storage facilities, being able to repair cracks.

So for the inspections that were performed, we are going to -- in a few slides here we will actually show some of the pictures, imaging. But for orientation -- so we went through a top vent. We

removed the -- there's a screen, so we removed the screen.

And then the robotic crawler goes in, and then, because it's carbon steel, it is able to magnetically stick to the wall. They drive the robotic mechanism down, turn, and then scan back up or the same orientation.

But we have scans of both, as shown in the image next door -- or in the next one over is both of the multipurpose canister and of the overpack surface. We are doing -- looking at both surfaces for aging management.

And we have a very high percentage of accessibility; so we can see a lot of the surface area, and that's allowed by the NRC. You don't have to be able to look at all of the surfaces but a representative amount. We have a very high percentage, over 90 percent, of the surfaces as a good representation of how the overall canister and overpack is performing.

So now to go into the actual inspections and some of the results. Sorry. This mouse is not cooperating too much. All right. So for the multipurpose canisters, we have actually performed visual inspections in 2014 and 2021.

So in 2014 that was in a joint effort with

EPRI, and we actually looked at two multipurpose canisters -- the ones that are circled in blue -- so they were visual inspections of the multipurpose canisters and looked at the surfaces and also for any contamination that was identified. There were swabs to look at if there were any deposits on the multipurpose canisters.

Then in 2021 we actually did our licensed removal preapplication inspections. We looked at the eight locations shown in orange. So we did look at the ones from 2014 again for trending purposes.

But of those eight areas, we looked at all eight multipurpose canisters, did the visual inspections using the crawlers, and then we also did a visual inspection of the overpacks, both the exterior and then with the camera for the interior. We took radiation readings from the vents as we did those inspections.

Then we also looked at the storage pads; so the concrete inspections. And we also looked at the concrete inside the cask transfer facility.

So for the actual inspection results from the multipurpose canisters: So we are going to go -- on the next slides we will have some example photos -- but the overall conclusion is that the multipurpose canisters are in good overall condition.

There's no challenges to its safety or intended functions prior to the next inspections. They are in good condition.

The degradation rates versus the margins that are indicated -- there is no need to shorten the proposal of five-year inspection rates frequency. The five-year inspection frequency is based on the Nuclear Regulatory Commission's guidance documents.

That's the base that you start with, that you make sure that your site doesn't experience anything different or unexpected. Our inspection results are consistent with the regulation guidance documents; so we are proposing the five-year inspection frequency as a starting point.

Part of those results, even the multipurpose canisters, they are stainless steel, but with stainless steel you still expect to have negligible general corrosion or some rusting.

Over time there will be an iron oxide layer on the surface, and it pacifies, and you don't have any accelerated or further rusting expected after that initial surface oxidized layer is formed. The depth measurements that we found through some of these inspections, they were all less than the maximum allowable depth that have been previously approved for

the system.

And then the corrosion rates demonstrate that there's no propagation for the 60-year life; so it's -- to partly put that into perspective here, we have an example.

So on this figure here, if you look at the total width of the grey, green, and orange, that represents the half-inch canister thickness, and what the ASME code requires is a minimum thickness, wall thickness, of .45 inches.

The deepest indication that we found during our inspection was .014 inches, and that's represented in orange. And to put that into perspective, that's less than four sheets of paper. If you stack it up, that is the width or the depth that we are talking about.

So the green that's identified here is the margin before you would get to a minimum, as-new required thickness. That is why we have confidence and we believe that the five-year inspection frequency is appropriate.

We will continue to monitor these, any indications, and make sure there is no accelerated degradation, and anything that we identify will be put into our Corrective Action Program for evaluation if there is any action or trending needed going forward.

So we are going to go into some of the actual inspection imaging. And just to put it into context of -- when we talk about stainless steel, most people are most familiar with stainless steel as far as, like, the highly polished kitchen appliances.

These canisters are not polished; so they have a relatively rough texture to them. If you look at it closely, like in the right picture there, they almost have like an orange-peel texture to them; so when you see that in the images coming up, these are not polished surfaces. So that is expected that there is some gradation in coloring.

So to help put the orientation of this -- so in the top right of the slide here we have the view orientation looking down into the annulus; so these pictures are from a camera that was put into the vent looking down.

And what you are seeing -- we'll go from the left image here -- this is the multipurpose canister surface, and these are examples of -- we have a seam weld that's identified here and an example of staining that we see, so discolorations. That could be from liquids that's -- rain water that's come in and has sort of dried out. Just some staining identified. You can also see the overpack inside.

Now, we do have some indications of scratches, very shallow. There were no depth measurements or significance of there; so those scratches could have come from the manufacturing-delivery process as we are moving this equipment around.

But as part of the acceptance criteria of bringing these multipurpose canisters on-site, they had to meet the wall-thickness requirements for acceptance. There are specific requirements for that, and they all passed those before we put anything into service.

So for these examples, here we have got some rust spots again. The same orientation. The crawler looking down into the annulus between the multipurpose canister and the overpack.

For the MPC surface here, we had some rust indications. The rust -- the deepest measurements for rust that we found was .008 inches; so roughly two sheets of paper thickness. And puts them -- some margins in there, talked about the margins that we have; so these have no impact on the actual canister capability.

And the five-year frequency is appropriate for trending, taking a look at, make sure nothing else changes. We don't expect there to be anything beyond the initial buildup with the oxidized layer, and then we

will trend that going forward.

We also identified what we are calling divots or gouges. That would be the deepest measurement that we identified was .014 inches; so, again, that's about four sheets of paper thick.

Those could have been, again, through manufacturing process, transportation. Again, they all had to meet the thickness requirements before they were put into service. All of these are in our Corrective Action Program from onward going forward.

Also, so part of the overpack examinations -- the conclusions are they are in overall good conditions, no challenges to the safety or intended functions, and the five-year frequency is what's recommended by the Nuclear Regulatory Commission guidance documents.

What we identified when there was anything as far as paint chips or coating damage, we didn't see any base metal penetration; so it's just superficial rusts that were identified where there were any coating damages; so those were put into corrective action for future cleanup and touchup on the coatings.

All of the corrosion or depth measurements that were -- measurements that were taken, all less than the maximum allowable depths already analyzed; therefore, there was no impact to their intended functions.

So the overpacks are subject to our routine inspections, including daily walkbys and looking from the operators. We talked about some of that in the last slide set.

And the expectation at the plant is anything that is noticed that's not normal or not expected, it all gets put into our Corrective Action Program. We have a very low tolerance for putting everything from monitoring into our system.

So some of the examples that we have for the overpacks. We identify some deposits or staining here is what we've identified as some material at the bottom of the overpack.

And then these are the types of examples of some superficial rust. There was some paint chipped off and some minor superficial rust identified there. And to put it into context, these are from inside the annulus for the left and down by one of the anchor locations on the right.

This is one of the -- a divot that was identified, an example of a divot. These are all minor items. They meet all the acceptance criteria of being in service. You can see this is -- the coating is still intact for this surface.

So in addition to inspections that we performed

for licenses renewal, we did do soil sampling in two locations. So in the picture off to the right here, we have two sample locations; so we actually take soil samples, and that's a recommendation to determine that it's nonaggressive soil.

And the concern there would be as you want to make sure that there's no additional aging that could occur to the concrete for the ISFSI pads.

Our results demonstrated that the soil around the ISFSI is nonaggressive, and we will continue to do periodic, the five-year frequency, taking other samples to make sure that nothing of the chemistry changes that would have a potential impact on the concrete long term.

We also did concrete inspections. So the example here is with the crack scale, and we did -- you do expect there to be some cracking -- but then it's -- you measure the sizes.

There are acceptance criteria for the size of the crack, and those are all mapped and then monitored to make sure there is no acceleration or unexpected spalling that would potentially have any impact on the safety functions. There is nothing that's of concern. It's all standard expected indications.

We also looked at cask transfer facility. We had five indications, and those were all put into our

Corrective Action Program.

So as mentioned, we did also do some dose monitoring. So we did do a -- we took dose rate measurements from the upper overpack vents. So in normal configuration, 1.2 milligram per hour was identified as the highest from any of the vents.

That's at less than 4 percent of our licensed value; so that's what the allowable or expected within our licensing basis.

So relatively low dose rates. And, for example, we show here for -- in comparison, if an individual is 40-foot away at the ISFSI boundary, that would equate to .018 milligram per hour. In comparison, for a dental X-ray, that's .4 milligram per hour -- or mrem for that activity; so it is a low-dose activity.

Panel members, you have been out to the site, you have been on the pads, you have been in close proximity, and no measurable dose or very, very low dose from that time you have been out there; so it is a low dose area.

So the key takeaways from the inspection results is that PG&E, we performed an industry-leading number of inspections on eight of the locations. Findings reinforce that there is no compromise to safety functions.

We believe the frequencies are appropriate, consistent with the Nuclear Regulatory Commission's guidance documents, and then we have made inspection results publically available, included in our licensing application that was submitted to Nuclear Regulatory Commission, and we shared those results with the nuclear industry.

We will continue to do periodic system inspections to ensure that there's no loss of intended functions.

The frequencies are intended to be set up that you would always identify anything; you would have time to take corrective actions before there would ever be an impact on the system's functions.

So we will continue to monitor those and trend any information we find from those periodic inspections.

So next I will change gears here to the actual License Renewal Application. So there has been a relatively long process. For about a year and a half we actually did the License Renewal Application preparation identified in this center part here.

We had a preapplication meeting with the Nuclear Regulatory Commission, and we also had a safety committee and technical advisory board review, and then we provide the actual application, and we submitted that

on March 9th of this year.

We are waiting for the acceptance of the application from the Nuclear Regulatory Commission. That usually takes one to three months; so we are expecting a response to that in about the next month or so.

And part of that process, then, is, once it's under nuclear regulatory review, we also have an application -- or excuse me -- a submittal in with the Coastal Commission that's associated with the ISFSI. On the next slide we will talk about that a little bit.

But they'll also identify here, along the way there's been opportunities for public participation, and I'll specifically talk about the opportunity to request hearings as part of the Nuclear Regulatory Commission's safety review of our application.

And we expect that review to take two to three years for the application with the NRC.

So for the Nuclear Regulatory Commission -- it's a safety review is one portion of it, and that will be documented in a publicly available document that is the safety evaluation. That will be made available on our website.

Then the environmental review is in accordance with the National Environmental Policy Act, NEPA, and

that will -- the results to that will be documented in a publically available environmental assessment. It also will be available on the Nuclear Regulatory Commission's website.

And as you mentioned, we are doing a California Coastal Commission review, and that's to evaluate consistency with the California Coastal Management Program and Coastal Zoning Management Act.

So the next steps in public participation -- so after the NRC deems the License Renewal Application sufficient -- as I mentioned, usually takes one to three months for that after summation -- there will be a notice posted in the Federal Register.

Part of that Federal Register, there's a notice announcing a six-day opportunity for interested parties to request hearings regarding the renewal, which as Linda mentioned earlier, that's for a 40-year extension. We've got 20 years. We will go for a 40-year extension.

And it will also give instructions on how to file a request for a hearing. PG&E, we will notify the panel. Once the Federal Register notice is there, if you don't receive it directly on mailing, on the LISTSERV, we will provide the update and the links to that for your information.

And that's the end of my presentation. I know

there will be questions. I covered a lot of information there. And, Chuck, just double check on the process.

MR. ANDERS: Great. Thank you, Philippe. We will hear from Dr. Budnitz, and then we will have an opportunity for the panel to discuss the presentations and ask questions.

And then we will have an opportunity for the public to submit their comments or questions after that.

So we are very fortunate to have with us tonight via Zoom Dr. Robert Budnitz. Dr. Robert Budnitz is currently chairman of the Diablo Canyon Independent Safety Committee.

And, Robert, are you online?

DR. ROBERT BUDNITZ: Yeah.

MR. ANDERS: Great. Why don't you go ahead with your presentation.

And if we can project Dr. Budnitz's video screen up on the screen, that would be helpful also.

Go ahead, Robert.

DR. ROBERT BUDNITZ: I am going to talk on slides; so -- but I don't know. First, can you see me? There I am. I can see me. Thank you very much. All set? Just give me a moment.

MR. ANDERS: Go ahead with your presentation. It looks like we are getting an infinite mirror image

when we try to project you on the screen here; so we will work on the tech stuff. We want to hear what you say.

DR. ROBERT BUDNITZ: I am just going to go ahead. My name Robert Budnitz, Paul Budnitz. I am speaking from my home office in Berkeley, and this presentation is going to -- I am here because I have been a member for several years, for many years, of the Diablo Canyon Independent Safety Committee.

And right now I am serving this year as the chair. The chair rotates among us. It is not a particularly honorific position. I just happen to be the chair this year.

But what I want to start with is what I'm going to say here is not the position of the committee. The committee only takes these positions when we do something in writing at a public meeting, and we vote on it, and so on.

So I am going to present my own personal view, although I believe that what I am going to say represents the views of the rest of us, but that disclaimer is just to make sure that you understand what the status is.

I am going to start out briefly by describing what the committee is. Diablo Canyon Independent Safety

Committee has been in existence for about 30 years, and it is appointed by the State of California, by the State of California officials through the Public Utilities Commission.

It consists of three members; I am one of them, and we serve three-year terms. Every three years my term is up, and then a year later somebody else comes up.

There are three of us, and one of us is appointed by the governor, and that's Per Peterson, professor of UC Berkeley and engineer.

One of us is appointed by the Energy Commission -- that's Peter Lam. He's appointed by the chair of the Energy Commission, and he is a retired NRC nuclear expert.

