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NUCLEAR REGULATORY COMMISSION

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PUBLIC SCOPING MEETING FOR THE DIABLO CANYON NUCLEAR POWER PLANT, UNITS 1 AND 2 LICENSE RENEWAL APPLICATION ENVIRONMENTAL REVIEW

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AFTERNOON SESSION

WEDNESDAY,

AUGUST 5, 2015

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The meeting was convened at the Courtyard by Marriott, 1605 Calle Joaquin Road, San Luis Obispo, California, at 1:30 p.m., Bob Hagar, facilitator, presiding.

PRESENT:

BOB HAGAR, Facilitator

MICHAEL WENTZEL, Project Manager, Office of Nuclear Reactor Regulation

JANE MARSHALL, Office of Nuclear Reactor Regulation

YOIRA DIAZ-SANABRIA, Office of Nuclear Reactor Regulation

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P-R-O-C-E-E-D-I-N-G-S

1:30 p.m.

MR. HAGAR: Can everybody have a seat please, and thank you. Welcome to this afternoon's meeting. My name is Bob Hagar. I'm a member of the NRC Meeting Facilitation Board. My role in this team really has three parts.

One is I'm going to try and help the meeting run smoothly. Second, I'm going to ensure that everybody who has something to say at the meeting has an opportunity to say it. Third, I'm going to try to keep us on schedule. Those last two parts might run into conflict because there's quite a number of people who want to speak in this meeting. We're going to give everybody three minutes to make their comments. But if there's more people than we can allow, we have to cut off at 4:30, so I'm going to warn you right up front.

Yes, the question is are we going to hold people to three minutes. Yes, we're going to hold people to three minutes. Yes, we have a timer. Let me give you some information about the meeting to get started. First, I think everybody understands this is a meeting related to the Diablo Canyon Power Plant license renewal environmental impact scoping. This is

a meeting where the NRC is asking you for input about the environmental impact of renewing the license for Diablo Canyon. Background is in 2009, PG&E submitted an application to renew the operating license. And now the NRC is continuing its review of that application.

The NRC will evaluate the environmental impacts of license renewal, and the NRC wants your input to help them focus their review. That's what this meeting is about. The meeting agenda, first part is going to be the introduction. That's what we're doing now. In a few minutes, after I get through doing what I'm doing, I'll turn the meeting over to Mike Wentzel. He'll introduce the NRC staff that's here, and then the NRC will give a presentation about license renewal, and specifically about the environmental impact of license renewal.

Following that we'll have a short question and answer period to address questions about the presentation materials. We want to ensure that everyone here understands what license renewal is, what it involves, and what the environmental impact analysis involves. That's the question and answer period. Following that we'll have a comment period. As I said, if you signed in -- as you signed in, you had an opportunity to fill out a speaker card. I think some

of you signed up online, pre-registered to speak. The people who pre-registered will go first. The people who signed up after will follow that. When we get to that period, I'll go over the rules again, but briefly, each of you will have three minutes to make your comments.

Then if your message takes more than three minutes, you'll get a second chance after everybody else is done. So we'll go over the rules again. Also two things about the meeting I want you to know. One is we've got some people that may be on the phone, so we may have to -- we'll want to -- is for people on the phone to interact with them. Operator, can you hear me, and do you have anybody signed up on the phone?

OPERATOR: It looks like we have two participants currently dialed in.

MR. HAGAR: All right, thank you. When it comes time for you to provide your input, we'll also get input from the other people on the phone. Second thing I want you to know is that this meeting is being recorded because the NRC needs to produce an accurate transcript of what's said in this meeting. Because it's being recorded, we have to establish some ground rules. First, when you speak, we want you to speak into a microphone. The microphone that you'll be speaking

into is this right up here. You'll use this podium. The first time you speak, we want you to identify yourself. If you're representing a public group, we want you to introduce that group, as well.

If you have a very unusual name or a name with an unusual spelling, if you would please spell your name, too, so that on the transcript, we get it right. We also want to minimize background noise, so please hold your conversations down and silence your personal electronics. If you haven't already silenced your cell phone, please do. I know some of you can't afford to get -- completely disconnect yourself from the outside world, but if you have a call that you need to make during the meeting, please step out in the hallway to make that call.

Any questions about the rules? I'm going to turn the meeting over to Mike Wentzel, and he'll take it from here. I'll come back at the question and answer period, and then again at the comment period, and walk you through that. There you go, Mike.

MR. WENTZEL: Hi, good afternoon. My name is Mike Wentzel. I'm project manager in the Division of License Renewal. As I was trying to say, my name is Mike Wentzel. I'm a project manager in the NRC's Division of License Renewal. I am responsible for

coordinating the staff's environmental review of the Diablo Canyon license renewal application. As Bob mentioned, we do have several NRC staff today, but we have quite a few, and I don't really want to take time away from the meeting to do that, but we do have name tags.

If you have any questions, please feel free to grab anybody and we'll be happy to help you the best we can. I wanted to do two things at the meeting today. The first is to provide you a status update of the staff's review of the license renewal application. Then the second thing we wanted to do, as Bob mentioned, is we want to open up the meeting to receive your comments on the issues that the staff should consider as part of the environmental review of the Diablo licensing application.

I wanted to start off by providing some background on the NRC and the license renewal process, in general. The NRC is the federal agency that regulates the civilian use of nuclear material. The Atomic Energy Act of 1954 authorizes the NRC to grant operating licenses for nuclear power reactors. This Act also allows for license renewal of those operating licenses. The National Environmental Policy Act of 1969, which is commonly referred to as NEPA, establishes

a national policy for considering the impact of federal decision making on the human environment. The NRC's mission is threefold. It's to ensure adequate protection of public health and safety, to promote common defense and security, and to protect the environment.

The NRC accomplishes its mission through a combination of regulatory programs and processes, such as establishing rules and regulations, conducting inspections, issuing enforcement actions, and assessing licensee performance. We also evaluate operating experience from both domestic and international nuclear power plants.

As part of our safety mission, the NRC has resident inspectors at all operating nuclear power plants who serve as the eyes and ears of the NRC and help to ensure the acceptable safety performance and regulatory compliance. This slide provides a high-level overview of the license renewal process. I'll provide a more detailed status on where we're at with the Diablo Canyon review later in this presentation. The license renewal process has two separate, parallel review tracks, the safety review, which is shown at the top of the flow chart, is performed in accordance with the regulations of Title 10 of the

Code of Federal Regulations, Part 54. This part is referred to as 10 CFR Part 54. The environmental review, which is shown at the bottom of the slide, is performed in accordance with the regulations in 10 CFR Part 51.

The safety review stems from the NRC's obligation under the Atomic Energy Act. The purpose of this review is to make sure that each applicant has sufficient programs in place to manage the effects of aging such that the plant can be operated safely during the period of extended operation. After completing the evaluation, the staff's review is documented in a safety evaluation report. As part of the license renewal review, inspections are performed to verify the adequacy of an applicant's aging management programs.

These inspections culminate in the issuance of a regional inspection report and a regional administrator's letter, and are an integral part of the safety review. The results of the staff evaluation are reviewed by the Advisory Committee on Reactor Safeguards, or ACRS. The ACRS provides an independent, third-party assessment of the staff's review. Based on its review of the information presented, the ACRS will provide its recommendation on license renewal to the Commission. In addition to the safety review process,

the NRC evaluates the environmental impacts of license renewal. I will discuss this process in greater detail later in this presentation.

These dotted lines here show that hearings may also be conducted if interested stakeholders submit concerns or contentions and their request for hearing is granted. For the Diablo Canyon license renewal, a petition for hearing was granted in August 2010. The Atomic Safety and Licensing Board, an adjudicatory panel, will conduct the hearings once the NRC staff's review is complete, and the Commission will consider the outcome of the hearing process in its decision on whether or not to renew the Diablo Canyon licenses.

I would like to highlight a few areas of the NRC's ongoing regulatory oversight. These are the current safety performance, which is defined by NRC inspection findings, violations, and general assessment of the plant's performance, emergency planning, and security. The NRC staff addresses these areas of performance every day as part of the ongoing regulatory oversight provided by all currently operating power reactors. The NRC does not duplicate the regulatory process as part of license renewal. Thus, these issues are not evaluated as part of the license renewal process. For specific information on

current performance for Diablo Canyon, you can go to the web addresses that are on this slide and are also included in your handouts.

I would now like to provide an overview of the current status of and path forward for the NRC staff's review of the Diablo Canyon license renewal application. Pacific Gas & Electric submitted an application to renew the operating licenses for the Diablo Canyon Power Plant Units 1 and 2 for an additional 20 years of operation on November 24, 2009. The current operating licenses are set to expire on November 2, 2024 for Unit 1 and August 6, 2025 for Unit 2.

The NRC accepted PG&E's application for review on January 21, 2010. On May 31, 2011, with the exception of the issuance of the safety evaluation report, the NRC staff delayed all remaining milestones associated with the review of the license renewal application. This was done to allow PG&E time for completion of certain seismic studies to address concerns raised during the State of California's Coastal Zone Management Act Consistency review. At the time of the delay, the status of the review was as follows. For the safety review, the NRC staff documented its findings relative to the technical review of the Diablo Canyon license renewal application

in a Safety Evaluation Report that was issued on June 2, 2011.

As part of the review, the NRC staff performed two on-site audits in the spring of 2010 and issued multiple rounds of requests for additional information. In addition to the review performed by headquarters staff, regional staff performed inspections to verify the adequacy of PG&E's aging management programs, and this was done in November of 2010. The NRC staff has not completed the Advisory Committee on Reactor Safeguard for review process that I pointed out earlier in the slide.

For the environmental review, the NRC staff conducted a scoping period, which was completed on April 12, 2010. As part of that process, the NRC staff held two public meetings on March 30, 2010, very similar to what we're doing here, here in San Luis Obispo. In addition to scoping, the NRC staff performed an on-site audit in April 2010 and issued multiple rounds of requests for additional information. Although work on a supplemental environmental impact statement was in process at the time of the delay, the NRC staff has not completed, nor issued a draft of, the supplemental environmental impact statement. Now I'd like to go over the steps that remain in the staff's review.

PG&E submitted updates to its license renewal application in December 2014 and February 2015 that provided information identified by the NRC staff in May 2014, as necessary for the staff to complete its review. For the safety review, the NRC staff intends to issue a supplement to its 2011 Safety Evaluation Report to address information provided as part of the December 2014 and February 2015 submittals.