And my appointment is from the attorney general, and I spent my career mostly as a consultant on nuclear reactor safety, and I have a lot of expertise in seismic and whatnot.

The committee's charter -- to describe it just in a very short few words is our charter is to review the operational safety of the plant, and having reviewed the operational safety of the plant, we write reports, and we have an annual report that reports what we do that we make public to the public.

And in addition we have three public meetings every year -- one in February, one in June, one in October -- that are -- we hold them in Avila Beach, and they are available to members of the public.

You can even watch our previous public meetings by going to our website and looking at the recordings, two days, and members of the public come to those public meetings, and we ask for and get presentations from PG&E and prior experts about the safety of the plant.

Now, our principal charter is even measured by its services, but let me explain. Our principal charter is the operational safety of the plant, but our concentration over all these years has been the operating two-unit nuclear power plant station out there by the site because, of course, the safety of that plant is the primary importance.

We have also, all this time, among other things, reviewed the safety of the spent fuel in the spent fuel pool.

We have reviewed the safety of ISFSI and the spent fuel facility. We reviewed the transportation from the spent fuel pools up to the ISFSI, and we have been doing that right along as part of our responsibilities.

But, frankly, we've spent most of our --

probably 90 percent of our time reviewing the operational safety of the operating units.

About two or three years from now, when the plant has ceased making electricity, our charter is going to change because the plant won't be running.

And after that our principal charter is going to review the operational safety of the operations in managing the spent fuel.

Some of the fuel will be in the spent fuel pools, there's some already in the ISFSI, and there will be more going there. There's transfers.

And we are going to concentrate, when the plant has shut down and stops making electricity, we are going to transfer our effort from just partially looking at that while we are looking at the other thing to that's the principal thing we are going to be looking at.

We're also going to be looking at the safety of decommissioning activities, put principally we are worried in part about the fact that it's possible that the decommissioning activities could be interfering with the safety of the spent fuel, and we want to make sure that doesn't happen. And if it does, we will be reviewing that and calling attention to it. We hope it won't. Of course, you never know, and we're going to be reviewing that.

Now, you should know that our committee doesn't have any authority. We can't order anybody to do anything. Nobody reports to us.

Our influence comes from the fact that we're experts, and we writes reports, and if we find something, we write it up.

But I have to say that, whenever we have found something over the years, PG&E has always been fully responsive -- good for them -- and have worked with us and NRC, of course, to make sure that those issues that we have raised are addressed properly, and we've been satisfied with that.

The other principal thing we do is, because we have these public meetings, we make available to our public meetings all sorts of information to the public that they wouldn't otherwise have.

There is no other committee like ours anywhere in the United States. We have 60-odd sites and 100 reactors all over the country. There's no other committee like ours; so we are completely unique, and through us, you, the public, can get information by attending our meetings and reading our stuff that isn't available otherwise.

So with that as an introduction -- and it's been very brief -- I am going to then talk about what we

have done so far and what we plan to do that's within the charter of your engagement panel.

In this -- all through this time part of our charter has been to assure that the way PG&E manages the spent fuel in their -- in the spent fuel pools has been done in a safe manner.

They meet all NRC regulations, which they do, and that they do things in a way that has very large margins to make sure that -- we want to make sure those margins are not eroded by certain operation or other things that go on, and we are doing that right along.

And, generally, we have been very satisfied about how PG&E has operated those pools in every sense.

They've also, ever since the design of the ISFSI came along and now it's operating, we have reviewed the design of the ISFSI, we reviewed the operations of how they run it and how they inspect it.

We reviewed the transfers, as I said before. We have actually watched as the transfer has taken place and reviewed the activities when the transfer goes from the spent fuel pools into the reactor off-site up the hill to the ISFSI facility up on the hill.

So we have been doing that right along. And it's fair to say that we have been very satisfied with the way PG&E has handled that problem and all that

activity to date.

Very seldom have we seen anything of concern, and that's a good thing to be able to say. Especially you can tell they have been doing a good job all this time, and we are pleased to be able to report that because it's really important.

Now, going forward -- and this is the crucial thing I want to talk about here because this is your concern -- going forward, the plant is going to shut down.

And for the first two or three years, maybe even four or five -- we are not sure yet -- for the first few years there is going to be spent fuel in the pools before it's transferred.

We are going to continue to review the safety and the operations of that spent fuel and the way it's managed to make sure that during that period there isn't any safety issues that arises that we want to call attention to.

Now, of course, we are not alone. The NRC is reviewing it, and so on; and, of course, the plant has its own processes. But we are going to provide an independent look, and we are going to continue to do that and make sure that those spent fuel rods and so on in the pool are managed as safely as they need to be.

We are also going to then monitor -- as we have already -- the transfer because there is going to be a lot of transfer from the pools up to the ISFSI after, you know, two or three years or whatever after the plant shuts down, and we are going to monitor that.

And we are going to pay close attention, as we need to do, making sure that those activities are planned properly and that they are carried out.

And then, finally, of course, there is the ISFSI itself. So far we've reviewed it since it has been there -- the spent fuel. The first spent fuel has been out there more than a decade ago, and so far we have been satisfied with the way PG&E has managed it.

But there are concerns going forward, and I am going to mention them briefly, and then I will be done after that. I'll just mention them briefly.

And you know about them, and the panel, the engagement panel knows about them. But I want to qualify your attention to them.

It is completely obvious to anybody who thinks about it that the safety of that facility depends on the integrity of those canisters. The thing that Philippe just showed you and talked about. And the integrity has many different aspects, some of which have to do with corrosion or degradation of the outer pack.

Some of which have to do with the integrity of the big concrete pad that is on them.

Some of which have to do with assuring the earthquakes don't -- there's a hill right next to it, and you can't slide down, you know -- and make sure that the earthquakes don't cause trouble -- they might -- by making sure that the anchors are designed properly and that sort of thing.

And we have reviewed that in the past, and we are going to continue to review that because that's an important, crucial thing where we can provide an independent review, and we are going to provide it.

There has been a little bit of corrosion that Philippe mentioned just what? 10 or 15 minutes ago already? And I won't say whether that is unexpected. It's sort of expected -- superficial corrosion on a few places.

But one of the most important things that PG&E has to do and the NRC has to do and then work on it is to continue to review and make sure that that corrosion doesn't compromise the overall integrity of this facility over the long haul.

A little bit -- a very small fraction of an inch of stuff on the surface, oxidation and light rust, it really doesn't proceed very much further, as

expected, and it's not going to be a concern providing it doesn't proceed further.

And so one of the things we are going to do, I'm pledging to you, and I know we will do, is we are going to continue to look at PG&E's program for monitoring, program for maintaining the integrity, program for keeping the -- there's control of all sorts of things that they have to keep control of.

There's a program for monitoring radioactivity right at the site and off-site too. And during this period, which is 10 or 15 years long after they shut down, before finally everything is transferred, we are going to be there to provide this independent review.

And that's a pledge to you, and we have been doing it already, and calling attention, if appropriate, by regular reports that are available to the public.

The other thing, by the way, that I hope you members of the public understand is that any member of the public can come to any of our public meetings and ask any questions you want.

Also, any member of the public can send us a letter, an email, or communicate with us -- it tells you how to on our website -- about any concern you might have, and we will pay attention, and we will review that concern, and we will answer it.

We have been doing that right along over the years and will continue. A single member of the public or organization, if you want to communicate with us, we are there to do it.

We have looked at and have carefully reviewed the license application, the Licence Renewal Application, that Philippe talked about.

They submitted it in March, and when the NRC has completed the review of it, they may or may not -- we don't know -- give a 40-year extension.

We are going to look at that carefully. We have already looked at the work they have done to prepare this license application. We, the Independent Safety Committee, looked at it independently.

But we are going to look at it again as it goes along, and if the NRC has questions and -- and the equitable questions, we are going to review whatever their questions are to make sure that we understand the questions and the issues that come along. If members of the public have any issues, we are going to look at that too.

But we have already reviewed that Licence Renewal Application and been briefed by PG&E staff, including Philippe and Tom Jones -- who is coming up next -- carefully.

And we were satisfied to date that what they asked for made sense. But as my grandmother used to say, there has been a slip between the cup and the lip.

And the fact is that, yeah, it's all there, but the key is will they follow through over the 40 years?

Well, we don't know about the 40 years, but we are going to look at it one year at a time. And if that follow-through is acceptable, we will say so; and if it isn't, we will provide an independent review to assure ourselves and, of course, the public of what our position is.

So that having been said, I just have a minute or so to talk about the new system. Just within the last week PG&E announced that they selected a different contractor, a NUHOMS system, that they proposed to the NRC, of course, and so on, that will be the new ISFSI system going forward.

Well, we haven't seen it yet. We know something about it because we are in this business, but we haven't seen the technical documents yet. We expect that we will see them very soon.

And we are going to review them too, just as the NRC is going to review them, members of the public are going to review them, and, you know, we're looking forward to seeing them and doing a technical review and

meeting with them individually in what we call "fact findings."

And hearing from them at our public meetings, perhaps the next public meeting. We have another public meeting in June and another one in October, and we'll perhaps hear from them about it from PG&E or maybe even from Orano themselves and keep you informed as we review that system.

But right now it's new to us. We haven't seen it yet. I mean, we really haven't anything to say about that.

So I hope that that overview, that's just a short, little less than 15-minute overview, provides you with a background about what our committee does and why we do it and who we are.

I am available now if you want to answer any questions. As I said, we, as a committee, are available at any time to answer your questions. Go to our website, come to our public meetings, send us a letter, ask us whatever you want; and we will try to be as responsive as we can be.

Finally, we pledge to the engagement panel, and the members too, if the panel has technical questions about the operations, we are here to help answer those questions. So we are a public entity. Thank very much.

MR. ANDERS: Thank you, Dr. Budnitz. Now we have the opportunity for some questions and discussion with the panel on what you have heard so far.

Either questions of Philippe or Dr. Budnitz or Kara on the presentation.

Yes, Sherri.

SHERRI DANOFF: Okay. This is question for Dr. Budnitz. You had mentioned concern about concrete corrosion. And I am wondering if you would expect corrosion and rust to accelerate at a greater pace in that the casks are stored in open sea air than if they were stored under normal conditions.

DR. ROBERT BUDNITZ: Yes, that's -- can you hear me?

SHERRI DANOFF: Yes.

DR. ROBERT BUDNITZ: It's completely obvious to anybody, and the experts, too, that because they are out in the open air, and because, in fact, it's a marine environment with marine chemicals and salt, and so on, that those conditions produce a greater threat than if it was, for example, indoors, just to give you an example, or if it was out in the middle of a place that didn't have any of that marine environment. That's for sure. And it's that environment that causes greater concern than if it wasn't solved. Absolutely.

Now, concrete, by the way, doesn't corrode, but it does degrade. I mean, metal corrodes. I am just trying to make a distinction about the words used.

But both the corrosion and the metal and the degradation of the concrete are, in fact, accelerated by that marine environment. Absolutely. You bet.

SHERRI DANOFF: Thank you.

MR. ANDERS: Linda, and then Kara.

LINDA SEELEY: Following up on Sherri's question. I would like to ask Philippe how -- you inspected eight canisters in 2021. How many of the eight did you find scratches on?

PHILIPPE SOENEN: I would have to double-check to see if -- the scratches aren't uncommon. That's -- I am not sure if it was on all of them or not.

But scratches are not uncommon based on the surfaces that you have, part of the manufacturing and how you transport these things; so scratches are expected, but exactly how many of the canisters were scratched, I don't know that, but it's not uncommon.

LINDA SEELEY: Yeah. So I am going to make a wild guess and say you probably found -- you said you didn't know if it was on all eight or not, but I would assume that it's on a lot of them if not all eight.

So -- and with what Dr. Budnitz just said about

the, you know, greater preponderance to stress corrosion and cracking in the sea air, I am wondering -- and I've got another follow-up question -- I am wondering why you wouldn't inspect all of them.

Because I would assume that all 58 canisters would probably have scratches, then if most of the eight that you inspected did, if you could generalize that to all of the casks.

So it seems to me that, when we have these conditions of the salt water, the etching problems, the corrosion, the possibility -- the fact that these -- you have asked for a 40-year renewal on these particular casks, it seems to me that it would be in the public interest for all of them to be inspected.

And then, also, you have out there 19 casks -- canisters that are improperly loaded. I know that it was exempted by the NRC where you put the -- I don't think PG&E did it, I think Holtec did the loading, but I am not sure about that. I don't know if it matters who did it -- but the fact is that they loaded -- that you were supposed to put the cooler fuel on the outside, the hotter fuel on the inside, and they did it just the opposite on 19 casks -- canisters.

So would those -- I mean, would those be more subject to stress corrosion and cracking or less subject

to it? And are you checking on that?

Are we going to know if those -- you know, what's going on out there? It is very concerning, you know, when we are talking about 60 more years.

And we don't know what the future is with either interim storage or a permanent repository. And, remember, we have been promised by NRC for the past 50 years that they would have a place to put nuclear waste, and they are still zilch.

Okay. Sorry for such a long question, but I would like the answer.

PHILIPPE SOENEN: I understand. So just -- first to address the scratches, and then there was mention of stress corrosion cracking.

So those -- stress corrosion cracking and scratching wouldn't have any correlation to them, to each other; right?

So stress corrosion cracking, there are three specific conditions that need to be met first for it to be susceptible to it, so it has to be a stressor; so it's usually a heat-affected zone; so it's a stress within the material that's in storage.

There needs to be a -- most likely a chloride. There has to be a material that has the potential for inducing; so it's chloride stress-induced corrosion

cracking.