This will also include an evaluation of the information that's planned to be submitted in December of this year that includes the technical items required to be completed for the reactor vessel internals aging management program. Over the course of the review, the NRC staff may perform one or more additional on-site audits or inspections of information as it's deemed necessary. Once the review is complete, the NRC staff will transmit a copy of the Safety Evaluation Report and its supplement to the ACRS for its review. The ACRS will then make its recommendation to the Commission regarding the proposed action. For the environmental review, the NRC staff intends to review the updates to PG&E's environmental report that have been submitted since December 2010, as well as the input received from the public during the scoping period.

Once that's complete, the NRC staff will

issue a draft of the supplemental environmental impact statement for public comment. The staff will then issue a final supplemental environmental impact statement that takes into consideration public comments that are received on that draft. In addition to the NRC staff's review, the ongoing hearing process will need to complete prior to any decision on license renewal.

The NRC staff issued a revised schedule for the remainder of the Diablo Canyon license renewal application on April 28, 2015. The schedule milestones are presented here on this slide, but the caveat goes out that these are subject to change based on the progress of the staff's review. I would like to point out, though, that the deadline for submitting comments for the scoping period is August 31, 2015. Now, I'd like to discuss the NRC's environmental review process in a little more detail. The purpose of the NRC's environmental review is to determine whether the environmental impacts of license renewal are reasonable and, in combination with the other components of the license renewal review, to make a recommendation to the Commission on whether or not to renew the licenses.

The environmental review is performed in accordance with the National Environmental Policy Act of 1969 which, again, is commonly referred to as NEPA.

NEPA established a national policy for the consideration of environmental impacts in decision making and provides the basic architecture for environmental reviews. The NEPA process provides for public participation and disclosure of the environmental impacts of federal actions.

The NRC's environmental regulations implementing the requirements of NEPA are contained in 10 CFR Part 51. Our environmental review considers the impacts of license renewal and alternatives to license renewal, including the impacts of not issuing a renewed license, which is referred to as the no-action alternative. We recognize some impacts are similar at all nuclear power plants, so to improve efficiency, we've developed a general environmental impact statement for license renewal, or a GEIS, that addresses the number of impacts common to all or a subset of nuclear power plants. For each license renewal review, the staff supplements the GEIS with a site-specific EIS, or SEIS, in which we address site-specific issues for a particular plant.

As part of the process for developing a SEIS, the staff reviews available information to determine if there is any new and significant information that would challenge the generic

conclusions reached in the GEIS. The NRC staff will issue a draft of the Diablo Canyon SEIS for public comment once the preliminary review of environmental impacts is complete and will consider public comments on the draft SEIS prior to issuing its final recommendation on license renewal.

For a license renewal environmental review, the NRC staff looks at a wide range of potential impacts, some of which are shown here on this slide. Additionally, we consult with various federal, state and local officials, as well as tribal nations with historic ties to the area around the plant. We gather pertinent information from these sources for consideration in our analysis. The environmental review begins with the scoping process, which is the focus of the meetings today. Scoping is an assessment of the specific impacts and significant issues the staff should consider during the preparation of the Diablo Canyon environmental impact statement.

Information that we gather from you today and in the next few weeks will be considered in the development of the environmental impact statement. In general, we are looking for information about the environmental impacts from the continued operation of Diablo Canyon. You can assist this process by telling

us, for example, what aspects of your local community we should focus on, what local environmental, social and economic issues the NRC staff should examine during our review, what other major projects are in progress or planned in the area, and what reasonable alternatives are most appropriate for this region.

These are just some of the examples of input we seek through the environmental scoping process. The information that you share with us today and throughout the scoping period will help to facilitate a more thorough review. The scoping period started on July 1, 2015, when the notice of intent to conduct scoping was published in the federal register. The NRC will accept comments on the scope of the environmental review until August 31st. Public comments are an important part of the environmental review process. All of your comments to us, whether provided verbally during this meeting or in a written letter or email, will be considered and addressed as part of preparing the environmental impact statement.

In addition, comments submitted during the previous scoping period will be considered as part of this process. The environmental impact statement is one of the factors, as well as the several others shown here and discussed earlier in the presentation, that

will influence the Commission's decision on whether or not to renew the Diablo Canyon licenses. Rick Plasse and I are the primary points of contact at the NRC for Diablo Canyon license renewal issues, and our contact information is provided here on this slide.

For any issues outside of license renewal, you can contact the Office of Public Affairs using the contact information presented here. A hard copy of the license renewal application and environmental report may be found at the San Luis Obispo County Library and Paso Robles City Library. The draft supplemental environmental impact statement will also be available at these libraries after it's been published for public comment. The relevant documents can also be found on the NRC's website at the address shown at the bottom of this slide. In addition, there are CDs containing the amendments to the environmental report and a variety of other relevant information that are available at the meeting here today.

As you came in, you were asked to fill out a registration card at our reception table if you wanted to be included on our mailing list. If you've included your mailing address on that card, we will mail a CD of the draft and final EIS to you. In addition to providing verbal and written comments at the meeting

today, there are other ways that you can submit your comments. You can submit your comments online using the federal rule making website, regulations.gov, by searching for Docket ID NRC-2009-0552.

You can also submit comments via mail or fax by using the information provided here. As I mentioned earlier, the deadline for submitting comments is August 31st. Now this concludes my presentation, and I will turn the microphone back over to Bob. Thank you for coming out tonight.

MR. HAGAR: Now we get to the second part of the meeting. If you have questions about the material that was just presented, now is the time to ask them because the NRC staff wants to ensure that you understand the license renewal process, and more specifically, the environmental impact analysis, because that's what this meeting's about. Does anyone here have any questions about the material that was just presented? I see a hand back there. Just speak up; I'll repeat your question. Just go ahead.

MS. GROOT: My name is Henrietta Groot. I wasn't able to catch the beginning of the meeting.

MR. HAGAR: Wait, that's not going to work. I'm going to have to give you a handheld mic.

MS. GROOT: Henrietta Groot. I wasn't

able to catch the beginning of this, so let me ask this question to clarify something I wasn't sure about. Who asked for this meeting? Why are we meeting on this subject today?

MR. HAGAR: Mike, you want to take that?

MR. WENTZEL: As I mentioned earlier, Pacific Gas & Electric submitted their license renewal application in 2009. As part of that process -- as part of our normal process we commenced our review and opened up a public scoping period, which is basically the same thing we're doing here right now. That was completed in 2010. We delayed our review in 2011. Basically because of the length of time that it had been since we originally completed the scoping process, we thought it prudent to re-open for public comment, for members of the public to identify anything that may have changed in the five years since we had completed that process.

Again, as part of our normal process for conducting scoping, we do go out to the site. We often have two public meetings at the site to actively solicit for public participation in a process. To answer your question directly, nobody asked us to come out here. This is something that we decided was prudent based on the length of time that had been since we originally completed the process.

MR. HAGAR: Thank you, Mike. Any other questions? Back in the back, I'll bring the mic to you.

MS. WINLOSE: Betty Winlose. Does that mean that PG&E has to update its five-year-old information, as well -- environmental information?

MR. WENTZEL: Maybe I'll just stay up here. They have. As I mentioned, they submitted updates to their license renewal application and environmental report in two parts. The first part was submitted in December 2014, and then the second part was submitted in February 2015. We do have copies of those updates available on CD, and we do have a hard copy out in the lobby -- a reference copy that you can look at, as well.

MR. HAGAR: Here you go.

MS. MAGDA: Marni Magda. Basically from the same -- the question before extended. Since you are extending this to 2045 if the license renewal happens and you want my information from San Onofre is that the spent fuel, high burning fuel, will have to remain for 10 to 20 years before it will be able to go off site and get it away for its storage. Are you, in your environmental study, looking at all of the projections to 2065, climate, rising tide? Are you going to have all of the things that -- we actually have models somewhere. The reports I've read so far, the 300 pages

usually are material from 1968 when we started this process, not what we know today or what we're experiencing in dangers.

MR. WENTZEL: Right. So as part of that process, we do look at the available information, including the -- I actually forget with the acronym stands for, but the GCRP report that's been recently published. We do take a look at all of the available information, so we don't just rely on anything from 1968 as part of our review. Bob.

MR. HAGAR: Okay, here I come.

MR. GLOEGE: My name's William Gloege. I'm a member of Californians for Green Nuclear Power. What concerns me is global warming. Will you look at the impact on global warming of closing Diablo Canyon or not relicensing? Because that is an impact. That's an impact we very much want you to look at. There are 20 million pounds of carbon in the atmosphere because of some closing.

MR. HAGAR: Let's just keep it to a question, please.

MR. GLOEGE: Will you look at that?

MR. WENTZEL: We do look at climate change as part of our environmental review, yes.

MR. WASSERMAN: Harvey Wasserman with

nukefree.org. If PG&E has asked to defer this proceeding on renewing the license, why has the NRC proceeded with this hearing, and what is PG&E's attitude toward this hearing?

MR. WENTZEL: I can't speak to PG&E's and attitude. I think you'd have to speak to somebody from the company. They did request that we delay final processing of the application to allow for the completion of the seismic studies that we discussed earlier. Those studies were complete, so we decided -- like I said, we asked them in May 2014 -- we provided them with information that the staff felt that we needed to complete our review. PG&E submitted that information in this past December and February, so we decided it was appropriate to recommence our review.

MR. GEESMAN: John Geesman on behalf of the Alliance for Nuclear Responsibility. The monthly updates that the NRC staff submitted to the Atomic Safety and Licensing Board concerning this relicensing always had a line item for PG&E's determination of what it would take to get its coastal zone management consistency permit. Mid-2014, you seem to have dropped that. We checked just this week. PG&E, in the last four and a half years, has yet to initiate communication with the California Coastal Commission staff to

determine what will be required to process the CZMA permit. How is this hearing distinguished from what might be considered NRC staff budgetary make work?

MR. WENTZEL: If you look at their April 2015 schedule letter, we do acknowledge that PG&E still has to complete the Coastal Zone Management Act consistency review process before we can make a decision on the license renewal. That's something that they have acknowledged, as well, but that is a process that is separate from our license renewal review.

We thought that based on the amount of time that we've had the application in house, based on the amount of work that still remained, that we felt it was appropriate to re-engage the staff review at this point. But as we acknowledged, it's also acknowledged on the public website, they do still have to complete their coastal consistency review prior to us making any final determination on the license renewal.