And you need to have a temperature that is low enough to have a process where the contaminant would be in the stress zone long enough but the water evaporates from it; so you need all three of those for a susceptible location.

And just because a location is susceptible doesn't mean it will have stress corrosion cracking, just to be clear on that. So scratches and stress corrosion cracking are not related. All right. So just to address that portion of it.

Now, as far as the scoping of what's inspected. So for the Nuclear Regulatory Commission you are not required to inspect everything, but you are required to select what's -- there is criteria for selecting your leading components.

So the expectation is that you have a population that is appropriate, and you are looking at the compliments that will be the leading indicators.

So it will be the materials that are most susceptible so -- also the conditions -- so the heat loading on the those; so the ones that are going to be in a susceptible condition that have been in that condition longest.

So that's going to be the assurance that, if

you are looking at those, you then have a good representation of what the rest of the systems are doing.

Also, these programs, you are required to look at your operating experience. So if you do find something that's unexpected, you are required to expand your scope.

At that point you would start looking at more, potentially looking at different frequencies, looking at it more frequently, and looking at more locations.

But you start off with locations that would be most susceptible; so we would look at the material and age and the heat loads, and that's the selection that we would make to start off with and expand as needed.

LINDA SEELEY: But they did an inspection in 2014. Who was it?

PHILIPPE SOENEN: It was a joint with EPRI.

LINDA SEELEY: EPRI. Right. And found the conditions for stress corrosion and cracking on one canister that hadn't been there all that long, and it was unexpected that they found that -- conditions that would promote stress corrosion and cracking.

And so are you looking at that one canister, like, a lot? Or, you know, every year or whatever?

PHILIPPE SOENEN: So the frequencies --

because, again, even though it's susceptible doesn't mean that it exists on that.

The corrosion rates associated with stress corrosion cracking, if they were to exist, they are very slow. So, again, that's why the guidance from the Nuclear Regulatory Commission is starting with a five-year frequency.

Again, if you were to identify something as far as the -- an actual indication, you would have go into greater evaluation depth, and you would be expected to start looking a extended conditions, looking into other locations, and upping the frequency.

But that's why the guidance documents, we -- even with our environment that we are in, that's why we start at five years.

Other plants that are not in a coastal zone, they actually start at a longer frequency; so the five years is the shortest interval that is recommended by the NRC as a starting point.

LINDA SEELEY: Thank you.

MR. ANDERS: Thank you, Linda.

Kara, you had a question.

KARA WOODRUFF: Yeah, I have a question for Dr. Budnitz. I was wondering if he and his colleagues on the Independent Safety Committee would be able to

look at all of the materials for the new cask system, which we are going to hear about later this evening.

And as a third-party unbiased source, could they come and report back to the Diablo Canyon Engagement Panel their opinions about the new cask design and features?

And I don't know if it's possible. We do have this meeting scheduled for May 25th. It would be wonderful if the Safety Committee could report back at that meeting, but I'm wondering if that's possible.

Or, if not then, would they be willing to do it later in the year when they have all of the technical reports or whatever it is they need to evaluate the system?

DR. ROBERT BUDNITZ: I have an easy answer for that. We haven't seen the design of the new -- we haven't seen the details of the design of the new system yet, and we are not sure when we will get it, although we expect we will get it soon.

Depending on how detailed it is, we are not sure how long it will take us to review it. But even if we get it today, tomorrow, it will take us some time to review it, and then for sure we are going to want to go to the plant -- not all of us, but one or two of us, or two or three, we are not sure, but certainly two of

us -- on what we call a "fact-finding visit" and talk to the PG&E people or maybe to the Orano people about any issues that we find when we do our review.

Only then, and having done that detailed review, will we be in a position to formulate our own views on these issues, which we are going to do, for sure, and then only then will we be in a position to talk to you.

Okay. I can't tell when that is going to be; but there is no way it is going to be within, let's say, May, say a month from now. That's just too -- too soon.

It will take us longer than that to formulate even our own questions to be followed up with some fact-finding with PG&E.

But we have, in June, a public meeting that is scheduled, our own public meeting, and we are very likely to want to hear from PG&E or Orano or both -- we haven't decided yet -- at that public meeting, and you and members of the public can be there too and ask questions and see what we've learned.

So I don't think we are going to be in a position to talk to you for a month or two. It might even be three or four. We're just going to have to wait and see what we see and what we think. Okay?

KARA WOODRUFF: Okay. Fair enough. There's a

lot to review, I am sure. But what I'm hearing you saying is that you will be doing a review.

And I guess my question would be then, whenever that time is -- maybe it's a year from now -- when you have a conclusion, would you be willing to come back to the panel and report your findings?

DR. ROBERT BUDNITZ: Yes. Yes, we made that pledge to you in the beginning, and we will stick to it, you bet. We will definitely be receptive when you ask us to come back, but you will know because we will have talked about this at our own public meetings.

And people -- people like you can attend them or see what we do or we can then find a time -- yes. The answer is yes.

KARA WOODRUFF: Thank you.

MR. ANDERS: All right. Thank you. One last question from Sherri, and then we'll hear from public comment.

SHERRI DANOFF: Okay. Thank you. Related to the existing casks, in order to be prepared for some unusual incident, I'm just wondering your opinion about the following situations: The cask transporter has recently been inoperative. This was discovered during the planned cask inspection, and there isn't a spare transporter, and one is not on order or intended, and I

wondered what you thought about that.

And then related, same thing about no spare cask existing or being on order. Do you think it would be prudent to have spares?

PHILIPPE SOENEN: Is that to --

MAUREEN ZAWALICK: We have PG&E to talk about this.

SHERRI DANOFF: I was thinking of Dr. Budnitz to see if he has an opinion on that.

Thank you, Philippe, for being available.

DR. ROBERT BUDNITZ: The system -- no matter what happens, the system is safe, as it sits, in our judgment, right now. That's an important thing for you members of the public and you members of the engagement panel as well.

Our judgment is the system is safe as it is. And, furthermore, we've reviewed the seismic safety, and the system is safe against the earthquakes as it sits.

We've concluded that, and we believe that, and I don't mind telling you the Nuclear Regulatory Commission has said that.

So right now there is no need for or urgency for something like a spare cask or an extra transporter.

If corrosion just started to go like a -- you know just as fast as you can imagine -- that's a 30-year

process. Okay. It's just these things just -- they are very, very slow. Maybe it's a ten-year process if you are very pessimistic.

So nothing -- we want to be alert to this, it is important, you bet -- but nothing out there is going to happen fast enough to be of concern in the very short term, meaning in the next few years in terms of that just even being compromised.

Of course, we want to make sure that we don't see incipient compromises that will get us in trouble 10 or 15 years from now; that's the point; that's why we are looking now.

But you should know that on a technical level there isn't anybody that thinks that these processes, no matter how pessimistic you are, are fast and furious. They just aren't.

We have plenty of evidence of that already from other experience, and we know they don't.

SHERRI DANOFF: Thank you for addressing that.

MR. ANDERS: Thank you. Okay. One last question. Scott Lathrop.

SCOTT LATHROP: This is for Philippe. I'm just kind of curious. In reference, since we will be moving towards a new type of cask, of the existing fuel rods that are in the pool right now or the assemblance, how

many of those would actually be put into the old casks versus the new casks that are in the pool right now?

PHILIPPE SOENEN: So the -- all fuel that's -- we have lowered the 58 canisters, and now we are transitioning to the new system. If that answers your question.

Are you looking for an actual number of how many are in the spent fuel pool to be transferred? But everything will go into the new system.

SCOTT LATHROP: So everything in the pool right now will be in the new casks?

PHILIPPE SOENEN: That's correct.

MR. ANDERS: Thank you, Scott.

All right. Now we have an opportunity for public comment.

DR. ROBERT BUDNITZ: Chuck, this is Bob Budnitz. I would like to have one more -- on more sentence.

MR. ANDERS: Okay.

DR. ROBERT BUDNITZ: I didn't mention, but I thought I would be sure to mention, the thing that is special about Diablo Canyon is it's the highest seismic site of any reactor in the United States, also of any reactor in the world.

So when it comes to reviewing the technical

details of the new Orano system, we will pay special attention to that feature. Not surprising. I just want to make sure that we told you that we are going to do that, and you bet we are going to do it. Thank you.

MR. ANDERS: Thank you. We have, looks like, one person here that wants to speak, and we have four people online that would like to speak.

I want to emphasize that we are talking about the current system at this point. Now we have five people online that want to speak. So let's give everyone two minutes to make public comments.

And let's start with Jane Swanson, and then Sherry Lewis, Brendon Pittman, Kaylene Walker, Dylan Canterbury Baker, and Sharon Hammond.

JANE SWANSON: So you are ready for me; right? Is this mic on? I am suppose to turn it on? There's a red thing. Okay.

PUBLIC COMMENT

JANE SWANSON: All right. I am Jane Swanson. I am with San Luis Obispo Mothers for Peace, and my question is a follow-up to what Sherri Danoff brought up recently about the planned -- last October, I was one of a few citizens invited to witness the inspection of some -- one cask they were going to lift up, and Sherri used the word "transporter" -- I was thinking it was a

crane -- but whatever it was that was supposed to pick the thing up, it didn't work, so that was canceled. And my understanding is that that inspection will happen in May sometime.

And my question is about details on that. So the inspection will be looking for what? I'm presuming corrosion or something, but I'm wondering if somebody could explain more about the difference between looking -- why and how you look at the bottom of a cask as opposed to the sides or the interiors?

And how many casks will be inspected in this way long-term? I am only aware of one being planned, and I don't know if that is just the first of many or if that's it; so that's my question.

MR. ANDERS: Go ahead, Philippe, if you can answer the question.

PHILIPPE SOENEN: Yes. So the purpose is to lift the canister so we can look at the bottom of the cask itself for any degradation to validate that there's nothing unexpected going on there.

Just to be clear, it is not part of a requirement of the License Renewal Application. That's why we have submitted the application prior to these, but it is a prudent action that we are taking just to validate that there's nothing unexpected going on.

So depending on what the results are, we expect they are just the visual indications and not necessarily having to do cask lifts in the future, but it's to get a good baseline of how our system is performing.

MR. ANDERS: Thank you. Now we will go to our online participants. Please state your name, your residence, and any organization or affiliation, and it's helpful if you spell your last name, please.

Our first speaker is Sherry Lewis. There might be a little bit of a delay.

ZEKE TURLEY, AGP: Did you allow her to talk? If not, I will.

TOM JONES: Yeah, please.

MR. ANDERS: Go ahead, Sherry.

SHERRY LEWIS: Okay. Can you hear me now? Okay. Good. Talking about the crawler that goes into the vents and down -- up within the canister, when you inspect a canister or a cask, whichever it is, when you inspect that, do you send this crawler down through all the vents or just one vent per canister?

PHILIPPE SOENEN: We -- we do it in quadrants. We go through all the upper vents; so we have -- we get the entire circumference of the canister.

SHERRY LEWIS: Thank you.

MR. ANDERS: Thank you.

Our next speaker is Brendon Pittman. Brendon. Is Brendon activated?

BRENDON PITTMAN: Hi. Can you hear me?

MR. ANDERS: Yes, we can. Go ahead, please. Your two minutes.

BRENDON PITTMAN: Okay. Thank you so much. My name is Brendon Pittman. I live in Berkley, California. My last name is P-i-t-t-m-a-n. I am a civil engineer, just generally curious about the plant, and PG&E, and operations in general.

It's a two-part question. I apologize if maybe this -- one of these questions will be addressed later.

But the first question is for Orano, and it's regarding movement of a cask. And the question is have you ever removed a cask from your storage system once they are put in place?

And my second question is for PG&E, and I'm not sure who this would be appropriate for, maybe Ms. Wayliff (phonetically). I hope I got that right. Forgive me if I mispronounced that.

And my question is did PG&E pick the best technical system for the plant? Thank you.

TOM JONES: I will address that at the appropriate time on the agenda.

MR. ANDERS: We have been informed that PG&E

will address that at the appropriate time on the agenda.

So thank you for your comment.

BRENDON PITTMAN: Okay. Thank you so much.

MR. ANDERS: Our next speaker is Kaylene Walker. Kaylene, please state your name, your residence, and any group affiliation, and you have two minutes.

KAYLENE WALKER: Hi. Kaylene Walker. I live 20 miles from San Onofre, and I carefully followed the whole Holtec fuel loading process and the multiple problems and then the information that was discovered from the various problems like a canister was broken, shims was loaded, and the near drop, of course.

I did more than listen to the talking points from the -- the public talking points. I read technical documents. I attended NRC meetings. So I would like --

And I would like to just call your attention to some kind of misleading statements that I think are worth looking into.

Number one, the inspection of the -- these canisters are problems with corrosion and cracking; that's -- that's an expected fact about these canisters.

The inspection technique is not an inspection. That isn't -- the inspection report made a clarification that this was a visual assessment.

That would be like going to the dentist and having them take pictures of your teeth with that camera. They cannot assess the microscopic crack development that happens with these canisters.

Visual assessments are not effective at assessing crack development. They can look at precursors but not actual cracks. That's a very serious problem.

The repair technology that you mentioned that San Onofre has been touting, that is ASME -- I mean EPRI put out to the court in 2021 that said this nickel-spray repair technology cannot -- there's no credit -- no credit should be taken for structural or strength properties of cold spray.

ZEKE TURLEY, AGP: That's time.

KAYLENE WALKER: Also -- is my time up?

MR. ANDERS: Your two minutes are up.

KAYLENE WALKER: Let me finish that one point. The cold spray will not stop a helium leak from a crack. That is like a very serious problem.

Anyway, I have so many points that I would like to make. Maybe I will put them in writing. Thank you.

MR. ANDERS: Thank you very much.

Our next speaker is Dylan Canterbury Baker. Dylan, are you there?

DYLAN CANTERBURY BAKER: Can you all hear me?

MR. ANDERS: Yes, we can. Go ahead. You have two minutes.

DYLAN CANTERBURY BAKER: Hi. I am Dylan Canterbury Baker. I am an actual resident of SLO County. I live about seven miles from Diablo Canyon.

And one thing I have been very interested in hearing is what are you also doing to address the increased risk of seismic activity here? Because, I mean, now, in foresight we'd find it odd to build a nuclear plant here in such a volatile zone.

And considering the storage is on-site is unlikely to change for awhile, how is that going to be addressed in the equation of keeping the nuclear waste safely stored. Thank you.

MR. ANDERS: Okay. We got the question. Is there anything else?

DYLAN CANTERBURY BAKER: Just I am eager to hear what you all have to say about this because I know it's a concern of many people who live in SLO County and live near it, and I go near Diablo Canyon pretty frequently because I live in Avila Bay.

MR. ANDERS: Okay. Thank you very much for your comment.

KARA WOODRUFF: Chuck.

MR. ANDERS: Yes, Kara.

KARA WOODRUFF: Can Philippe give a brief answer just on the seismic, like the bolting, and maybe -- I guess we will be talking about the new casks later in the evening --

PHILIPPE SOENEN: Yeah.

KARA WOODRUFF: -- but I think his question also concerns existing casks. Maybe you can do a brief explanation on the seismic protections there.

PHILIPPE SOENEN: So our system itself, I should mention, would be we do have a modified HI-STORM 100, it's seismically anchored. They have anchorage studs that go over 7 feet into the concrete, and there's 16 of these studs around the base to prevent any tip over.

The Nuclear Regulatory Commission looked at those analyses and postulated a specter for our seismic at the ISFSI. Similar bedrock as the power plant is built on.

So those were all analyzed and approved by the Nuclear Regulatory Commission for the -- being able to withstand, with margin, any seismic events that would happen at the site.

KARA WOODRUFF: Thank you.

MR. ANDERS: Thank you, Philippe. Thank you,

Dylan.

Our next and last speaker is Sharon Hammond. Sharon, you have two minutes. Can you hear me?

SHARON HAMMOND: Excellent. Thank you. Yes, can you hear me?

MR. ANDERS: Yes, we can. Please go ahead.

SHARON HAMMOND: Thank you. Hello. My name is Sharon Hammond, H-a-m-m-o-n-d; and I am with an organization called the "Society Library," and we organize collective information around a given topic and then organize that information into debate maps for educational and public consumption.

And from that regard I have to give absolute gratitude to the panel and to the safety counsel as well for your fantastic organization and information presentation.

My question now is, given the recent OIG report that called into question the efficacy of oversight, and, particularly, the efficacy of existing inspections of Diablo Canyon facilities and risk-significant equipment, are there any plans to, say, preemptively do additional internal inspections or in some way communicate to the public that areas that may have been overlooked or not inspected as carefully as we would have hoped are getting that attention?

And, specifically, you know, those risk-significant systems and spent fuel areas. Are there -- are there any plans to more aggressively monitor, inspect, and communicate that to the public perhaps?

MR. ANDERS: Anyone, can you address that? I guess that's it.

Go ahead, Philippe.

PHILIPPE SOENEN: There seems to be a lot of focus on operational activity. For the topic here we are talking about our dry cask storage systems, and as we talked about the seismic design for the -- our current system and then there will be presentation for the new system that will be implemented, I think we will take note of what the comment as far as they relate to the OIG and operational inspections.

MR. ANDERS: Great. Thank you. That concludes our public comment period. And our agenda says we are due for a break.

And Dr. Auran says we should stand up and stretch for at least 30 minutes -- 30 seconds. So let's take a break, and we will be back at 7:50.

(A break was taken at 7:42 p.m.)

MR. ANDERS: Let's go ahead and reconvene the meeting. Before we go on to our next agenda item, I

want to remind everyone that we will have another public comment period after this discussion of the new spent fuel storage system that has been selected.

And I also want to remind people here and the people online that you can submit comments to the panel any time and to the panel's website.

The website is DiabloCanyonPanel.org, and just click on the big button in the upper right-hand corner to submit comments, and the panel continues to monitor those comments.

If you want to see the comments that have been submitted, go to the menu item called "Get Involved," and you can see submitted comments and then also viewed comments. And if you click on "Viewed Comments," you can actually see all the comments that have been submitted to the Diablo Canyon panel.

So, with that, I want to introduce Tom Jones with PG&E, who's going to begin the discussion of the new dry cask storage system that has been selected.

TOM JONES: Thanks, Chuck. Good evening, panel members and members of the public. Tom Jones, director of strategic imitatives for Pacific Gas & Electric Company. I am going to speak a little uncharacteristically slower tonight for a couple of reasons. One is -- and I will ask the panel and members

of the public during their public comment as well to slow down a touch to help out our signers and our stenographer.

So we've been giving them a good workout so far with a lot of technical acronyms; so we want to slow down just a bit and help them out; so thanks for your support on that.

So tonight we will have a number of topics, and we can bring up the presentation, please, for those viewing at home. There we go.

So we are going to go over several items. We've got some of the panel topics that were proposed tonight, some of their report about the status of items in their Strategic Vision, and then also some of the questions that the public has answered -- or excuse me -- asked earlier about the current -- or the new system coming in.

So we are going to go over the background of how that selection process occurred, how we will move forward on a licensing approach, and some key takeaways and the next steps for the public process that will be utilized as we select this new system for Diablo Canyon.

So contractor selection announcement -- I have been saying it wrong my whole nuclear career. We've selected Orano, not Orano as I used to say, so we will

work on that.

And tonight after my presentation Orano will directly go into their presentation, and we are joined by Roger Maggi and Raheel Haroon, and then we also have some of their Orano technical staff online back East; so it's a little -- three hours later for them; so thank you very much for staying up tonight and staying with us.

So the scope of their contract includes the engineering and licensing of their system to be applicable at Diablo Canyon. It is currently a license system, and that licensing activity will be sure that their Certificate of Compliance envelopes are all characteristics of the Diablo region.

So we have heard about seismicity; yes, it will. We have heard the age of our fuel and the temperature, yes. And so we've heard about the time frames as well, approximately two years. The system will do all of that.

Additionally, the system helps set us up for decommissioning, and so we'll have what's called a "Greater Than Class C," a GTCC storage pad that will handle some components. If you think about decommissioning a nuclear power plant, taking things apart, think about the internal components of the

reactor itself. Items like that that are also radioactive, and we will store those in another area, another location outside of the dry storage pad or the ISFSI pad.

It's where we historically stored other low-level competents like our old steam generators from our replacement project. So it's still on-site; it's still above 300 feet above sea level; and it's a little further east in a controlled area of the power plant.

Orano will also do the construction and installation of all the storage modules, and they will get into that in their presentation, and it's a turnkey operation for PG&E. From pool to pad transfer they will run it, and we will provide rigorous oversight as well when they do that process.

Here is the big "what-what" when you look at Diablo Canyon and how this impacts decommissioning or anything else we are going to do.

The arrow points to our current spent fuel building, and that's where both spent fuel pools are for Unit 1 and Unit 2. You can see with that construction and how they are nestled together that you can't really do any meaningful decommissioning activities until you move the spent fuel pool.

So this new time frame favorably pulls things

to the left on the timeline for us. That's a big advantage for everything we seek to do, and even if for some reason our permitting was delayed on decommissioning, the transfer of fuel is independent from the California Environmental Quality Act process, the Coastal Commission Review, and everything, we go on.

So we can maintain this timeline with great assurance compared to some other things that we have because, you know, we are still pursuing multiple, concurrent, discretionary actions by regulators.

In this case we have a lot more certainty and deliverability than we do on some other things; so it's independent and its heading to a separate licensed facility; so I just want to point that out. It's a really good outcome for all the projects.

We have shared this slide with the panel and the public before, but this gives some context for what it means for our customers and what we looked at before.

I thought Kara and the panel did a nice job talking about those moving timelines going back from 2015 and forward. Well, this translates that schedule acceleration into dollars and what it means for our customers as well.

The utility makes no profit on decommissioning. If you think about your utility bill, similar to your

phone bill where there's a 9-1-1 surcharge on your phone bill, there's a nuclear decommissioning surcharge on your electric bill.

By reducing these costs and prudently managing the project, like delivering used fuel transfer a little bit sooner, we reduce those costs that otherwise just go to maintaining systems that ultimately have no use or benefit to the public.

Here's some other takeaways from that timing. We get that earlier deliverability of the decommissioning project; that's good for everyone.

We get the earlier dismantlement at the site structures that allows for earlier repurposing. I think about earlier public access. I think about earlier use of the new public marina as part of our goals.

And the most important goal of all, it achieves what I think is a mutually shared goal of everyone in the room, of an empty spent fuel pool as safe and as practical as possible.

There was question earlier: Was this the best technical solution that we sought? Yes, it was. We had a very rigorous process, and this rose to the top, and it was a good solution for our location on many fronts, and you are going to hear more about that.

And, again, tonight we want to invite your

questions. We won't have every answer as well, but we think of this as the tip-off, almost like a scoping meeting, to gain more questions so we are sure as a utility and as the service provider and the panel that we are addressing the questions and concerns that folks might have about the project and the implications of this selection.

This process looks similar because it's a similar licensing process to what Philippe showed you earlier for license renewal except this is for the licensing of the new system.

So if you think back on the left third of this timeline here -- the public input before it went to request for proposal, the panel's Strategic Vision -- we had the risk -- independent risk study completed by the John B. Garrick Institute at UCLA.

We had our workshops under the Public Utilities Commission, and that occurred in Sacramento at the California Energy Commission's office.

And then, separately, the California Energy Commission was willing to engage and independently provide technical input for PG&E's request for proposal by executing a nondisclosure agreement; so that gave them access to proprietary information from the fuel design through the technologies that address

how to store the fuel.

They gave us some input at a couple locations. Both in the risk study, they asked us to look at a couple different things that we put into the scope for UCLA. That was helpful.

They then helped shape some technical criteria for the bid process; and then, when the technical scores came back, they pointed out that actually the whole litany of responses were technically adequate and feasible at Diablo Canyon.

So they were involved in a unique way not required by any of the regulatory pathways that we faced, but it was another way to give the public some assurance from someone that understood the material and had technical expertise and ultimately was a public advocate and not an employee of the utility or the service providers.

So then we had that confidential review for the next couple of years and awarded the contract. I'd like to remind folks how fresh this contract award is. It is exactly two weeks ago today, and the panel had made a commitment to hold its first in a series of public meetings within two weeks of that announcement. So we barely made it, but here we are, and it's nice to be back in public again.

So speaking of "here we are." You see the red arrow. So now, by the end of this year, Orano and PG&E will work together, and they will make their licensing application or update to the Nuclear Regulatory Commission.

That process will take some time as well. It can have public input -- you see on the chart there -- and we expect that to be similar timing to the License Renewal Application we have.

That's good because, if we achieve that in 2024 or 2025, that still gives us a couple years to set up because we are looking to transfer the fuel in that late '26, 2027 time frame; so we are still about five years out for completing the project, but you can see we are on track, and we have been at it now for a good five years.

I will let this slide sit for a second. We have shared this once before. But this just shows, from the Strategic Vision, we cite the key criteria that the RFP addressed, and Orano will go into greater detail about how we achieved these.

But we, in the selection process, took into account, for instance, the 80-year design life. Linda Seeley earlier talked about our dry cask storage system currently was licensed for 20 years and then

could be renewed for 40 years.

The regulations have changed since we implemented that first system, and so now an original license for a new system is 40 years with a subsequent renewal for 40 years.

What that really means is, when both these processes are completed in 2025, we will have a licensed dry cask storage facility for our current and our future system through the 2060s.

And we expect and we, in fact, demand as a utility that there be a storage solution that is not at Diablo Canyon. We still pursue that remedy with the Department of Energy, with the Nuclear Regulatory Commission, and with the policy makers; so we want to be ready to ship as well, and the Orano system will provide that for us.

Additional background here -- we talked about this a little bit on the earlier slide, but we had the Energy Commission collaboration, that independent risk analysis from the B. John Garrick Institute at UCLA, and we also convened our own independent technical review panel -- pardon me -- to challenge us from former NRC and industry experts.

So even when we thought we were right, we had this independent group that really challenged us to get

some intellectual competition to the process and the decision; so that was very helpful.

Here is some of the meat of the selection process. We have already talked about the top; right? We had a couple years in development of the RFP. Everyone in the industry new it was coming.

In fact, many of the vendors had participated in this panel's workshop; so folks knew it was coming. Once the RFP was issued, they had three months to respond.

And then after that response came in, similar to a permitting process, there's some additional requests for information between the utility and the bidders. They seek clarification. They do things like site walk-down.

So that is why this selection process is 1.5 years. This is an interactive process with cooperation along the way to be sure that the bidders have access to all of the information they need to make a timely and informed contract with the utility.

And speaking of the contract, here is the weighting and the scoring for the bids that came in. So public safety and technical capabilities were 40 percent. So think about the design of the cask, how it handles the heat load, its dose and shielding that it

provides to workers and the public.

Safety -- how does that company behave from industrial safety? Do they lift safely? Is their technical practices, their industrial and occupation safety, what score do they achieve there?

And then commercial terms. Don't confuse that with pricing. Think long-term support. Is the company going to be around for the duration of this project? What level of support can they offer you.