MR. HAGAR: Any other questions about the presentation materials? Okay, now we're to the public comment period. Before we get started, though, there's a couple of elected officials or representatives of elected officials I want to recognize. Gregg Haas is a District representative for Commission Woman Lois Capps. Gregg is back there. Pardon me,

Congresswoman. Alan Chew is a field representative for Senator Barbara Boxer. Thank you. Glad you guys can be here. Now we're, like I say, we're starting in the comment period, and we have a problem. Fifty-seven of you have indicated you want to speak in this meeting. There are 57 cards here. We've got less than two and a half hours left. We cannot possibly fit everyone in, so two requests to make of you. One is try to condense your comments down as short as you can.

Don't want to turn anybody off, but try to condense your comments. So if you can use less than three minutes, please do. The second is if someone ahead of you has already represented your comment, you might consider letting that go, and instead of being redundant -- because, as I said, the NRC staff -- I think as Mike said, the NRC staff is going to address -- it will address every concern that is brought up here, so to bring up the same concern more than once is just probably overkill.

Now the way to logistically do this to speed things up, I'm going to call two names first. The first speakers are going to be Lynn Compton and Harvey Wasserman. Forgive me if I mispronounce your name, but I'm going to do the best -- what I want you to do is -- Mike, if you'd scoot over -- I want you to come

and sit right here on these two seats. When it's your turn to speak, you'll be right here. Then after the first speaker -- Lynn, you'll be first -- when I introduce Lynn -- Harvey's already here, but after Harvey speaks -- when Harvey speaks -- when I get up to introduce Harvey, I'll announce the next speaker. So when I call your name, please come sit up here, so you'll be ready to go. Everybody understand what we're going to do? Lynn Compton, you got it. Wait, I'm sorry, Lynn, got ahead of myself. I'm getting anxious about 57 people talking. Operator, I neglected to ask, but did anybody on the phone have a question about the presentation materials?

OPERATOR: No, sir, we didn't have anybody queue up.

MR. HAGAR: Okay, thank you. Thank you for the reminder.

MS. COMPTON: I will set the bar and be short and sweet, as you requested. My name is Lynn Compton. I'm the Fourth District supervisor. A couple of points I would like to make as you're deliberating. Can you hear me now? A couple of points I'd like to make as you're deliberating. The two units located at Diablo Canyon produce a total of 18,000 gigawatt hours of clean, reliable electricity per year.

This is enough energy to meet the needs of more than 3 million northern and central Californians. Diablo Canyon generates more than 20 percent of the electricity used by PG&E customers, with zero emissions power from nuclear power, and more than half of the electricity is generated from carbon-free sources. Nuclear energy produces more clean air energy than any other source and is the only source that can produce such large amounts of energy 24/7. Lastly, this is important to our local economy, something that's near and dear to my heart. Those were my brief comments, thank you.

MR. HAGAR: Okay, thank you, Lynn. Harvey Wasserman is next, and the next people would be Molly Johnson -- Molly, are you here?

MR. WASSERMAN: Hi there, I'm Harvey Wasserman from nukefree.org. David Crosby is here. We represent, also, Bonnie Raitt, Jackson Browne and Graham Nash, who have submitted statements for the shutdown of the Diablo Canyon nuclear plant. We want the Commission to recognize that we are in favor of full employment for all the operators at Diablo Canyon. It will be shutting down. We hope that the operators at Diablo will stay on for the decommissioning process because they know the plant better than anybody. We also understand that when Diablo is shut, there will be

many, many thousands of jobs in the renewable energy industry that will take up the -- that will create more jobs, more wealth, and certainly be better for the environment than what Diablo Canyon is. We understand that since Diablo has come on line, a dozen earthquake faults have been found within the proximity of the reactors. That needs to be discussed.

We want to know what happened to Dr. Michael Peck, who is the resident safety inspector who did the report on the seismic dangers at Diablo Canyon, said that they cannot withstand the earthquakes there. We want Dr. Peck back at Diablo Canyon, and his report dealt with properly. We also understand that there is embrittlement at these reactors, and there are water issues that the State of California needs to take up. The State of California can shut Diablo Canyon.

It is not in compliance with the law on water quality standards in many different ways, and it's up to us, as Californians, to get the state to shut this reactor as soon as possible. We also want the evacuation plans looked at once again. We want to know about the cracked and the dry casks where there has been improper loading of spent fuel. Above all, we want to make it clear that Diablo Canyon will shut. We need it shut before the next earthquake. We want the people at

the plant to continue to be there for the decommissioning process, and we look forward to the transition to renewable energy, to Solartopia, which is happening right now. That's where the jobs are. That's where the economy is. That's where the future of this planet is. Thank you very much.

MR. HAGAR: Okay, our next speaker, after Molly Johnson, David Crosby. Come on up here, Dave.

MS. JOHNSON: Hi, my name is Molly Johnson. I am a fourth generation San Luis Obispo County resident. I am very concerned about Diablo Canyon. My subject today is embrittlement. This is directly from the NRC. Reactor pressure vessels which contain the nuclear fuel in nuclear power plants are made of thick steel plates that are welded together.

Neutrons from the fuel in the reactor irradiate the vessel as the reactor is operated. This can embrittle the steel or make it less tough and less capable of withstanding flaws which may be present. Pressurized water reactors, such as Diablo Canyon, are more susceptible to embrittlement than boiling water reactors. NRC regulations at 10 CFR 50.61 provide fracture toughness requirements for protection against pressurized thermal shock, or PTS, events at pressurized water reactors. A PTS can occur when water

considerably cooler than the water normally used in operation of a nuclear reactor is injected into the reactor pressure vessel. Severe cracking of the metal RPV can follow which, in turn, can cause a serious nuclear power accident.

A 2014 report called a Radiation Embrittlement of Reactor Pressure Vessels in Nuclear Power Plants states the following: ARPV material toughness properties are known to degrade with age because of irradiation damage. While this degradation mechanism was factored into the initial design and considered in the selection of materials of RPV, a failure of the RPV by rupture or brittle fracture is beyond the design basis of the plant.

Therefore, every effort must be made to protect the RPV from brittle fracture by reducing the level of embrittlement or, failing this, by considering more drastic measures, such as RPV thermal annealing or early plant retirement. Thus far, the industry has not recreated any method by which it can directly measure the neutron bombardment to the wall of the nuclear reactor, other than to sample the coupons of metal wells that are put into each vessel when it is manufactured. These capsule coupons are designed to be removed periodically so that each one may be subjected to

destructive testing, in order to directly measure the vessel's level of embrittlement. My question to the NRC staff, how has PG&E kept in compliance with the NRC Regulation 10 CFR 50.61, which includes criteria that limit the amount of RPV embrittlement that the NRC will permit?

Does Diablo have these capsule coupons, and when was the last time that one was removed and examined, and what were the results? In a letter from the NRC to Energy Nuclear Operations in April of 2013, the NRC stated that Diablo Canyon is in the list of the top five most embrittled pressure reactors. Considering this information, how can we be assured that the plant will continue to operate safely if the license is renewed, or even tomorrow? What size of earthquake today would it take to fracture those embrittled RPVs? Thank you.

MR. HAGAR: Let me remind you, too. I have this in mind -- I noticed Molly had a typewritten sheet. If you have your comments in writing, I'd invite you to just hand those comments to the NRC staff. That'll get them on the record, as well, so please consider that. The speaker after David Crosby will be Rochelle Becker, so Rochelle, would you come up here, please?

MR. CROSBY: This is a very partisan thing. I know all of you have opinions about what's really

important here. I'll make it louder. I'm trying to be nice. I do know how to use a microphone, actually. I'd like to talk about what I think's at stake -- human lives. There are three ways this thing can go wrong. Humans make mistakes.

I've made plenty. You have; everybody has. Human error, pilot error, can put a plant into a meltdown or a blowup, can happen. Mother Nature can kick our ass. There's never been a building built that a big enough earthquake can't knock down. That's the truth. Thirdly, somebody can dive an airplane full of explosives into a pool of spent rods. Any of those things can happen.

You may have opinions about whether they're likely or not, but they can happen. Here's what I want to talk about. If one of those things does happen -- and an earthquake will happen. It's not a matter of if; it's a matter of when. I've sailed this whole coast my whole life. If you have loss of containment or a meltdown, the wind goes from here right down the coast. I've sailed it. I know it does. It's done it for thousands of years -- 12 to 15 knots every afternoon -- 12 to 15 knots. Let's be conservative and say ten miles an hour. Santa Barbara, Ventura, Oxnard, Los Angeles, Orange County. Let's again be

conservative, say it's only 10 million people. It's more. How many people do you think you can get out of Los Angeles in 18 hours? Because at ten miles an hour, that's how long it would take.

All of them, half, a quarter, 10 percent, 4 percent? Human lives. Plants are dangerous. They're terribly dangerous. Flying a plane is dangerous. I know, I'm a pilot. Driving your car is dangerous. But it's only dangerous to you or the people in the plane. When there's millions of people downwind, it's an unacceptable risk. An earthquake can and will eventually destroy this plant. Do you, as human beings, parents, brothers, sisters, want it on your conscience?

I know some of you feel your jobs are at stake. I know some of you feel winning the argument's at stake. But do you want it on your conscience? If it goes the way I'm saying, do you want it? Do you want to know that a million and a half people died because you wouldn't take a stand? The plant's dangerous. It's old. They built it backwards. That's funny. They built it on a fault. That's not.

MR. HAGAR: Our next speaker will be Milt Carrigan.

MS. BECKER: The Alliance for Nuclear

Responsibility told you in 2009, 2010, 2011 that the license renewal process for Diablo Canyon was premature. In the spring of 2011, PG&E and the NRC proved us right, and the process was delayed.

PG&E is well aware that California is far from approving 20 more years of operation. In March of 2010, the California Coastal Commission made it clear to PG&E that, the six-month period review under the Coastal Zone Management Act has not commenced and will not commence until we receive the missing necessary data and information. As of last Monday, the Coastal Commission has not received that information.

PG&E told this community in 2010 that the reason they had filed a license renewal request early was because the PUC needed the utility to make a decision, and then submit an application. Supposedly the PUC was concerned that if a license was not granted, they would need at least ten years to replace Diablo. Yet on March 27, 2015, CPUC President Picker, AReiterated that PG&E study of a potential license extension for Diablo Canyon should include 18 criteria. Although the three minutes allowed doesn't allow me to read them, as of today, those 18 criteria have not been met. PG&E has not completed its seismic studies. On January 9th of this year, Dr. Norman Abrahamson, PG&E's

chief technical integrator for the SSHAC report, nonchalantly suggested to the California Independent Peer Review Panel that ground motion data deficiencies will be addressed in PG&E's 2025 update.

On a non-seismic note, alternatives to PG&E's devastating cooling process and permanent storage of radioactive waste are unresolved issues. This past Sunday the local paper quoted PG&E spokesperson as saying PG&E has not made a decision yet, so why are you here? The cost of ignoring our prescient comments has not been borne by the NRC.

Just because the NRC's budget has been cut and the nuclear renaissance has become an expensive nuclear fizzle, there is no reason to restart an expensive premature license renewal process. How are we supposed to provide reasonable input to a process that has no meaning until California determines whether or not we want to invest in continued operation of aging nuclear power plants? Go home, NRC. Wait for PG&E to get its seismic, cooling and waste ducks in a row and quit wasting rate payer money.

MR. HAGAR: Okay, next speaker will be Marty Brown, after Milt. Milt Carrigan, and then Marty Brown. Milt, go for it.

MR. CARRIGAN: The last name's Carrigan,

not cardigan.

MR. HAGAR: Pardon me.

MR. CARRIGAN: No, that's okay. For years, PG&E provided state water authorities with skewed data that its Diablo Canyon Nuclear Power Station's daily intake of billions of gallons of water did very little harm to the surrounding marine life. However, in the spring of 2000, Diablo Canyon operators were discovered to have withheld information from environmental regulators for two decades, revealing the true effect of the reactor's hot water discharges into the coastal waters off Diablo Cove and miles beyond.

These included more extensive thermal plume impact zones than previously admitted, and the progressive deterioration of biologically important marine habitat in coastal waters around the reactor. The damage was catastrophic to the indigenous marine life community. These findings have never been reported to the state -- these PG&E findings have never been reported to state or federal agencies. State water authorities viewed the escalating damage as sufficiently severe to press for a cease and desist order against the utility's previously accepted levels of waste heat discharges. Despite documented evidence to the contrary, including their own evidence, PG&E

argued no mitigation action was needed.

PG&E forced the authorities to back down -- the state authorities -- by threatening to outspend environmental regulators in legal appeals. How can the public and governmental agencies trust a company displaying such duplicity? Further, the intimidation used was, in fact, blackmail. PG&E should have been held fully accountable and, in the future, be prosecuted to the full extent of the law, if necessary, for all violations.

The issue, though, of even greater concern, in terms of the environment, is the issue of the storage of nuclear waste. Because I have such a limited amount of time, I want to share a very quick story before I give you some of the facts. I took a bus tour of the Diablo Canyon nuclear power site -- the plant site. I was privileged to sit next to a senior member of the Diablo Canyon Independent Safety Committee, a leading expert on safety and probabilistic risk assessment of operating reactors. As our bus came within view of the plant's ghoulish dry cask cemetery for the living dead, he turned to me and said, ''We can't build any more nuclear power plants until we know what to do with the waste.'' His directness and honesty were in stark contrast to the PR speak I heard earlier. I say not

only --

MR. HAGAR: Time.

MR. CARRIGAN: We need to stop producing all nuclear waste. Thank you.

MR. HAGAR: Thank you. Okay, following Marty, Tom Campbell. Tom, are you here? Very good, thanks.

MS. BROWN: Good afternoon. Some of the many impacts on the environment from nuclear generation of energy that concern me are these. Diablo Canyon is sitting on or near 13 earthquake faults. California is one of the most seismically active places on the planet. The decision to build this plant here 35 plus years ago was in total contradiction of NRC regulations stating that nuclear facilities should not be built near major active earthquake faults. The Hosgri fault just off the coast from Diablo is connected to the San Simeon fault and the Shoreline fault. The Shoreline fault runs 600 meters from the plant and 300 meters from the intakes. Seismic experts agree that in terms of destructive shaking potential, Diablo Canyon is at the very top of the list. This risk alone justifies not relicensing Diablo Canyon. The Fukushima 9.0 earthquake was not expected or planned for.

They were confident that their reactors

could withstand anything Mother Nature could deal. They were wrong, and the people, the land, and the ocean are still suffering from their error in judgment. PG&E is so confident that Diablo Canyon can withstand the largest potential earthquakes in the region they bypassed the independent peer review panel before giving their report to NRC. No one knows how strong the largest earthquake will be. How would 150,000 residents be evacuated if there's a nuclear disaster here?

Add to that 100,000 more people during the tourist season. Where would they go, and for how long? Another environmental concern: once-through cooling entrains 1.5 billion marine larvae every year. Diablo Canyon has been called California's largest marine predator. California Coastal Commission's Independent Science Review Committee calculated Diablo Canyon's once-through cooling affects 500 miles of coastline marine environment waters. This is significant, in terms of loss of ocean productivity equal to several hundred or several thousand acres of rocky reef and near-shore habitat.

I could go on stating valid concerns of the operation of Diablo Canyon from overcrowded cooling pools to embrittlement of the 35-plus-year-old reactor

core and more. We don't need the power from nuclear generation, and we don't need or want the waste. Relicensing Diablo Canyon until 2045, most of us in this room won't be alive. Do we really want to burden our grandchildren with the responsibility of securing and guarding radioactive waste for thousands of years? I don't. Nuclear generation is a dinosaur, and it should be extinct. Thank you.

MR. HAGAR: Tom?

MR. CAMPBELL: Yes.

MR. HAGAR: Okay, following Tom will be Dr. Gene Nelson.

MR. CAMPBELL: My name is Tom Campbell. I'm a board member of Musicians United for Safe Energy and a founding member. I'm also executive director of the Guacamole Fund. Both of these are non-profit organizations that work in energy education. In regards with the last speaker spoke about evacuation, this is a billboard that we put up back in the early >80s, 25 of them around town, as there's no commissioners here to see, I'll read it to you. It says, AWarning, Diablo Canyon evacuation zone. I have been asked by Graham Nash, the musician and activist who is also a board member of Musicians United for Safe Energy to read the following statement.

My friends Jackson Browne, Bonnie Raitt, James Taylor, Linda Ronstadt, David Crosby, Stephen Stills and I started to oppose nuclear power by supporting Proposition 15, the Nuclear Safeguards Initiative, back in 1976. There were six plants under construction that would have been permitted by that Initiative. The Initiative would have stopped those six plants from being constructed.

There were two in operation at that time, Humboldt Reactor up in northern California, and San Onofre No. 1 down by Camp Pendleton. Both of them are gone now, shut down for safety reasons. Of the six I mentioned completed, four have been shut down for financial and safety reasons. Only the two at Diablo Canyon remain, and as everyone knows, they were both built in active, dangerous seismic zones. We have participated many times, raising funds, disseminating information and supporting local grass roots and national organizations to help empower people to act, and will continue to do so in the future. My friends and I sincerely believe that the Diablo Canyon Nuclear Power Plant is an accident waiting to happen.

Please, if just for the sake of our children and our grandchildren, we must try our best to see that the dreadful, expensive accidents like Three Mile

Island, Chernobyl, and Fukushima will not happen here. Thank you.

MR. HAGAR: Okay, following Gene Nelson would be John Stephen.

DR. NELSON: My name is Dr. Gene Nelson, serve on Cal Poly engineering faculty, and currently serve in Cuesta College physical science faculty. I'm the government liaison for Californians for Green Nuclear Power. We're a group of citizens that understand the environmental benefits of the continued safe operation of Diablo Canyon. We focus on evidence-based approaches to understand Diablo's environmental interactions. I wish that the NRC had publicized the advanced sign-up process better. The speakers are fearmongers who had preceded me, some from out of town, are not representative of the strong community support for Diablo Canyon. The local folks in green -- please stand -- are much more representative of the support for clean, reliable, low-cost nuclear power than these out-of-town fearmongers. My comments on the clean air in western San Luis Obispo County that -- excuse me?

PARTICIPANT: I'm not an out of towner.

DR. NELSON: I did not say all of you. Please, hold your comments --

PARTICIPANT: Shut --

DR. NELSON: Stop.

MR. HAGAR: Let's let each speaker speak without interruption, okay?

DR. NELSON: Did you stop the timer?

PARTICIPANT: I did.

DR. NELSON: Thank you. My comments focus on the clean air in western San Luis Obispo County, specifically the lack of ozone pollution highlighted by the US EPA and the California EPA. Instead, these agencies highlight the ozone pollution in the L.A. air basin and the San Joaquin Valley from burning fossil fuels. This ozone pollution exacts a toll on the health of the very old and the very young. The California EPA has developed a tool, the Cal Enviroscreen 2.0, that highlights the social justice impacts of burning fossil fuels and making ozone. Here's Los Angeles, minority communities being harmed. This information will be all submitted electronically to the NRC. When SONGS was shut down in early 2012, fossil fuel generation increased dramatically, increasing the ozone burden dirty coal-fired power imperils. Imports also increased for the respiratory health of Californians in the red zones that I've shown you. Diablo Canyon's license should be renewed. Thank you.

MR. HAGAR: Following John will be Mary White. John, you'll need to use this mic.

MR. STEPHEN: This is the one? I'm a marine biologist. I was the James Irving professor of --

PARTICIPANT: Microphone.

MR. HAGAR: You've got to speak into the mic.

MR. STEPHEN: I'm a marine biologist. I'm professor emeritus from Occidental College. I have many, many, many, many years of experience doing research on fishes. I'm a fish man, primarily. Cooling water intakes do kill fishes and fish larvae. They also can affect fish populations by entrapment, but in general, there's been no data that shows that any of this has an effect on the existing populations. By contrast, entrainment does kill pythonic larvae and fishes, but these organisms are highly fecund, the evolutionary result of huge mortality of eggs and larvae, primarily from random drift, predation and starvation. Entrainment is a small addition to this, which appears to be unnoticeable in the parental populations.

I worked for 20 years studying cooling water intakes in Los Angeles. I worked at King Harbor

studying the Redondo Beach plant, pumped 460 million gallons a day. We looked at larvae, we looked at settlement of larvae, we looked at adults. We followed them for the 20 years to see if there was any indication that anything that was going on in the plant was producing an impact. We found nothing. That study has all been published.

All those data are available. Anybody who wants to look at it, they can see it. The study is still going on. After I retired in 1996, I was replaced, and now we have 41 years of data looking at cooling water effects on fish populations in the adjacent area. Generally, cooling water intakes do have -- they do kill small organisms, but they have no effect on the adult populations. Compared to the alternatives -- we're talking about cooling towers, which present problems in the terrestrial environment -- cooling water intakes are still, in California, the best technology for cooling power plants. Thank you.