That's very important. If I need a part in 2038 I want to be sure they can provide it. So that type of rigor with our sourcing group looking at that really has a safety-related effect in the project.

Pricing does matter, and it was only 20 percent of the weighting, and then we also had some supply chain responsibility and sustainability issues. We do this broadly across all PG&E contracts. We look at the social aspects of the contract as well.

And then our team at the company -- and separate from that process I talked about with the Energy Commission and the industry experts -- our internal team is listed below. So you can see there's a very broad cross section of folks to be sure that the criteria in the middle section of this slide were adequately evaluated.

Orano's footprint in the U.S. is pretty vast. They are going to go into more detail on that, but they are used in California also at a couple of locations, and the panel has visited both of those; right?

You have seen this in service at Rancho Seco, and you've seen this in service at a mixed facility at the San Onofre facility -- right? -- so you've seen both Holtec and Orano at that location.

Oh, one thing I want to go over in the center here, and this is really important to us, and we are excited about it, is their INPO Certified Training Center in South Carolina.

So INPO is the Institute of Nuclear Power Operators, and they are a very rigorous accrediting agency. We have an INPO accreditation for the operations of our plant. It looks at things like our training, our operations, you know, how we do and pursue excellence at the nuclear facility.

Orano's training has gone through that same training; so workers go there for five or six weeks and get to practice loading, handling the systems, and get detailed technical training before they are deployed in the field. Very, very excited about that component, and they will go into greater detail on that this evening.

They have global experience as well; so here's

some other systems around the world. The slide deck speaks for itself. I will just let that sink in for a second.

And then the key reasons why they were awarded the contract. All right. Their horizontal system -- they're an industry leader in it; it has a proven track record throughout the U.S. and offers us some advantages, including the thermal dissipation of the large heat load.

They are going to get into detail on that tonight with some schematics for you and address your questions on that.

The current system is licensed by the NRC but, as we've described, Orano will update that Certificate of Compliance to be sure that it envelopes all of DCDEP's site characterizations.

We think it's a very technically robust system that will meet or exceed all those criteria. And when we look at the technical feedback and the stakeholder feedback, the system is really strong for in situ inspection, repairability.

The shelters and the overpacks that it has are really robust. When we look at those and their footprint, everything fits in the existing ISFSI.

And then it still comes down to that time, that

they are really looking at about 23 months; so, when we think about the old technical capabilities and, what we call a "tech spec," and going from that ten years to inside of two years, we've seen this technology improve throughout the industry for a long period of time.

It reminds me of how fuel economy improves marginally over cars over time or how cell phone batteries get better.

The thermal capabilities of the casks across all the manufacturers have also increased, and that results in shorter loading periods.

The current Diablo Canyon ISFSI is a site-specific license. We talked about this twice, but the NRC has this other process called the "Certificate of Compliance" that allows for anyone with a Part 50 license to use that manufacturer's licensing and put it at their site.

A good example I can give you is in the aviation industry. Boeing and Airbus licensed their fuselages with the FFA for use; Southwest Airlines and United don't go do that. They get a craft that's approved for use. That is what we are doing here. It's pretty simple.

And so -- and we are not breaking any new ground here. There's sites -- and there's four listed

below -- that have a combination of licenses, Part 50 and Part 72, which is the site-specific license.

And here is what that looks like: It's hard to tell the systems apart. The asphalt doesn't indicate the paperwork; right? It's just side-by-side systems that satisfy the criteria for the NRC to store spent nuclear fuel at our location.

And then there are many locations across the U.S. -- over a dozen -- that employ multiple vendors over time to store their system. So these 15 sites have more than one vendor or one storage solution during the operations of their plant.

So, again, we are not breaking any new ground. When we had that robust RFP process, we wanted to be very competitive and deliver the best technical product for Diablo Canyon.

So our key takeaways -- we selected it because it's the great, safe system for us, and it is going to handle -- I think the question earlier that Panel Member Lathrop had -- it will handle all fuel that is currently stored in the spent fuel pools and all fuel that is yet to be generated from Diablo Canyon and discharged because of it's operation through 2025.

It's a very competitive bid process. I would actually like to thank some of our sourcing team. They

are here tonight. Blood, sweat, and tears for several years -- to be sure of that.

And the technical team as well. They know what it means to this community, and they want to deliver a safe product.

And I would like to remind the panel that no one works closer to that system than they do. So it's very important. I think we've got a really competitive product here, and I'm really proud of the relationship we are going to have with Orano moving forward.

So next steps -- again, tonight is kind of the tip-off of this conversation. We want to scope questions and information that we should be sharing.

We have our next panel meeting on May 25th where there will be an exclusive deep dive into the new selected system.

And then our proposal is, with the panel's input, to have some open houses, almost a workshop, at our energy education center and then have regularly scheduled tours during that throughout that day to take people out to the current ISFSI so they can see the site, experience it, have the context.

The slides are pretty good, but there's no better experience than being at the site, walking down to the facility, understanding it's 300 feet.

We sometimes get questions, is it similar to San Onofre? What's your height difference? There's no comparison between those locations. They have a more constrained site than we do, and we have a benefit of having a lot more buffer and a lot more elevation.

So with that I am going to turn it over to our guest, and we are going to switch PowerPoint presentations; so we are going to ask your indulgence for just a second.

ROGER MAGGI: So thank you for allowing me to come here tonight and speak to you. I have been told I am quite loud and usually don't need these.

So I just want to thank you for the opportunity to kick this off and engage with the panel; and, therefore, the community.

I want to thank PG&E for their trust and confidence in our technology and our people. I can assure you that this project has been reviewed up through our board of directors in Paris. This is a very high-visibility project.

Our CEO was just over here two weeks ago, and was here for actually the signing of the contract; so this is, I want to say, a flagship project for us for the next several years, and we are here to answer questions, be transparent, build trust.

This is our first interaction. I look forward to many more. You are invited to access our people, our facilities, whatever it takes to make the community comfortable with this process and this equipment. Thank you.

So we will go ahead and move into the presentation. This being our first meeting, if you don't mind, I would like to spend a couple slides just giving you a feel for who Orano is. I still say Orano sometimes. I have been with this company for multiple decades through many, many changes; so I will answer to all of them.

So Orano as a broader group headquartered in Paris, really supports the entire nuclear fuel cycle from the mining conversion and enrichment of uranium all the way through the back end of recycling in the case of Europe and much of the world, recycling of that used nuclear material into material that can be used again and more safely stored, but also on the back end in terms of dry fuel storage and also the decommissioning and dismantling of facilities.

We also have Orano Med which supports nuclear medicines, which I will refer to here in a minute because I am very proud of that.

But, again, give you a flavor of who we are.

So 16,000 employees worldwide. Very committed over the last five-plus decades to nuclear fuel cycle, and we intend to be here for five-plus decades.

For, specifically, the business unit that will perform this activity -- nuclear packages and services. You see on the schematic there, Orano TN handles basically all nuclear materials from the fresh fuel or the uranium products that go into the fresh fuel.

Again, mentioning the mining conversion enrichment processes. So we transport that material. The fresh fuel is -- also requires transportation. We handle that from not just Orano but other vendors as well.

We handle the spent fuel coming out of the reactor and into storage. We also handle the waste; so the waste either created during operation, maybe in the form of -- in the case of a BWR plant, the control blades that have to be changed out, not just the fuel; so cleaning those up, packaging them, and preparing them for storage and transportation.

As well as, you know, the LGTCC, which will be the reactor internals coming out of the decommissioning units as well as, you know, the larger hardware itself.

So, again, if you don't mind, I will just take a sidetrack here and mention nuclear medicines. I'm

very proud of this, and this is something that began five or six years ago.

And it really came out of the material that comes from the mining waste and this ability to harness the power of the lead-212, which is a powerful alpha-emitting isotope that can be used in nuclear medicines.

We have the unique capability to produce this isotope, which is very short lived; so we have to be able to produce it and ship it, and it has to be used within about 12 hours.

But in combination with biologic molecules, this strong alpha emitter can be attached to an antibody which seeks out the cancer and attaches to its antigen and therefore delivers that alpha particle source directly to an individual cancer cell which saves the cells around it.

And in the case of the more aggressive cancers like pancreatic cancer, it is important to save the organ while you are taking out the cancer.

We are in Phase 2 trials for this medicine, and we are building new facilities to produce it in greater quantities. So I just wanted to share that as a nice benefit of just the overall nuclear portfolio that we pursue.

So specifically about the Diablo Canyon off-load -- and, again, we may not get into every detail that you want to. I look forward to, you know, more discussions in the coming weeks and months; so I thought I would get kind of broad and then we can drill down a little bit.

So the images you see here, the image on the right is an array of horizontal storage modules, and these are the heavy concrete modules, reinforced concrete, thick walled for shielding, and that array is the first EOS extended optimized storage array that was built in the U.S., and that was installed at the Davis-Besse Nuclear Power Plant, and that was in 2018 for loading and 2019.

They were loaded in 2019, and they were loaded -- up to this point in the industry there hadn't been any loadings that exceeded about 32, 33 kilowatts for a given canister.

The EOS system has a capability up to 50 kilowatts, and Energy Harbor chose to take advantage of that on the very first loading of a brand new system, and we successfully loaded eight systems with an average heat load of over 45 kilowatts.

And the reason I mention that is because, in the picture on the left, we went back the next year and

we performed an inspection on our older canisters, which are on that same pad that are 20-plus years old.

So, again, the aging management project inspections, and we parked the inspection trailer on the array where those high-heat canisters were loaded.

There were 10 or 12 people working on that ISFSI pad for that week during those inspections. It was the first aging management program inspections that we had performed, so we took our time, and it took a little longer. The entire crew picked up 11 milligram for that week, and most of that was picked up by the people that were at the canister being inspected.

So against that array full of very hot canisters that are equivalent or even higher heat loads than we expect to load at Diablo Canyon, did not really see any significant dose from that activity; so I just want to point that out as, you know, a kind of pragmatic explanation of the capabilities of that system.

Our off-load, full pool offload experience -- because that is what we are here to do and take advantage of those capabilities -- our most recent pool off-load was literally finished April 10, 2022, at a plant to be named once they issue their own press release.

We were full scope, performed the entire

operation from the licensing activities even though it's an existing system, licensing at four additional capabilities or, in this case, failed-fuel canisters, fabrication, and then the pool-to-pad activities to remove all the fuel from the pool.

There were 30 systems loaded, including a special canister that we had to engineer and fabricate for the failed-fuel assembly that you see there in the inset picture.

That is the top of a BWR, boiling-water reactor assembly, that bail handle that you see bent over should not be bent over; so it wasn't able to be handled in the normal means; so, first, we had to devise a way to cut that handle safely from the fuel assembly, lift that fuel assembly, and then place it into a special can which then went into the canister.

Given all that, we finished that spent fuel pool off-load in 20 months from the unit's shut down in August of -- yeah, August of 2021 -- August 2020.

So 20 months total. The previous record for the industry for any off-load was at the Pilgrim Station, and that was executed in 30 months. And just to explain a little bit about how the schedules are determined. It's not necessarily how fast each individual canister can be loaded. Whether you load one

a week or two a week, that really doesn't determine your end date.

Your end date is preselected based on your fuel characteristics. So you take the hottest fuel assembly coming out of the last cycle, when can that be put into a canister?

And you pin that date; that's the right-hand end of your schedule, and you work back to the left. You figure out when your pad needs to be ready, when your modules need to be installed, when your canisters need to be fabricated, how you want to do your schedule.

In this case at this plant, we ran 24/7. We achieved over two systems per week. One set of transfer equipment, and it was a very short operation. But, again, it was determined by the end date of that last fuel assembly.

Here, for this project, what we're currently looking at is a date out in mid-2027 as the end date based on fuel characteristics. There is margin in that schedule where we could actually finish earlier, but we will set up our schedule so that we only have to load one canister per week.

And there's advantages to that because the supporting teams from PG&E, they will basically know every day of the week what they are doing. Typically

you come in on -- the crew prior has set up the cask in the pit with a canister in it; so then the loading crew comes in on Sunday night.

They load all the fuel, it's verified, and then on Monday you start processing the canister, which means removing the water and drying and then welding the canister shut.

And then by Wednesday evening, Thursday morning, you are moving to the ISFSI. And that's like clockwork literally. And most of our campaigns where we are not doing full off-loads, where we're just doing -- at an operating plant we're doing a 10-canister or 12-canister campaign -- we always set it up so that we are just doing one canister a week, Sunday to Wednesday evening or Thursday where we're pushing the canister in the HSM.

Then you recover and get ready, you have time off. You meet all the requirements for rest at the site as an operating unit. Security, HP, operations, those people at the plant that are supporting you, you know, they don't get into a 24/7 cycle. They are just on a normal day-to-day routine; so that's what we plan for Diablo Canyon.

We did, like I said, yeah. So we were, you know ten months faster than the previous record, less

than the dose goal. So that's the fourth pool off-load that we've executed since 2017.

This will be the fifth one that we will start, and everyone of those off-loads have been achieved without safety or regulatory issues. We have been on budget, under projected dose safely. All right. So that's the key.

So that's just a snapshot of our history with just full pool offloads, and of course we do multiple campaigns every year at our different sites for operating plants.

A little bit about the EOS storage system. So this is a licensed and loaded system at multiple plants. We will be loading 69 of these systems; so, again, EOS is "Extended Optimized Storage." The "37" just means that we can fit 37 individual fuel assemblies into this canister.

The "P" stands for "PWR," your "pressurized water reactor"; the "T" stands for "transportable," so the system is fully transportable; and it is high heat, which is what the "H" stands for.

So we will be using 69 of these systems for the fuel and then five TN radwaste canisters, which are very similar to the fuel DSC dry shield canister, except they don't have a basket; so that would be for the greater

than Class C waste.

So this proposed system can handle 50 kilowatts of total heat, and as I stated before, we've loaded up very close to that already at several plants.

We will be going for an amendment, which will analyze our ability to go up to 4.2 kilowatts per fuel assembly, and that's important because that ability to take a higher individual fuel assembly.

When you look at that last operating core, that last set of fuel that has the highest burn up, we need to be able to distribute those assemblies between canisters up to eight hot fuel assemblies per canister, and the higher heat we can take, the farther that schedule can move to the left.

We are currently at 3.5 kilowatts per fuel assembly. We will get to 4.4 kilowatts with the amendment.

Again, we have loaded at multiple power plants already, and we will continue to load EOS systems, you know, many, many, many more systems before the Diablo Canyon project.

In terms of the capabilities to handle the Davis -- or not Davis -- the Diablo Canyon specific conditions -- you know, you see the conditions here. Environmental conditions and natural phenomenon --

that's where you get into seismic, to heat, to flawed extreme environmental conditions.

Blast and airplane crash performance. Smart flood, which is basically just blocks the vents. Doesn't actually come up and cover the system, but blocks the inlet vents for airflow, the ability to handle that type of a flood. Landslide conditions where you get vent blockage.

Beyond design basis earthquakes -- design margin under extreme heat, fuel retrieval, and then monitoring inspection -- so we will meet all of these requirements. We already meet most of these requirements.

We will do the analyses to show that we can meet the upgrade seismic requirements although -- I will show you here in a few slides -- we've already met, you know, much more stringent requirements at other sites down the coast.

I will focus on the seismic because that, I know, is one of the major concerns for this plant. What we intend to do for these systems, as we did at SONGS, these were already high seismic systems. They will be upgraded and basically tied together to form a larger monolithic block.

This block will be freestanding on the pad as

it's meant to absorb energy and dissipate it through, you know, very minimal sliding on the pad in terms of, like, millimeters or centimeters on the pad. That's how it basically discharges the energy.

By tying these systems together -- and you can see the tie bars that go across the top of the modules between the systems -- if you look at the cutaway they are also tied towards the base of the modules front-to-front, back-to-back, side-to-side.

So this becomes, then, again, one model that they block each array -- which we will talk about -- at the site layout will be tied together.

With the low center of gravity and wide base, that allows this system to withstand, you know, very high seismic events, again with, you know, minor sliding to dissipate that energy, and that is by design.

We did have an earthquake back in 2011 centered only a few miles from the North Anna Nuclear Power Station in Virginia. There was a lot of actual surface ground shaking in that event. Not a very deep earthquake, but the shockwaves were very surface-oriented, and these systems, you know, did see ground accelerations that were calculated to be around .6 g's. The site requires analysis up to .85.

We inspected those systems immediately after

the earthquake, and they had not moved, and they were not tied together. So that was just an individual system on the pad in that kind of ground acceleration and there was no movement.

There were vertical systems on the pad as well -- casks, not canisters -- and they did show displacement from their original position. Again, just anecdotal discussion.

This is a depiction of what we see as the site layout for your arrays. So the arrays that you see there are separated. There are -- I think, let's see, one, two -- six across. You have a double array, and then you have a single array.

So in that double array, you will have a six-by-two configuration. All of those will be tied together in one monolithic block separated by about four feet in between the adjacent array on individual poured pads.

Again, even in the very high seismic events, as Sandia Labs had determined in their study commissioned by the NRC, these rectangular systems have no chance to tip over, and they only show very, very minor lateral displacements, so they are -- and there is more than enough room around these systems to account for any seismic displacement.

In terms of extreme heat, again, we are designed and licensed for heat loads up to 50 kilowatts. We have loaded up -- you know, near that, and that 46 kilowatts is about the highest heat load we expect to load at Diablo Canyon.

The average for the entire project looks like it will be about 43 kilowatts based on your fuel data that we have; so we have margin, significant margin in the event that we see, you know, surface temperatures that get to the extremes.

If you look on the right, and you see the modelling of the airflow through our horizontal storage module, that is really where you get down to the benefit of horizontal versus vertical in terms of cooling. And we have already talked about seismic.

So for cooling we can send a lot of air directly into the hottest area of the canister. So you see in the green and yellow up in the bottom of that model, that's the air acceleration or velocity coming through the bottom in the middle of the canister which targets that hottest area of the canister and then flows around it and then out the top of the storage module.

So that cooling, again, hitting that hottest area first instead of maybe hitting the bottom of the canister and having the air flow up, getting heated as

it flows up, in that case you are not necessarily protecting the top of the fuel very well because the air is hot before it gets to where it needs to be.

So, again, horizontal distributes air across the canister in the middle where it's hot and allows for better dissipation.

Heat loads over time -- this curve here at the bottom right, heat load is on the left, and then across the bottom axis is time.

Even if we are loading 50 or 46 kilowatts on a system, you are going to see the same type of drop off or regression. We will have detailed curves that match your site in future discussions as we develop all the engineering documentation and analysis.

But after just a few years your heat levels drop off very significantly giving you more margin to withstand the extreme temperature events if they should occur in the future.

So canister handling and retrieval -- so this -- these graphics kind of show you how our system works in a nutshell. The canisters come from the fuel building in this orientation on the hauler. They are simply, you know, moved onto the ISFSI pad. Alignment takes place just moving, again, just centimeters, you know, to make sure the alignment is right to receive it

into the storage module.

If you look at the bottom left image in that cutaway, the canister -- cask and canister are fully supported on the hauler, and then as it is pushed into the module onto the support rails, again, it's fully supported that entire time.

So there is never a condition where this canister is moved or lifted above it's analyzed drop height. So we can drop it from a height higher than where it sits right there, and we're analyzed for that, and the fuel is okay. We never lift it above that point. So it slides in, slides out.

So when you retrieve it, same thing. You back the transfer -- in this case it might be a transport cask -- up to the module. You do your alignment, you pull the system into the cask, and off you go.

All right. So we will talk about aging management and the ability to inspect these systems. I think enough has been said about aging management in terms of what it takes, you know, in time for corrosion to initiate and then potentially affect the canisters.

You are loading very, very hot fuel. By design, these systems for the off-load, it will take many, many, many years for that canister to be cool enough to even initiate corrosion, and corrosion has to

be initiated before you can even think about pitting or cracking.

So as that canister surface temperature exceeds, you know, the -- just 212 degrees, no fluids can exist on that canister that would mix with the salts to cause corrosion to initiate; so that's probably decades down the road.

However, we have inspected six of our sites, six ISFSIs with NUHOMS systems, and even though they are note EOS systems, they are virtually the same in terms of the shell itself, which is what we are concerned about in terms of initiating corrosion and the effects of that corrosion.

So we inspect all the structure systems and components, important safety on these systems, and there are no indications of any concern of aging-related degradation for any of the systems we have inspected at the NUHOMS sites.

That includes coastal sites, as we just inspected a couple months ago, SONGS -- those systems have been there for 20 years. There is no evidence of any corrosion even though they sit in a marine salt environment closer to the ocean.

They actually act as a bellwether for your systems. They are 20 years. By the time we load your

systems they will be 25 years ahead of you, and their fuel will be cold, and the potential for initiation of any corrosion is there once your temperature gets below a certain level.

So by watching their inspections, they will be probably 40, 45 years old before you are even in the condition to initiate corrosion.

So we will be watching those systems, you will be watching those systems, not just SONGS, but all the systems we have, the NUHOMS systems in horizontal storage, in marine environments and in other potential chloride environments, whether it be from cooling tower or road salts.

There are other conditions than marine that cause potential for chlorides to deposit in our systems. We will have hundreds of systems out there that are more advanced in the aging than yours, and you will know what's going on well before anything can happen here aside from the actual inspection process that will be part of aging management at Diablo Canyon.

The image there in the center is actually our cold spray tool for repair of canisters. We were contracted by SONGS to complete that project so that their systems were fully inspectable and repairable prior to our initial 20-year license renewal exam.

So that system was ready to deploy to site. We didn't send it because the first process there is inspection, visual inspection with the qualified cameras. We used the same cameras that were used at inspections here on the vertical systems.

If you would have seen anything that would have caused concern, as Philippe said, it would have gone into the site's Corrective Action Program.

If it was determined that additional information was needed, we had the ability to further inspect using volume metric techniques, phased array, eddy current, NDT, to determine characteristics of any flaw.

If it was determined then that the repair had to be effected, we had the ability and the time really to plan that repair and execute it.

That system that you see here is what we call the inspection ring. It is now an inspection repair ring with the inspection of the cold spray module.

We did have that ready to deploy to SONGS. That blue shield is for radiation protection. That's a water shield which aids in neutron protection as well -- neutron shielding.

And basically in the upper right corner you can see the system would basically be retrieved. And,

again, only in a very extreme, you know, repair-necessary condition, right. You would pull the canister through the inspection ring into the transfer cask.

As you pull it through, you can stop at the area of concern, do all your exams, clean the canister, do the UT, do the eddy current, characterize the flaw, put the canister back. And once you evaluate the flaw, determine that it needs to be repaired, you plan the repair and execute it.

But, again, this was the safety that SONGS wanted to have in place. There was no indication of any aging-related issues at SONGS at this time. But we are fully inspectable and repairable for your systems.

This, again, is a NUHOMS system, same HSM and canister configuration, and this system would work here at Diablo Canyon as well.

Transportation -- so you are actually looking at an image of transportations that were executed over the last couple of years out at Vermont Yankee. We are performing the decommissioning services up there; so this is actually a greater than Class C -- actually, not greater than Class C because that cannot be transported right now. A, B, and C waste that was removed from the plant and transported down to Texas from Vermont for BWR.

This is the exact same configuration and transport cask that would be used to send fuel from that same site down to a central interim storage facility that we have licensed in Texas.

The only difference that you would see if this were going down the rail would be an armored escort vehicle supplied through the DOE, and you would probably see five to ten more systems in line with this one, but these were individual shipments.

But, again, the logistics, the permitting, the planning, the working with the stakeholders, that is all the same; so we are -- we are transporting nuclear even today.

And I am going to refer to my notes here because I don't want get this wrong, but this is important. So there's not really an operational concern. There are 5,000 nuclear shipments worldwide every year.

200 shipments of used nuclear fuel by rail in Europe every year. 2,700 for front end of the fuel cycle; so that's the material used to create fuel bundles.

150 shipments for research, reactors and laboratories, including used nuclear fuel. Not in the same large quantities, but in individual fuel assembles

or fuel pens that have been irradiated, and then 2,500 shipments for waste and contaminated tools and equipment. That is per year globally.

In the U.S. there are greater than 350 shipments per year with 300 shipments for front-end material, approximately 25 shipments for research, reactors, and laboratories, including used nuclear fuel.

And then 25 shipments approximately for waste and contaminated tools and equipment.

So, again, it's not, you know, how do we ship or what we ship because we have been shipping fuel in the U.S. for decades. So this can be done.

We intend to be doing this in the near future. And I will actually close with the consolidated interim storage facility that we have licensed in Texas. It's the only facility to currently have a license.

We will be working with all of the stakeholders, the government -- federal government and state government -- to see our way to actually making this facility operational.

We are a partner in this facility with NAC; so we do work with other vendor partners. So we will be able to take all systems. This is a licensed facility for welded canisters, whether those be horizontal or vertical canisters.

It is our intent as Orano, as the group Orano, strategically to have at least one operating central interim repository within the next ten years; so by the time your fuel is ready to ship, we will be ready to take it.

So that actually concludes my remarks, and I really, really appreciate your time. Thanks.

MR. ANDERS: Thank you very much. We are running a little bit behind on our agenda as far as time is concerned.

So we will take a few minutes if the panel has any comments or questions of PG&E or Orano. Linda.

LINDA SEELEY: Thank you for your presentation. Very interesting.

ROGER MAGGI: You are welcome.

LINDA SEELEY: Couple of questions. First of all, why -- you said that this is a high-visibility contract at the beginning of your remarks. Why?

ROGER MAGGI: It's the most spent fuel that's been offloaded from one reactor, and it's the shortest duration for very hot fuel and showing the ability to get the fuel pools emptied in a shorter time, which is -- it is safer to get the fuel into the dry storage -- for us to be able to show that our EOS system has basically upgraded the capabilities for the industry

in a project like this is very important for us.

There are no other projects on the horizon that gives us this capability to showcase the systems and our technology and our ability to execute again our fifth full off-load with a system that really exceeds the current industry technology.

LINDA SEELEY: Okay. Thank you.

MR. ANDERS: Do you have another question?

LINDA SEELEY: Yeah, I have another one. Have you been told by PG&E how many damaged fuel assemblies they have out there?

ROGER MAGGI: We do know that. We have all that fuel data; and, you know, the final cycles and the final pours will be analyzed as they come out.

It could add to that number, but fuel inspections are part of this, you know, process; so things that may be thought to be damaged will be inspected and determined if they meet that definition, but we can handle all af that. All the damaged fuel.

LINDA SEELEY: Even the damaged ones.

ROGER MAGGI: Oh, yes.

LINDA SEELEY: And also you talked about a 24/7 operation, and I -- it seems to me that that might be very stressful on the workers.

ROGER MAGGI: Right. So we did perform a 24/7

operation at both the Fort Calhoun and the more recent full pool off-loads, and that's handled much the same way that outage work is handled.