MR. HAGAR: Following Mary will be Diane Koletzke. Is that right, Diane?

MS. KOLETZKE: Yes.

MR. HAGAR: Okay, good.

MS. WHITE: Mary White, ED for Clean Oceans Competition and board member of ECOSLO. The

environmental center of San Luis Obispo has a 42-year history of protecting and cherishing San Luis Obispo's environment. Clean Oceans Competition cultivates responsible solutions for oceanic pollution. ECOSLO and Clean Oceans Competition knows that there are better ways to secure and sustain our energy future than using 50-year-old nuclear technology.

But today, I will only address the EIR for the proposed license renewal. In December of 2014, Tom Luster, senior environmental specialist for the California Coastal Commission stated unequivocally that Diablo Canyon Nuclear Power Plant is the largest marine predator on the West Coast, and the entrainment of billions of fresh seawater daily to cool the power plant is affecting the sea life for 500 miles in the coastal shoreline waters. Mitigation for this dramatic deterioration of marine life are almost impossible. The cooling tower proposed to lower some of the effects may help, but their costs range from $2 to $10 billion and creates their own list of environmental impacts.

Any EIR developed as part of the proposed license renewal must address this loss to the health of the ocean, not only through mitigation measures, but through true cost benefit analysis. The cost benefit

analysis must address the destructive effects of the whole marine food chain and the health of the ocean as an economic and environmental cost. The EIR must address effective mitigations. We have 40 years of new marine science to draw from. Evidence is clear that removing huge amounts of larvae, small-food fish and plankton could collapse the whole marine life cycle.

The world's ocean health is under extreme stress already from toxic plumes, plastic, climate change, and the EIR for license renewal of the Diablo Canyon Nuclear Power Plant must provide a comprehensive study of these added stressors and clear plan for avoiding system collapse within a 500-mile radius of the plant.

MR. HAGAR: Following Diane will be Paula Ash.

MS. KOLETZKE: My name is Diane Koletzke, and I have been asked by Bonnie Raitt, musician and member of Musicians United for Safe Energy, to bring you this statement, and I am a resident of Paso Robles. Honorable Commissioners, good afternoon, my name is Bonnie Raitt. Thank you for letting us submit this testimony today.

As I'm sure you're aware, your responsibility for regulating these two reactors

affects us all. I am deeply concerned about the safety and viability of reactors in light of past and recent seismic studies pointing to the dangers of the plant being in such close proximity to several significant earthquake faults.

As Californians, we are all very worried about the devastation the radiation from Diablo could bring in the event of an earthquake or terrorist attack. We are counting on you to protect us and appreciate your considering the points we feel compelled to make today. Now that renewable energy is much cheaper than nuclear, we wonder why the plant is operating at all. We know that the 2,200 megawatts Diablo produces will be quickly replaced with solar and wind power, and that those renewable sources will make far more jobs than there are at Diablo. Shutting it down means that jobs for solar installers, wind power technicians and the like will multiply to fill the gap. In the meantime, we have to ask why is Dr. Michael Peck not being listened to, and why is he no longer working at Diablo Canyon?

Dr. Peck was your own top inspector at the site. He has warned that Diablo can't withstand the shocks that could easily be delivered by the dozen fault lines in the area. Those fault lines had not been discovered before construction began in 1968. The

Hosgri was found by Shell Oil while Diablo was being built. The rest we learned about after. The newly found Shoreline fault crosses within less than 1,000 yards of the reactor's core.

How can we believe that Diablo is strong enough to withstand earthquakes coming from these fault lines if they were not accounted for in the original blueprints in that construction more than 40 years ago? We know that Diablo is just 45 miles from the San Andreas fault. The quake that destroyed Fukushima was twice that distance from the reactors there. Given our short time here, we want to urge you to finally and truly act as independent regulators. We ask you to put the health and safety of the public first, ahead of the short-term needs of PG&E, ahead of the agenda of the nuclear power industry. For the safety of California, we ask you to shut Diablo now, Bonnie Raitt.

MR. HAGAR: After Sherry Lewis will be Joey Ricano. Is that right, Joey?

MS. ASH: Hi, I'm Paula Ash, and I'm here on behalf of Jackson Browne, a musician, activist and board member of Musicians United for Safe Energy. Every day Diablo Canyon takes in 2.5 billion gallons of sea water and discharges that sea water back into the ocean 20 degrees hotter. So much for nuclear power as

a solution for global warming. It has been estimated by biologists that more than 1.5 billion fish die annually in early life stages as the result of the antiquated cooling system at Diablo Canyon.

While the state water resource control board may be considering creating an interim mitigation fee, this fee won't do anything to address the loss of aquatic life or the real cost of allowing this much ocean warming to go unchecked. Governor Brown has set very serious goals for the reduction of climate change in the near future. We need to do everything we can to meet those goals. Although it's been argued that nuclear power is clean and will help meet climate change goals, because nuclear power plants like Diablo that are at risk of closing can't compete with cheaper natural gas and renewables, this week the EPA announced states will no longer be able to meet their clean energy goals by extending the licenses of these nuclear power plants.

At a time when the world's oceans are reeling from the effects of over fishing and pollution and ocean acidification threatens the global oceans' ability to produce the marine life that supports all life on earth, including human life, it is unconscionable that this wasteful and unnecessary technology be allowed to continue its assault on the

Pacific Ocean and to slow our passage to a safe and sustainable energy future. Shut down Diablo Canyon today, Jackson Browne.

MR. HAGAR: I got a little bit out of sync here. This is Sherry, and now Joey Ricano.

MS. LEWIS: Is this the one? It's this one? My name is Sherry Lewis. I'm with Mothers for Peace. I want to read portions of a new contention regarding adequacy of severe accident mitigation alternative analysis prevented by David Jackson in contention to the NRC -- well, probably wasn't the NRC, but I'm getting mixed up. Anyway, PG&E's severe accident mitigation analysis is inadequate to satisfy the National Environmental Policy Act implementing regulations because PG&E's evaluation of potential mitigation measures is not based on a sufficiently rigorous or up-to-date analysis of seismic risks.

As a result, PG&E's evaluation of the comparative costs and benefits of measures to prevent or mitigate the effects of a severe earthquake does not sufficiently credit the cost effectiveness of mitigation measures. PG&E's seismic hazard analysis is insufficiently rigorous and relies on outdated or unjustified methods and assumptions. Given the inadequacies of PG&E's seismic hazard analysis, which

was presented in March of 2015, to merely cite its results in a revised SAMA analysis would not be sufficient to ensure the adequacy of the analysis to evaluate potential mitigation.

PG&E must cure the significant defects in the underlying data and analysis. The core requirement of NEPA is that for any federal action with a significant adverse effect on the human environment, federal agencies must prepare an environmental impact statement, which includes a detailed statement regarding several things I'll read, too. No. 4, the relationship between local, short-term uses of man's environment and the maintenance and enhancement of long-term productivity, which would be pretty well smashed by any accident, and the fifth one, any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

That means that to have a nuclear power station here and there's a problem, there would be irretrievable problems with it. I'm not good at speaking like this. What I want to say, too -- there are a couple of things. The Tohoku earthquake that was the problem for Fukushima had several segments. The geologists felt that if a segment goes off, there will

be so much problem. They never thought that all the segments might well rupture at once, which they did. That is -- is it getting towards time?

MR. HAGAR: Time is up.

SHERRY LEWIS: That is the problem. I also want to mention --

PARTICIPANT: Time.

MR. HAGAR: Hold on, folks.

MS. LEWIS: I'm going to stand here until you be quiet.

MR. HAGAR: Everybody, hold it down, please. If you have --

MS. LEWIS: I have one sentence.

MR. HAGAR: Okay, then go ahead.

MS. LEWIS: Clean air energy supported by you folks, what's the air like in Fukushima? Would you like to be there now?

MR. HAGAR: Okay, thank you. Joey? Joey Ricano? Okay, then Elizabeth Broose, and following Elizabeth will be John Geesman.

MS. BROOSE: Is this the live one, or this one?

MR. HAGAR: This is the one.

MS. BROOSE: This one's better? Because I also want to read, so I need to be able to --

MR. HAGAR: Can you hold it?

MS. BROOSE: Yes; I'll hold it there.

MR. HAGAR: There you go.

MS. BROOSE: Good afternoon, and welcome NRC. If I were -- excuse me, I'm going to cut this to make it possible. My name's Elizabeth Broose, and I'm with Mothers for Peace. To prepare for this occasion, I obtained a copy of this publication by the NRC called Frequently Asked Questions on License Renewal of Nuclear Power Plants. You can imagine my reaction when I discovered, on Page 4-21-22, a list of issues precluded from consideration in the environmental review. They are as follows: safety, security and safeguard issues -- that would be like terrorism -- emergency preparedness, spent fuel disposal and storage, and the need for power. These have all been precluded from consideration.

To help guide the newcomer, which I am, in what constitutes a new issue that the NRC would be interested in studying, they provided the example of the nuisance species water hyacinth, which might be affected by warm water. This is on Page 4-23. If this is the case, I need only look at the Tribune today and discover, on Page 2, a problem about toxic algae blooming from California to Alaska. Perhaps an

environmental study by the NRC would show that the warm water being dispelled by our plant is contributing.

My environmental perhaps fall among their list, but I'm going to say it anyway. My environmental issue is this. Diablo Canyon is not needed to fill California's energy demands. The California Independent System Operator which oversees energy distribution throughout California by managing the grid has expressed concern that there may be times when there is just so much variable wind, solar, and other renewable energy being scheduled onto the system that the other generators, such as nuclear, will have to adjust to accommodate. But that's the problem. Nuclear lacks flexibility. Nuclear power plants can't safely turn the power on and off. Each time a reactor is powered down, it causes stress on the parts. In order to have flexible, resilient energy grid, the power sources -- have I already finished -- must be concluded. My concluding sentence, the writing is on the wall, and the song is in the air. It is time for our community --

PARTICIPANT: Time.

MS. BROOSE: -- a beautiful central coast, to say goodbye to Diablo.

MR. HAGAR: Following John will be Dr. Robert A. -- help me out -- Greene?

PARTICIPANT: Greene.

MR. GEESMAN: I'm John Geesman. I'm an attorney for the Alliance for Nuclear Responsibility. I'm also, from 1979 to 1983, a former executive director of the California Energy Commission, and from 2002 to 2008, a member of the California Energy Commission. In both of those capacities, I was responsible for the siting of new power plants. Frankly, this three-minute cattle call is not a process well designed to gather thoughtful comments on how to scope a NEPA document. Under CEQA, we would take as much time as required to allow everybody in the audience to say whatever it was they wanted to say. I think the NRC really ought to be held to the same standard.

I will submit written comments, and I encourage each and every one of you to do the same. My verbal comments focus on joint rupture scenarios for the earthquake faults around Diablo Canyon. This is a particular sore point with the NRC staff. The NRC staff has been criticized for a long time as to the diligence of their seismic assessment of this plant, but there has never been, perhaps, a more shameful episode than its Research Information Letter 12-09, issued in the fall of 2009, which discounted the possibility of a joint rupture between the Hosgri fault and the Shoreline

fault.

The Alliance for Nuclear Responsibility turned over documents to the Public Utilities Commission of California last year showing that within five months of the NRC staff having been taken in, PG&E acknowledged that it would assess a joint rupture scenario between the Hosgri and the Shoreline fault. It did not share that information with the NRC staff for another 17 months. Last week the Alliance received documents, which it will turn over to the Public Utilities Commission this fall, of joint rupture analyses PG&E has performed, but excluded from the report that it rushed into your hands last September, before it could be reviewed by the state's independent peer review panel.

That analysis was of the Hosgri fault linked up to faults all the way up to the Mendocino triple junction, the Hosgri fault linked to the Shoreline fault, the Hosgri fault linked to the Los Osos fault, and the Hosgri fault linked to the San Luis Bay fault. Those are deterministic analyses, and I strongly implore the NRC staff to include that within its NEPA assessment.

PG&E is the only NRC licensee in the history of the commercial nuclear power plant to ever be

indicted by the United States Department of Justice for corrupting a federal investigation. In the words of that famous California seismologist, Ronald Reagan, trust, but verify. The NRC staff has shown itself enthusiastically trusting of PG&E. It's time that you start to verify.

MR. HAGAR: Your time's up.

MR. GEESMAN: Thank you.

MR. HAGAR: All right, the speaker after Dr. Greene will be Klaus Schumann.

DR. GREENE: I'm Bob Greene. I'm a board member of Thorium Energy of Silicon Valley, and also a friend of Diablo Canyon. My PhD is in atmospheric physics. Diablo Canyon has an established, excellent, 30-year safety record. This is real experience, not hypothetical scenarios. If you want to talk about hypothetical scenarios, I can guarantee you if we don't get serious about greenhouse gasses, it'll kill all your children and grandchildren. We need to cut back our CO2 generation as much as possible. Renewable sources increase CO2 generation through backup, gas-fired plants.

The rest of the world recognizes the need for more nuclear. There's approximately 70 plants under construction worldwide. In June, the China

National Nuclear Power Corporation floated an IPO on the Shanghai Exchange hoping to raise $2 billion. Instead, they raised $273 billion. If we're going to participate in the future, which is nuclear, we have to get going. We need to diminish CO2 generation ASAP and combat the new challenges of climate change. I'll point to ocean acidification. If we do not take significant steps by 2030, we are in danger of poisoning our oceans permanently. Another example is desalination. California will need massive amounts. Just for these two issues alone require immense amounts of energy. We are kidding ourselves about climate change. It's happening faster. We need to react sooner.

We are seriously underestimating the quantity of energy needed. Solar and wind can't satisfy this need because its energy density is sparse. We need as much nuclear power as fast as we can get it, and especially generation for molten salt reactors, which can consume existing nuclear waste. If the NRC really wants to provide a public service, it will extend Diablo Canyon operating limits to reflect efficiencies due to newer turbine technology.

That would also reduce the cooling requirements. Please renew the Diablo Canyon license,

and one more final comment. The reactors in Japan did not fail at Fukushima. It was poor planning for tsunamis. The reactors actually shut down.

MR. HAGAR: All right, folks, let's get back with the program here. After Klaus Schumann will be Keay Davidson.

MR. SCHUMANN: Thank you, NRC, for coming again and giving an opportunity to speak. First, I would like to recommend to anybody to go to the Mothers of Peace website and look at their suggestions what actually should be in the EIS. There are a great many of excellent suggestions which actually would meet the requirements of a scoping meeting, rather than a PR or offering reasons why you're for or against nuclear power.

I would recommend that. In particular, I would ask the NRC also, itself, go on the website and have a look of some of the suggestions Mothers of Peace gives specifically for the scoping process. One thing I would particularly point to is the section on leaks from dry cask cracking. You might find some very interesting information there. In addition, from all that I've heard so far in this meeting here, there are obviously a great many uncertainties and questions about the replica nuclear power plant.

Some go around to the seismic issue, others run through cooling issue, cooling agents doing emblazonment, terrorist issue have not been met yet, but I understand it has to be addressed in the EIS, as well. I think looking at all of this, in particular looking also the recently discovered cracks or beginning cracks in the dry cask which started two and a half years after the dry cask was put onto the surfaces, the independent spent fuel storage installation. I would urge very much to NRC to look at the writing on the wall, and in particular, pay a lot of attention to the so-called non-action or no-action alternative, as well as also the environmental -- the superior alternative, which I think you're required to look into the EIS because this plant will shut down sometime in the possibly near future. No action alternative means no relicensing. What happens after that? That is something you really want to look at very carefully and should be included in your environmental impact review. Thank you very much.

MR. HAGAR: Following Keay will be Rick Owen.

MR. DAVIDSON: I'm Keay Davidson. I'm one of those out-of-town fearmongers that was attacked earlier by someone in the audience, and I'm proud to be

one because I live in San Francisco. I'm a Californian, and this is an issue that's going to affect the entire West Coast, maybe even the nation. It's not just a local issue, as some people seem to think. It's really a planetary issue. I was a science writer for almost 30 years. I worked for the San Francisco Examiner, Chronicle, L.A. Times, papers in Florida. If I learned anything as a science writer is that it is before every technological catastrophe there are always many experts out there, and you should always assume there are quote marks around the word expert, people who teach at universities, people who have illustrious credentials, people who are very arrogant, and they will tell you how ignorant you are.

There are always people like this before every technological disaster who will tell you it cannot happen. They said TMI wouldn't happen. They said Chernobyl wouldn't happen. They said the Challenger space shuttle wouldn't blow up. The odds against that were 1 in 100,000. That was NASA's official estimate, and it blew up anyway. They said the Columbia wouldn't burn up in the atmosphere killing seven astronauts, including a teacher.

They said Fukushima would be fine. Don't worry about it, we're protected, and they weren't.

There are people in Japan today, so-called experts, who now have blood on their hands because they had a lot of influence in the circles of power. My advice to you is don't pay any attention to the Gene Nelsons of the world. They're always out there, and they're just frauds. Second, I want to call everyone's attention to a very important article in the New Yorker, July 20th, one of the best science articles I ever read, scary as shit, about the possibility of a major subduction quake in the Pacific Northwest that could unleash a tsunami that possibly -- we don't really know for sure -- could have impact on Diablo Canyon.

It's not certain. We can't really predict. All we know is there's a lot about the earth's crust we still don't understand. Plate tectonics is still a relatively young science. Tsunami science is incredibly young. We have almost no database to work with so far. We don't want to find out from real-life experience what catastrophes a tsunami hitting Diablo Canyon could unleash on the whole American Southwest and middle West. Please, don't pay attention to the Gene Nelsons. I've learned from experience you can't trust them.

MR. HAGAR: All right, after Rick will be William Gloege, is that right? You're next.

MR. OWEN: Hello, my name is Rick Owen, and I am another out-of-towner, hopefully not a fearmonger. I'm from Pacifica, California. I came down here today. I want to thank the NRC for taking comments from the public. My comment is really to reiterate how important it is for the NRC to make sure that should this license not be renewed that they fully appreciate and take into the account the real impact, not the theoretical impact, the real impact of the generation that will be required, from fossil fuel sources, to take up the slack of this amazing technological wonder that is Diablo Canyon Generation Plant.

That is the main item that I have to say for the NRC, and I'll make my presentation very short. That is what I really -- as a citizen of California, I will hold the NRC accountable to do exactly that. If you do, then there is no doubt about the relicensing of this facility. That should take into the account, for sure, the ocean acidification that is for sure will take place should this generation capability be taken offline.

That's my main comment to make. The other thing that I'd like to say just for the audience here is that there is a new generation, politically, of young people that are re-assessing nuclear power. They do it with fresh eyes, and they do it without any preconceived

notions that maybe came out of the Cold War. Their assessment is going to be very different than what, perhaps, my generation had in the 1970s, and it's going to be very refreshing because it will do everything that is necessary to turn the whole global warming situation around. It's an amazing technology, and we should all learn more about it. The more you know, the more that you will appreciate that it is the solution to our problems today. Thank you.

MR. HAGAR: Okay, our next speaker will be Dr. Alexander Cannara, is that right?

MR. GLOEGE: Hi, my name is William Gloege. I founded Californians for Green Nuclear Power. I'm very proud that I did that. I really am very proud I founded that group. We have four PhDs. We have an engineer that helped build the plant. We have laypeople that are professionals. Let me say, first of all, we have no animosity towards people that are here.

I think all the people talking against nuclear power have good faith and a good heart, and they think they're doing the right thing. They're thinking they're helping in the best way. But let me say a little more. I started this because of my grandchildren. I've got two grandchildren. One is 8, and one is 10, and they're really cute little kids. The boy, 8, is a

soccer player. The girl's into gymnastics. They're looking forward to a long life and a happy life on the planet. I look at global warming and it scares the heck out of me. That's the monster we should all be after. They're the reason that I started my group. I'm very happy that we've been doing so well. Let's talk a little bit about the doubt industry.

There's a doubt industry out there. There's a fear industry out there. You all know about what that industry did with smoking. They told us that it was a hoax, that smoking was okay. It had nothing to do with cancer. For 50 years, they got away with that, and millions of people died. We're in that kind of a crisis right now. We're in a life or death crisis on earth. Trust me, global warming is the big one. When you hear these people spreading doubt and putting fear into your heart -- and that was very good fearmonger speech we heard a little earlier, congratulations.

They're doing the same thing with global warming. It's a hoax. It's a hoax. They always get some scientists to come and talk to you about the thing is not true. You've got 97 on one side, and two on the other. Everybody says it's a controversy. It's not a controversy. What nuclear power is doing for us, benefitting us, giving us clean air, not putting up

carbon dioxide. That's what we need to look at. It's working in France. It's working all over the United States because of the NRC's good judgment and being a watchdog. I would like to put you guys in charge of the fossil fuel industry next, please.