And that's one of my areas in my background, you know, working at a power plant during a refueling where everything is critical path and your team does work 24/7, but the individual obviously does not.

So we have rotations, we have limits on hours. 54 hours a week, which is actually much shorter than the typical outage worker, which typically works 72 hours a week; so we have a rotation of teams and crews.

We actually have an Alpha Bravo Charlie Delta crew, and they rotate so that the individual worker is still seeing that five or six days a week, 10 or 11 hours a day.

They are not even in a full outage-type mode, and many of the workers that we employ are very experienced nuclear power plant outage workers who are used to working 70 to 80 hours a week.

So these teams rotate. It will be a larger crew, but the rotation prevents the fatigue issues. However, again, we would like to keep the Diablo Canyon project on a standard one week, one canister, it's basically a four-day process so that we do not go into that 24/7 operation.

We have the ability to flex up to that if we need to make up some schedule, but that's not the intent for the project.

MR. ANDERS: Thank you, Linda.

Next we have Scott, then Bill, then Tim, and Kara.

SCOTT LATHROP: Great. Thank you. Yeah, I have a couple of questions actually. Well, maybe four or five questions. I'm just kind of interested in your assembly of the storage units itself.

It looks like in the pictures that you have it's kind of like linking logs. It seems like the panels are put together. You also mentioned tie rods of some sort tying those together.

I am assuming that those are encased in concrete after the fact that they are put together or are they exposed to the weather or how does -- how does that work?

ROGER MAGGI: I am going to let the design engineering manager answer that.

SCOTT LATHROP: Yeah, okay. And the primary reason for the asking of it, because I am assuming it is steel, and, again, we are on the coastline, it corrodes fairly quickly. Most of the time you would encase that in concrete or seal it in some way.

RAHEEL HAROON: Right. I think in the picture we just showed them encased in concrete just to get an idea of what those tie rods would look like, but after they're tied they would be encased in it.

SCOTT LATHROP: Okay. Great. And then also showing with the pictures the -- your system would be sitting on the existing ISFSI, and right now it has steel rings in place already.

Would those need to be totally removed in order to create a flat surface for your units to be placed? And will those units be mounted in some way to that ISFSI or will they be floating?

RAHEEL HAROON: So those rings will be removed to make up a flat plate, a flat surface.

SCOTT LATHROP: So you have to cut off all those anchor bolts and everything?

RAHEEL HAROON: We will cut those off, and our units will be freestanding on it. They are not going to get anchored to the pad.

SCOTT LATHROP: They'll be floating on the pad.

And then, as far as your system sliding the canister in and out of the overall -- I want to say -- the storage unit.

I was just curious about -- is there -- is there a roller system or is it a slide. What -- what

does it slide on?

RAHEEL HAROON: So what we do is we put a -- sorry -- so what we do is we put a special coating on top of the steel that reduces the friction; so you slide on top of it. There are no rollers for this system.

We do have roller designs for the system, but not for the one that is proposed for Diablo.

SCOTT LATHROP: Just interested as far as any scoring of that canister, whenever, when you put it in and out; so I was just concerned about that.

And then another question. You mentioned, as far as dry cask storage or interims, dry cask storage, do you foresee any of these new casks going directly to Texas versus to our ISFSI?

I am just thinking as far as, you know, what's stored on-site versus off-site.

Do you see the -- the complications that you may have in Texas would be resolved where it could receive these --

ROGER MAGGI: Right. So the transportability is determined by the dose rate of the canister; so it has to age off --

SCOTT LATHROP: So it would have to go to the ISFSI --

ROGER MAGGI: -- before it would qualify to be

shipped.

SCOTT LATHROP: No? Yes?

ROGER MAGGI: Sorry. I was talking over him. Your fuel is probably going to take 10 to 15 years to cool enough so that the dose rates what would allow for --

SCOTT LATHROP: Transportation.

ROGER MAGGI: -- shipment under the current transport rules.

SCOTT LATHROP: Okay. So definitely they would have to go to the ISFSI for a period of time?

ROGER MAGGI: They will absolutely have to go to the ISFSI.

SCOTT LATHROP: Okay. Thank you.

MR. ANDERS: Thank you, Scott.

Bill, and then Tim, and then Kara.

BILL ALMAS: Thank you for your presentation. I thought it was very concise and professional. I had a question on the -- it's my understanding that you needed license amendment, which is not unusual, but what is the scope of that license amendment?

The main thing I am trying to get out is what are the unpermitted aspects of the system at the present time?

ROGER MAGGI: I could tell you, but it's really

Raheel's expertise.

RAHEEL HAROON: Sure. The main scope of the amendment is to allow for fuel assemblies to be loaded at 4.2 kilowatt heat load. Right now the license allows for up to 3.5 kilowatts; so it's just the upgrading that -- that assembly.

Whereas the overall heat load, which is the primary factor that determines the capacity, that will remain at what it's licensed for right now, at 50. We are not trying to increase the heat load part of the entire canister.

BILL ALMAS: Thank you. And then you don't anticipate any real issues with that? You have already loaded to that point?

RAHEEL HAROON: The total heat load, we have loaded up to that point, but not the maximum heat load of the fuel assembly.

ROGER MAGGI: And to go from 3.5 to 4.2 there will be a change internal to the basket, which we'll be prepared to discuss at a later date, but it's not a significant change. Just allows for better heat absorption.

BILL ALMAS: And what would your schedule be for that amendment?

RAHEEL HAROON: So right now we are in the

process of starting to do the evaluations for it; so we expect to submit it later on this year --

BILL ALMAS: So probably two years --

RAHEEL HAROON: -- to the NRC --

BILL ALMAS: -- from now you'll have --

RAHEEL HAROON: Right now --

BILL ALMAS: -- the amendment?

ROGER MAGGI: Eighteen months.

BILL ALMAS: Okay. Very good. Thank you.

MR. ANDERS: Thank you, Bill.

Next Tim, and then Kara.

DR. TIM AURAN: Thank you for coming. Great presentation. The current system that we have, I know, has some variation between some of the casks with the types of steel and things like that.

Are there any current installations that you have that are identical to the model and composition of what will be used at Diablo Canyon?

Are these -- is this basically an exact duplicate of other installations that you currently have?

ROGER MAGGI: Not an exact duplicate. So they're, as I mentioned, to get to that 4.2 kilowatts there will be a very minor change to the internals of that basket. For the high seismic there will also be

the tie rods that will be added, you know, to create the larger monolith.

That's been done down at SONGS, but it was done to a -- what we call an "HSMH," not an EOS-HSM. For practical purposes they are the same, but one is slightly larger than the other, so not identical, but very, very, very similar.

DR. TIM AURAN: And the amendment that would be -- the amendment that you're going forward with would encapsulate all of these issues, all of the changes between the SONGS system and this one?

ROGER MAGGI: Yeah, I believe the scope does address everything; right?

RAHEEL HAROON: Yeah. There will be -- along with the amendment there will be a couple other changes that we are going to be implementing through an internal licensing review just for the small changes.

But everything that is related to the heat load will be done through the amendment.

DR. TIM AURAN: Okay. Thank you.

MR. ANDERS: Thank you, Tim.

Our last question from Kara. Oh, Sherri has one. Sherri got in under the wire.

Okay. Kara and then Sherri.

KARA WOODRUFF: Great presentation. Thank you

very much.

ROGER MAGGI: Thank you.

KARA WOODRUFF: Three quick questions. You said that there was no evidence of corrosion on the casks at SONGS. Last summer I was present for the inspection of the casks and we saw some rust.

Since then, I guess, we have determined it is not a real threat, but are you saying that, if I was looking at one of your casks at SONGS or in the future at Diablo, I wouldn't have seen that rust stain?

ROGER MAGGI: I don't -- I don't have that data. We were told that there were no indications of corrosion on the canister.

There are -- there are cases in the industry where there have been carbon particles embedded into the canister from either handling or manufacturing. Those carbon particles will rust and just cause a surface blemish. I suspect that maybe some of the indications I saw tonight on the other inspection were indicative of that.

As the OEN we were not asked to evaluate anything that was related to actual corrosion of stainless steel.

KARA WOODRUFF: Okay. Thank you. You had mentioned that the heat, the maximum heat that could be

experienced in these casks could be 50 kilowatts. What would -- just curious.

What would happen if it did go over 50? Does it crack in half or what is the negative impact of that?

ROGER MAGGI: Well, the NRC would be heavily involved because we would have misloaded a canister.

I am going to put that on Raheel as the design engineering manager. I could give my opinion, but it's better to come from him.

RAHEEL HAROON: Sorry. That is a tricky question. A canister is not going to split. 50 kilowatts, you are talking about possibly -- depends on where it is and how you loaded it -- could potentially exceed the temperature requirements; right? And temperature will lead to other issues.

But, like I said, even with the 50 kilowatts and at this site, where your temperatures are not at the height and with the new design system for, I don't see a big impact. But it all depends on how much that you are talking about, but it's not going to go up to 100 kilowatts.

KARA WOODRUFF: Okay. And, finally, who do you hire? Who do you work with? Are these local people? Do you bring them in from Paris, France?

ROGER MAGGI: We have. That gets interesting.

So our teams are made up of, again, experienced nuclear professionals with a lot of atoms experience, nuclear experience.

We keep those people employed as much as they want so that they are available to us. Typically they like to work, you know, a campaign or two and then they like to be off. We have a very high return rate with our people.

So the people that we will bring here are experienced in our systems. They have loaded them for years and years. They are trained, again, in our facility down in Aiken, South Carolina, at that NUHOMS University facility.

It is a, you know, pretty rigorous course, about six weeks. Even if they have loaded for us in the past, they periodically have to go back through that training and qualification process.

We will hire local craft as necessary, especially during the concrete work, the HSM horizontal storage module fabrication; so that's basically rebar tying and concrete pouring. We provide the oversight, construction supervision, but those would very likely be local craft labor.

KARA WOODRUFF: Thank you.

ROGER MAGGI: Yeah.

MR. ANDERS: Thank you, Kara. And, Sherri, last question.

SHERRI DANOFF: Okay. Yes. Tom Jones of PG&E mentioned that your contract involves construction of the facility to store greater than Class C radioactive material.

If that facility was expanded somewhat, is it feasible that the existing spent fuel that is stored now at the ISFSI could be transferred to that facility -- to the new facility?

ROGER MAGGI: Just to be clear, that facility is another pad?

SHERRI DANOFF: It's just a pad.

ROGER MAGGI: It's a pad.

SHERRI DANOFF: Okay. Thank you.

ROGER MAGGI: With the same storage modules. I do understand the question.

SHERRI DANOFF: Somehow I thought it was an enclosure. Thank you.

MR. ANDERS: Okay. Thank you all very much, and thank you PG&E and Orano for your presentation.

Now we are to the public comment portion of this segment, which is on the new proposed selected spent fuel storage system.

So now would be a good time to take Dr. Auran's

advice and stand up and stretch. If anybody -- I see a couple of folks are nodding off up here. It's getting late, and I really appreciate everybody's endurance in this meeting.

It is an important topic, and there's a ton of things to cover. So I have one blue card of people who wanted to speak here in person. One of them. Two blue cards. And I have three hands raised online. Online, Eric Greening, Pierre Oneid, and Jill Zamek.

Is everybody fully stretched? I want to turn this segment over to Bill Almas for a couple of opening comments.

BILL ALMAS: Well, I think I will emphasize again what's been said a couple times. The panel is seeing this information at the same time the public is; so really we are in your seat there as well because we haven't had a chance to digest any of this.

So it is truly a scoping meeting. We want to know what your questions are from what you've seen today so that they can be addressed at the upcoming May 25th meeting.

For those online, please feel free to post your comment. It will be addressed in some way at the May 25th meeting. Or if it's a short easily-answered question, you might even have it tonight. So with that,

let's go.

MR. ANDERS: Thank you, Bill.

So we have two comments here in person and then four hands up online. We are going to have -- every person will have two minutes to make a comment, and our first speaker is Mary Matakovich.

PUBLIC COMMENT

MARY MATAKOVICH: Matakovich. How is that?

MR. ANDERS: Please state your name and spell your last name for our court reporter and the record, and your residence and if you represent anyone.

MARY MATAKOVICH: Okay. Thank you. Just press the button?

ZEKE TURLEY, AGP: Yeah, make it turn red.

MARY MATAKOVICH: Thank you. Good evening. It's been a very informative evening for me, and I appreciate the opportunity to address you. My name is Mary Matakovich, M-a-t-a-k-o-v-i-c-h. I am a resident of Avila Beach, as well as I serve as a Port San Luis Harbor District commissioner and as a liaison to our Avila Valley Advisory Council.

So I'm representing the Avila Valley Advisory Council tonight by emphasizing the letter that we have sent you on April 11th, and I hope you have all read it. But I would like to say a few words about our letter.

The Avila Valley Advisory Council has appreciated representation of Avila, Avila's interest on the decommissioning panel, and our council member, Sherri Danoff has been instrumental in keeping us informed.

Time after time we get reports, and she updates us on what's going on with this panel. It's very impressive, and we need it translated sometimes into just kind of basic -- basic facts.

And if I could give you an example of her approach with us, you know, we share our concerns. She explains a little bit more about what the work of the panel is and then addresses our questions.

And Sherri has been very instrumental now in the intended to decision to barge the majority of the waste materials from Diablo instead of the 70,000 truck trips through tiny Avila on our narrow winding road.

Despite that Avila is the community, which has the most -- will be most effected by commissioning activities and also storage of used fuel in the future. Whoops. Am I out of time?