Can you take it on? Look at the US Navy, 60 years of successful operation, 100,000 crew have gone through those ships, those aircraft carriers, those submarines, not one injury, not one death. They've been very successful. Thank you, Admiral Rickover. We need you now, Admiral Rickover. Please come back. Thank you very much.

MR. HAGAR: All right, the speaker after Dr. Cannara will be Marni Magda. Marni, are you here? Great.

DR. CANNARA: Hi, I'm not going to -- my name's Alex Cannara, from San Francisco area. I'm not going to say what I was going to say because I've been listening to what other people have been saying here. If you really are concerned, as Bill was talking about, about our descendants, then you'll realize why we send our kids to school, why people go to college, become professionals, become scientists, doctors, is because they realize the importance of facts. We've heard a lot of things here from groups of people that are,

unfortunately, very misled. I don't know exactly why each person is misled who says something about Fukushima or something about Chernobyl, or something about fish near Diablo Canyon, but the facts are, as one of our, actually, marine biologists had to say, that, for instance, the waters are just as productive as they've ever been.

If you talk to the fishermen in the area, you'll see that they are very happy with what they see as a bounty that's as good as it ever has been. If you do the calculations, people say billions of gallons of water flow through Diablo Canyon's cooling system every day. It's two billion -- a little over two billion.

If they do what the Fish and Wildlife Service says and take the numbers of what they estimate to be the number of entrained fish larvae that might go through the reactor, it turns out to be two per gallon. As a marine biologist will tell you, there are a gazillion fish larvae. This is not the kind of problem you should be concerned with. The problem you should be concerned with is that in order to replace Diablo Canyon, you would need four Hoover Dams. We know Hoover Dam isn't working that well because of climate change. Windmills don't work that well because of climate change, as the Chinese will be happy to explain to you

from their western wind farms. Solar doesn't work that well when it's cloudy, and solar on homes is great, fine, but it's not great as a farm, covering landscape.

You don't have a mechanism to replace nuclear power because nuclear power was, in fact, invented in order to provide something that humans need, clean energy, high power density energy, very little land required in order to do it. That's why Diablo Canyon is essential to the future, and we should be doing more than that. Thank you.

PARTICIPANT: Nuclear was invented for the atomic weapon.

MR. HAGAR: Okay, hold it. Let's let the speakers up here speak without interruption, please. After Marni, the speaker will be Anthony Armini. Anthony, are you here? All right, good.

MS. MAGDA: Good afternoon. I'm Marni Magda from Laguna Beach, a concerned citizen. I've been following the nuclear issue since I would have been killed when Fukushima took place because I was in Palau. As that tidal wave went toward Oregon, had it come my way, I would've died. I came instead to find out how safe nuclear was in California. I want to say to all of you here, from the bottom of my heart, who believe in nuclear, that all of us who want to address global

change of climate are with you. We want very much to recognize global warming is a terrible issue. Rising tides, tsunamis, the types of horrible storms that we're about to face, the challenges in our future are huge.

What I'm here to ask, with my research -- Diablo is 8 percent of California's energy. If we turned off our lights from midnight on, California could save that now. It would be hard on our utilities because they wouldn't get the money that they need. As the NRC goes after this environmental look again at Diablo, it must take into account -- which we didn't do in San Onofre -- any new -- the environmental impact report said there was no problem with San Onofre anywhere.

We must look at the Cascadia fault. We must look at the San Andreas fault as we understand it today, not in the >60s. We have to understand rising tides because the area on the ocean is going to move to going underwater. Right now there's storage fuel in Florida that is not transportable, and that is projected to have the whole state going underwater. Believe me, I understand global warming as a huge issue. What we have is a nuclear industry that has not looked at the back end of waste, and we must have storage and transportation, and it must be standardized.

We can't have every energy company in the country changing how their canisters -- their casks, their transport system. I ask the Nuclear Regulatory Commission to make it be standardized to work with any bill in the country, so that there is a dry transfer storage system right now built at Diablo, right now built in San Onofre, so that we have a way to get the dry casks out of there. Because interim storage for 100 years or 304 years, which is now allowed by the Nuclear Regulatory Commission, will not work in California.

I don't care what you think about nuclear in the rest of the country, but California is in the fire zone of earthquake. We cannot leave our fuel here for 100 years in canisters that right now, I can tell you, Holtec already let us know, on July 23rd, that their canisters that are here at Diablo are inferior. I'm sorry, I'm cut off now, but you need to look into that. They are only Alloy 304 instead of 316L, which we have at San Onofre, which still won't last for 30 years. Thank you.

MR. HAGAR: After Anthony Armini, the speaker will be Ellie Replei. Ellie, are you here? Okay.

DR. ARMINI: Hello, my name is Anthony Armini. I am a nuclear physicist, and I'm with

Californians for Green Nuclear Power. I want to mention about the drought. California is now in a severe drought. We need water. We need water to make our environment and our economy healthy again. The only way to get it seems to be desalination. The people of California are in favor of building desal plants.

Nuclear electricity is uniquely suited for desalination because to run efficiently, a reverse osmosis desal plant must have full power 24 hours a day, every day, rain or shine. Solar and wind power are too intermittent to supply the nice, continuous power that reverse osmosis needs. The largest desal plant in the US will soon come online this fall in Carlsbad, California. That's near San Diego. It will produce 50 million gallons per day, and needs 40 megawatts of steady, electric power. Unfortunately, that power will have to come from fossil fuels exclusively. In the near future, if the drought continues, we will need 15 or 20 Carlsbad-sized plants up and down the California coast. To power this, we will need almost one gigawatt -- that's a billion watts -- more of non-solar, non-wind power, further increasing air pollution. More nuclear power is the only solution.

MR. HAGAR: All right, following Ellie will be Wesley Weisenberger.

MS. REPLEI: Good afternoon, everyone. Can you hear me okay?

PARTICIPANT: Yes.

MS. REPLEI: Okay. My name is Ellie Replei. Thank you for allowing me to speak. I am a retired, 23-year veteran, as a tour guide of Diablo Canyon. What I'm speaking about is from up close and personal experience. First of all, I want to just say something really quick about the warm water exiting into Diablo Canyon. There's a 40-acre cove there the water exits into, and it does not impact the entire water system there. In fact, warm water is more buoyant than cold water, and it rises to the surface. So by the time you get one-half mile off shore, it's barely detectable. I just wanted to interject that. I'm going to talk about the fishing along our coastal waters here. I'm going to read a quote from the Tribune that was published November 6, 2014, which wasn't even a year ago. The study of data from the Department of Fish and Wildlife revealed in 2014, Morro Bay had the largest catch in a 20-year history, since 1993. In addition to that, I have, myself, gone to Morro Bay, talked to the commercial fishermen, I even talked to Butch, who's the president of the local fishermen's association.

I've talked to sport fishing businesses,

and I've talked to a few recreational fishermen and fisherwomen. They all state that the fishing along our coastal waters is fantastic. It's great. In fact, the lady at the commercial fishing operation said that daily, they get their quota of indigenous rockfish and lingcod.

For those who are not aware, there is a one-mile off shore exclusion zone from Diablo Canyon which protects the many species of fish in Diablo Cove and beyond to that one-mile radius. These fish species include many that find their way into Diablo Canyon with the warm water storm which we experienced not too long ago with the last rainfall. To give other people opportunity to speak, I thank you for allowing me to speak, but I want you to know again that I speak to you from up close and personal experience.

MR. HAGAR: The speaker after Wesley Weisenberger will be Lynn Walter.

DR. WEISENBERGER: Can you hear me?

PARTICIPANT: Pick it up.

DR. WEISENBERGER. I'm Wes Weisenberger. I actually have a PhD in nuclear physics. I relate the industry to the power, but not exactly the power industry. Can you see what these are? They're golf balls. Each golf ball is the size of the --

PARTICIPANT: Do you want to show that? I'll hold the microphone for you. You don't want to use these?

DR. WEISENBERGER: I'll be fine. Each golf ball is the size of the amount of U235 that goes through fission for a complete day at each of the towers. So two of those creates all of the power for 1,100 megawatts of power continuously through the day. To generate that same amount of power requires 600 freight cars of coal -- 600. That's a mile-long hunk of coal, ten feet wide and six feet tall. That's an amazing difference in terms of what it takes. The other thing about it is if you start with this much uranium, and there is a tiny amount lost in terms of mass, but the radioactive waste is very similar in size to this. We're not talking about a huge amount of extra waste being created every day. Anyway, the concentration -- the other thing is it doesn't take very many big diesel trucks to carry half a dozen or a dozen or even 20 golf balls up the hill.

We're not talking about huge transportation costs that we've been hearing about in the paper. The other thing I wanted to say -- just slightly change -- that is that Fukushima and at Onagawa, Fukushima 2 -- there are two

Fukushimas -- there were no problems with any earthquake problems at all. Every one of those reactors -- I think there were 12 -- went through that with no problems at all. In fact, they shut off automatically, as expected, and the cooling water pumps started up immediately, started cooling them down.

An hour later, when the tsunami hit, then we had, in two of the sites, water, when it comes into the intake manifold of a diesel engine, will destroy that engine in under a second. Am I done? I just feel that there should have been backup capabilities for cooling at Fukushima 1. It was basically just the water.

MR. HAGAR: Okay, thank you. The speaker after Lynn will be Carole Hisasue. Carole, you're next.

MS. WALTER: Hi, my name is Lynn Walter. I am speaking for myself. I'm a resident of Avila Beach. I live ten miles from the plant. I want to start with reminding myself and everybody here what happened when San Onofre shut down. I know you all know. Thousands of head of household jobs went away like that.

There's been many studies of the air down there. There's been almost a 35 percent increase in bad air. I'm a native Californian. I love California. I

love the fact that our future in California will be carbon free. That's my goal for it. But I don't want to have what happened here in this county, in my town, happen that happened in San Onofre. I want to breathe clean air.

I want my air to be -- I like Diablo Canyon because it doesn't spew particulates and carbon into the air. If we shut down Diablo Canyon and we don't have the solar and wind and special small modular reactors to take the place of that power, we're going to have an increase in bad air. I am personally unwilling to accept any increase in air pollution as a result of having to shut Diablo Canyon down. Now good news, there are innovations on the way. Battery science is improving. Solar panels are getting cheaper and better. I'm really excited about these small modular reactors. I have a good friend who's self-identified as anti-nuclear and all of her concerns are answered by these small, modular reactors.