We ask you to -- we ask you to assure the continued representation of Avila's interest on the panel. Avila Valley Advisory Council asks that an ex officio position be placed on the panel and be

established with Sherri Danoff who has served in this capacity.

Please, Avila needs to have an experienced representative on the panel, and we thank you for your consideration.

MR. ANDERS: Thank you, Mary.

Our next speaker is Susan Strachen.

SUSAN STRACHEN: Good evening. Wonderful to see all of you in person. I'm Susan Strachen, S-t-r-a-c-h-e-n. I am with the San Luis Obispo County Planning and Building Department.

And I have a question. In the agenda it talked about changes to the ISFSI structure, and I don't -- this is late for me, I am usually asleep by now, and so maybe I nodded off -- but I was wondering if that could be talked about tonight or if it could be discussed at the next meeting.

MR. ANDERS: I was distracted when you were talking; so I didn't catch the question.

SUSAN STRACHEN: Okay. There was -- on the agenda it talks about changes to the ISFSI structure containment berms, and I didn't hear that talked about in the presentation tonight; so I was wondering if you could touch base on that next month.

MR. ANDERS: Okay. We will include that

question for the 25th, and if we have time after this, you may have the opportunity to raise that question.

SUSAN STRACHEN: Thank you.

MR. ANDERS: Thank you.

I have been give one more blue card for a speaker here, and Bruce Setters.

BRUCE SETTERS: Thank you. I have a couple of questions. I guess I just want to ask three or four questions and hope the right person stands up and responds to each one; so I am not sure exactly who to address them to.

There was mention of some of the assemblies that need to be loaded into the new cask systems having been damaged. I am just curious about a little bit more detail about what that damage entailed.

There was apparently a failure on the part of the prior contractor to load the proper pattern of hot and cool assemblies into the casks, and that seems to me to be a grievous error, and I would like to hear a little bit about how that kind failure mode might be mitigated and if there's checks and double checks and it's not one guy looking at the plan.

How is the 4.2 kilowatt heat level determined to be the safe threshold? I understand the 50 kilowatt total heat level of the assembly or the cask is

considered to be kind of the maximum threshold.

A question was asked of the engineer involved, like, what's the worst thing that can happen? And he basically gave a fairly general answer that bad things happen. I would like a little bit more specific answer about what those bad things might be.

And, you know, why would we risk accelerating the schedule by a year, let's say. I mean, I understand there is money to be saved. That's good for everybody -- the diversified uses and repurposing can be accelerated, et cetera. But why would we not just give a greater margin of error to adding another year?

To me, I personally have no emotional investments in having this be a showcase of how fast we can do it, you know.

So to me it's like -- I don't want to break a world record in that category; so explain a little bit more about --

ZEKE TURLEY, AGP: Past time.

BRUCE SETTERS: -- what the cost tradeoff is there. Just slowing down the speed a little, if that's possible. Thank you.

MR. ANDERS: Thank you, Bruce. Those are exactly the kind of questions I think the panel is after to raise to be discussed at the next meeting on the

25th.

So let's move on to our online participants. Each person will have two minutes, and our first speaker is Eric Greening. Eric Greening, are you here?

ERIC GREENING: Can you hear me?

MR. ANDERS: Yes, we can. You have two minutes. Please state your name, your residence, and any affiliation.

ERIC GREENING: I am Eric Greening, G-r-e-e-n-i-n-g. I live about 25 to 30 miles due north of the plant. And my question -- first question is the timeline relative to licensing and public comment. That public comment may be somewhere around 2023 or 2024, and yet I understand the Nuclear Regulatory Commission will be holding a hearing in San Luis Obispo, Wednesday, May 4th.

And I am wondering what is the purpose of that hearing? What is the scope of that hearing? And is it cross-purposes or is it in alignment with what we are talking about today?

My other question that relates to timeline is, basically, with this stretched-out licensing period and, obviously, to get to the NRC's licensing period, obviously it cannot be rushed.

Before it is concluded it sounds as if the

County will be needing to go through its CEQA process from which this component is exempt and issue a land-use permit for which some changes must be made to have a valid permit.

And I am just wondering, given the preemption, the ability to intervene in this, if it's going to have to use the information base of what's been learned through the licensing process, what information base will be available to the County to make required health and safety findings for the high-level waste system? Thank you.

MR. ANDERS: Thank you, Eric. Tom Jones said he could address that one question very quickly.

TOM JONES: Yeah, Tom Jones with PG&E. So the NRC's public meeting on May 4th is with the decommissioning rulemaking. It's not associated with the fuel management process at all.

Once the application for the COC has been made to the NRC its public process will take over and make the parties aware of the time frame in which they have to file to participate in that proceeding.

MR. ANDERS: Thank you, Tom.

Our next speaker is Pierre Oneid. Please state your name, spelling, and any affiliation.

PIERRE ONEID: Yes, can you hear me?

MR. ANDERS: Yes, we can. Please go ahead. You have two minutes.

PIERRE ONEID: Okay. This is Pierre Oneid, and I am with Holtec International. We are headquartered in Florida with our factories in New Jersey.

And I wanted to thank you for the opportunity to speak to the panel. I would like to begin with an apology to PG&E, the panel, and the local community for the tone of my letter of April 6th.

You see, in the last 15 years we have had 20 nuclear units that changed their dry storage system from Orano to Holtec and never the other way around until we received this shock.

We care deeply about Diablo Canyon Plant and the community, and we have safety and technical concerns.

Once notified I traveled to San Luis Obispo and had the pleasure to meet with community leaders, including three members of this distinguished panel, and learned of a unique Diablo Canyon Independent Safety Committee which consists of eminent nuclear scientists and engineers.

Absent a meaningful dialogue with PG&E leadership, we will communicate our specific safety and technical concerns with the IFC this week.

Again, apologies for the tone of the letter, and thank you for your time.

MR. ANDERS: Thank you very much, Pierre.

Our next speaker will be Jill Zamek, followed by Kaylene Walker. Jill.

JILL ZAMEK: Hi. Jill Zamek, Z-a-m-e-k. I live in Arroyo Grande. I remain confused about the material that I have read.

The press material states that Orano's extended optimized storage system has been licensed for use at other facilities and approved by the NRC, and then it goes on to say that the system design includes enhanced thermal and seismic capabilities, which require additional NRC safety reviews.

And then I'm listening tonight, and it sounds like there needs to be some physical modifications made in order to accommodate the increased thermal and seismic requirements.

And Holtec's response in that letter stated that the NRC review affects the schedule, not the already robust license capabilities of our system. There seems to be a contradiction there.

It seems that the system, the Orano system has to be modified, and that hasn't been approved yet by the NRC; is that correct?

MR. ANDERS: Someone is going to answer that.

RAHEEL HAROON: That is correct. The system does need to be modified a little bit, and it needs to go through an amendment process with the NRC.

ROGER MAGGI: So if I could respond. It's the same module performed at SONGS for the amount of acceleration that's going to be over 50 percent higher --

MR. ANDERS: Mic, please.

ROGER MAGGI: -- (indiscernible.)

MR. ANDERS: Hold on. The answer is correct.

So any further comment? Thank you very much.

Our last speaker is Kaylene Walker.

KAYLENE WALKER: Hi. Kaylene Walker, W-a-l-k-e-r. (Indiscernible.) I am familiar with San Onofre, Holtec, and Orano system. A couple of questions. I will just rapid fire the questions, and then you can answer them as you will.

You said that the consideration of embedded carbon parcels in a canister is not an issue of concern. I think that should be looked into. That would break through a very thin chromium layer and potentially create a pit corrosion problem. I think it's worthwhile looking at that.

Question: Has your repair technology been

evaluated or approved by the NRC or ASME? At San Onofre, Holtec presented the repair technology, but we found out then later that it had not been evaluated or approved by NRC or ASME.

At San Onofre Orano got an exemption from taking radiation readings at the outlet air vent. Will the outlet air vent radiation readings be gotten at this facility?

A note to verify. Cracked canisters have no seismic rating. Orano, I think in one of your slides you claimed fuel retrievability.

I am wondering, do you actually mean fuel retrievability or if this is an alternative definition as in NRC's ISG 2, Revision 2, where they defended a canister retrievability?

I am wondering what your fuel inspection method is. If you just do a video camera or if you actually do a vacuum can sipping or in-mast sipping. Is it -- you know, what is your fuel inspection? With a 50 kilowatt heat load, that is a frightening heat load.

That is almost double the 30 kilowatt heat load at San Onofre, and that is alarming for the problem that could incur with the fuel, which is what we are storing, the fuel could be (indiscernible) -- high-pressure (indiscernible.)

In the unlikely event of a canister failure, my question is, Orano, do you plan to put a canister into a overpacked cask?

ZEKE TURLEY, AGP: That's time.

KAYLENE WALKER: And if that is your plan, has that been evaluated or approved or requested for approval from the NRC. Thank you very much.

MR. ANDERS: Thank you.

KAYLENE WALKER: These are serious questions that the community -- those are serious questions that I believe the community should be aware of these kind of issues. Thank you.

MR. ANDERS: Thank you. And those are good questions to continue this discussion on the 25th.

One of the reasons we have this meeting is to learn about the system and to solicit questions like that that can be addressed at the next meeting. Linda.

LINDA SEELEY: Question for you, Chuck. The questions that came in, these past few, they are recorded. They are being -- will they be transcribed so that we have them for the next meeting?

MR. ANDERS: Yes, they are transcribed, and they are also recorded on video.

So those questions and all of the public comments tonight will be put into the public comment

forms; so all of the public comments we have received on all the meetings so far have been added as individual comments to your public comment form.

LINDA SEELEY: So we will be able to retrieve those for the next meeting?

MR. ANDERS: Yes. And with that segue into the next meeting, and I just want to emphasize the next meeting is on May 25th. It is going to be a public meeting just like this one.

And the focus of that meeting is to address more detailed questions that the panel has and that have been raised by the public like the questions we just heard.

And by collecting this information now, PG&E and Orano will have a greater opportunity to provide thoughtful answers and do additional research, if necessary.

So I want to emphasize to everyone who is listening online and everyone here tonight that you can submit additional comments and additional questions going forward on the panel website at DiabloCanyonPanel.org, and just click "Submit Comment," fill out the form.

Submit your question, you can add attachments if you would like, and that information will be made

available, immediately available to the panel and PG&E, and we will review all of the input so that that is consolidated in a manner that PG&E can address at the next meeting.

We are about ready to adjourn the meeting. Do any of the panel members have any closing comments? Linda, have you got any thoughts?

LINDA SEELEY: Well, I appreciate this meeting very much tonight. I think -- I think we have done a good job. I think we also made a dent, and I think that our next meeting is going to be probably a lot more technically oriented than this meeting was.

But I really want to thank people for coming and people for tuning in online. It is really important to us. Thank you, and thank you, Chuck, for your facilitation.

MR. ANDERS: You are welcome. I do want to remind everyone that you can also go to the panel website to get information about this meeting. All of the presentations you see tonight will be available online tomorrow, and the video screen of this meeting will also be available. It takes about a day to get that up, and so on. In about two weeks we will have the written transcript of this meeting.

So, with that, I think everybody is probably

ready to close. I want to thank all of our people who support this meeting. We have Diablo Canyon Fire, the SLO County Sheriff's Department here providing support, Trudy O'Brien, our transcriber, and our folks that are doing hearing translation are here.

It takes a lot to put on a meeting like this in addition to the PG&E staff that has supported this and hosted the exhibits and the open house that provide the opportunity to see a lot of information and speakers; so I want to thank everyone on behalf of the panel and myself.

If no one has any further comments, let's consider this meeting adjourned.

(The hearing concluded at 9:29 p.m.)

--ooOoo--

//

REPORTER'S CERTIFICATE

STATE OF CALIFORNIA

COUNTY OF SAN LUIS OBISPO

I, TRUDY O'BRIEN, Certified Shorthand Reporter, CSR, holding California License No. 13641, RPR, do hereby certify:

The said hearing was reported by me by the use of computer shorthand at the time and place herein stated and thereafter transcribed into writing under my direction.

I further certify that I am not of counsel or related to any of the parties hereto, nor am I in any way interested in the financial outcome of this action.

In compliance with Section 8016 of the Business and Professions Code, I certify under penalty of perjury that I am a Certified Shorthand Reporter with California, State License No. 13641 in full force and effect.

WITNESS my signature this 28th of April, 2022.

Trudy O'Brien

TRUDY O'BRIEN, CSR NO. 13641, RPR

HEALTH INFORMATION PRIVACY & SECURITY: CAUTIONARY NOTICE

Litigation Services is committed to compliance with applicable federal and state laws and regulations (“Privacy Laws”) governing the protection andsecurity of patient health information.Notice is herebygiven to all parties that transcripts of depositions and legal proceedings, and transcript exhibits, may contain patient health information that is protected from unauthorized access, use and disclosure by Privacy Laws. Litigation Services requires that access, maintenance, use, and disclosure (including but not limited to electronic database maintenance and access, storage, distribution/ dissemination and communication) of transcripts/exhibits containing patient information be performed in compliance with Privacy Laws. No transcript or exhibit containing protected patient health information may be further disclosed except as permitted by Privacy Laws. Litigation Services expects that all parties, parties’ attorneys, and their HIPAA Business Associates and Subcontractors will make every reasonable effort to protect and secure patient health information, and to comply with applicable Privacy Law mandates, including but not limited to restrictions on access, storage, use, and disclosure (sharing) of transcripts and transcript exhibits, and applying “minimum necessary” standards where appropriate. It is recommended that your office review its policies regarding sharing of transcripts and exhibits - including access, storage, use, and disclosure - for compliance with Privacy Laws.

Q