But until those innovations can be commercially viable, which is two to three decades away, we need to make sure we do not supplant Diablo Canyon's power with this natural gas, which is really dirty and bad for our air. Diablo Canyon is our bridge to a future where innovative energy solutions and our grid is carbon

free in California. I choose to live near Diablo Canyon. I live there comfortably. I choose clean, natural uranium over dirty natural gas.

MR. HAGAR: The speaker after Carole will be Dorah Rosen Shivey, is that right?

MS. HISASUE: My name is Carole Hisasue. I'm a local rancher, as well as member of Mothers for Peace. I'm also concerned about air quality, too. One of the problems I have about living so close to Diablo Canyon is that when you have a Geiger counter, it does pick up radioactive air. It's in the air near, and it's higher than in other parts of the state. But that's not what I was going to say. In my eyes, the greatest problem with relicensing, as well as continued operation, is the nuclear waste that keeps accumulating on our coast, turning it into a giant nuclear dump. This isn't a what if. It's happening.

You can't think about relicensing Diablo Canyon or any other nuclear facility until you have a solution to this nuclear waste issue. You were supposed to do so, but 40 years down the line, there's still no answer to the question what do we do with this highly radioactive waste? How can anyone think nuclear is green? It's beyond me. It has the most lethal, toxic, harmful waste product of all energy options.

This stuff stays toxic nearly forever, and as long as the plant is operating, more of it keeps piling up.

In the long run, nuclear is the dirtiest of dirty energies. The waste is currently stored in inadequate canisters. They're cracking, corroding, facing the same embrittlement problems the rest of the plant is. Storage units, they are sitting on the same seismically active land the reactors are. To make things worse, you're now using high burnup fuel, which is even hotter and more radioactive, stressing the storage units even more. Do we have to have a radiological catastrophe before something is done about it?

Not only do I think it's ludicrous to even consider the possibility of relicensing without answering this very bad situation, I think it's quite insane and possibly criminal to continue to allow Diablo and other nuclear plants to operate and generate more of this extremely radioactive waste. But you, NRC, you already know that. Some people want to believe that nuclear is clean and carbon free. Well, I think you should educate yourselves a little bit more and look beyond the tiny, tiny window. A 1,250-megawatt plant produces the equivalent of 250,000 tons of carbon dioxide a year.

Diablo is roughly twice, with the two reactors, so I would guess that it produces about 500,000 tons of CO2 annually, and in addition to this, we also get strontium, cesium, plutonium, and other nasty byproducts. Global warming is very real. I believe it. Climate change is coming, so we need to get rid of all dirty energies, coal, oil, gas and nukes. We already have a clean energy source -- it's called renewable energy -- and we already have enough of it to power our electric needs without the dirty energies. I see absolutely no merit in having Diablo Canyon continue operating as a nuclear plant, not even for another day. Thank you.

MR. HAGAR: The speaker after Dorah will be Geoff Shivey, is that right?

MS. ROSEN SHIVEY: Hello, thank you. Can you all -- is this the right mic?

PARTICIPANT: No.

MS. ROSEN SHIVEY: Thank you. I really will be submitting written comments, as well. I would like to say it is really not fair to be saying because people are against nuclear that we do not believe in climate change, and we are not looking at facts when we're talking about greenhouse gas production and climate change. That is one thing that I very strongly

believe.

I know it is legally required to be in the scope for the NRC, the environmental scoping, and that it's actually looking at the possible alternatives to nuclear energy. The only thing that I want to say in public today -- the rest will be in my comments -- is that the NRC environmental scope must incorporate the findings of its fellow federal agency, the United States Geological Survey's most recent report published in 2014 and 2015, the Uniform California Earthquake Rupture Forecast, Version 3. I would just like to quote for that today. This is from Page 2 and Page 3 of the summary put out by the USGS. Many recent earthquakes have plowed past previously inferred fault rupture boundaries.

This also has to do with what John Geesman from the Alliance for Nuclear Responsibility was saying. Back to the quote. That is past models have generally assumed that earthquakes are either confined to separate faults, or that long faults, like the San Andreas, can be divided into different segments that only rupture separately. However, all three of the most recent, largest earthquakes in California ruptured right past such boundaries, jumping from one fault to another as multi-fault ruptures. These were the 1992

magnitude 7.3 Landers, the 1999 magnitude 7.2 Hector Mine, and the 2010 magnitude 7.2 El Mayor Cucapah earthquakes.

The 2011 magnitude 9.0 Tohoku, Japan earthquake also violated previously defined fault segment boundaries, resulting in a much larger fault rupture area and magnitude than expected, and contributing to the deadly tsunami and Fukushima nuclear disaster. We are not dealing with a few well-separated faults, but with a vast interconnected fault system. In fact, it has become difficult to identify where some faults end and others begin, implying many more opportunities for multi-fault ruptures, and we all know that Diablo Canyon is located in a nest of faults.

I believe it's 99.9 percent certain that Diablo Canyon Power Plant never would have been permitted if the science at that time had known about the fault system in place. I would also like to point out, for people that are so gung ho about nuclear energy, that France, itself, recently has put new laws on the books mandating more solar and more renewable energy. Thank you.

MR. HAGAR: Let me just take a minute and check with the people on the phone, see if they have any

comments. Operator, does anyone on the phone have any comments they want the NRC to consider?

OPERATOR: No, sir, I'm not showing anybody queueing up.

MR. HAGAR: All right, thank you. After Jeff, the speaker will be Randy Morton. Randy, are you here? Okay, you're next.

MR. SHIVEY: I'm very excited here. I get to speak before all you concerned and excited citizens. I am a proud member of the out-of-town fearmongering group. I salute all of us because we're all actually -- none of us are out of town here. Nuclear is a local issue for all of us. We're all part of the deal. If we live in California, even if we don't live in California, if you live in Fukushima, wherever you might live.

I know many of us here are outraged that a renewal of this license would even be considered. Using the nuclear fission process so that we can electrify our homes to keep our water hot is an insane use of technology. It was, of course, first perpetrated by my parents' generation, which came up with this solution to kill a lot of people real quick, and then decided with Eisenhower to go into the peaceful use, but that's all kind of a strange lie that's now come

home to roost.

I've been in the solar business since 1975 and have seen it grow into a significant industry. With all the renewables that we have, solar electric, wind, biomass, mini hydro, it's too much to really go over. There's absolutely no reason to even entertain using nuclear-generated electricity. We need to follow Germany's policy of shutting down all nukes, after they got through Fukushima -- or after they heard about Fukushima -- and as soon as possible, and move quickly on all these fronts. Remember that on any one day, enough solar energy falls upon the face of the planet to fuel the whole planet for one year. That's how much energy's out there. That's how many photons are floating out there. That's with current technology.

That's just with current technology. Why not use some of this potential? We need to shut down all nukes as soon as possible, being dismantling all weapons of mass destruction, as well, all nuclear weapons of mass destruction, as well. I'm not holding my breath, but that's, I think, what we need to do. I think we all have good intention, even those of us who disagree on how this is done, but I think we do need to examine it. Hopefully the NRC, in its worldly wisdom, will decide to do the right thing. Thank you.

MR. HAGAR: Randy Morton is next, and then Kathleen Schwartz.

MS. SCHWARTZ: I'll pass. Everybody's said everything I was going to say much better than I could say it.

MR. HAGAR: Then Larry Murray will be after that.

MR. MORTON: My name is Randy Morton. As you can see by my almost light green shirt, I'm a member of the Friends of Diablo Canyon. More importantly, in 1972 and 1973, I was a junior engineer for Westinghouse at, can you imagine, Diablo Canyon. In those days, it was Diablo, not Diablo. But anyway, I was there for well over a year. I enjoyed it very much.

I participated in the golf program that PG&E had and the various contractors had. I hear all of this discussion about this document, that document, and so forth, and so on. I have no documents. I haven't read up on Diablo Canyon or Diablo Canyon. I can tell you that from a practical standpoint, it certainly is valuable to us. I had the pleasure or displeasure of working in a number of fossil fuel plants in the PG&E system and a couple of them in San Francisco and Morro Bay and Moss Landing and so forth.

Some of those are non-operational thanks to

Diablo Canyon, and maybe San Onofre, to a lesser extent. Anyway, my feeling is I would urge the -- I had a stroke in January, so -- I would urge the NRC to renew the license for Diablo Canyon. Just one last comment. I'd like to say that my musical playlist has shortened considerably.

MR. HAGAR: The speaker after Larry Murray will be Jessica Lovering.

MR. MURRAY: Good afternoon, everybody. My name's Larry Murray. I'm president of Local 403 Pipefitters in San Luis Obispo, California. I'm here representing 300 local, non-celebrity members of the Pipefitters Local 403 in San Luis Obispo. As you all know, President Obama, yesterday, proposed big changes in venting of carbon into the atmosphere.

California is, without a doubt, right now, the best state in the Union for taking care of the environment and carbon output. Whether we're for or against nuclear power, we should all be proud of our state for what we're doing for the atmosphere because we're trying. With my experience, in a standard power plant that's 750 megawatts, which is about a third of one of the units of Diablo Canyon, they have a natural gas feed line anywhere from 10 inches in diameter up to 24 inches.

Consider that. That's a lot of gas going into that plant. Outside of California, most states burn coal. Look at the changes in our weather and that of the world, for that matter. Nuclear power is used to generate power of a rating of 2,200 megawatts produces zero carbon dioxide -- zero. Carbon dioxide reacts with the ocean and generates acid. It mixes in. So when you hear people talking about the acidification, that's what it means. The same size conventional plant as Diablo Canyon, the amount of carbon is huge. Coal and natural gas are responsible for 98 percent of electrical generation CO2. Nuclear in Diablo Canyon generates zero carbon to these figures.

If you lived in this county back before the >90s, which I did, you'll remember how bad the air quality was. That's when Morro Bay Power Plant was running. On a hot day, if you looked out over the ocean, it was just like Los Angeles. It had a grimy, brown look to it. I worked at Diablo Canyon for 38 years and can attest to its sound condition and excellent operation. I strongly urge the NRC to give Diablo Canyon a relicensing, so that we can protect our environment. Thank you very much.

MR. HAGAR: The speaker after Jessica will be David Georgie. David, are you here? Let me say

again, David Georgie? Okay, then we'll skip David. Fred Frank? Okay. Fred, you'll be up next.

MS. LOVERING: Thank you for the NRC for having this opportunity. My name is Jessica Lovering, and I'm from the Breakthrough Institute. In case you haven't heard of us, we're a think tank that was founded by environmentalists in 2007. We're focused on clean energy and climate change. A nice thing about us is that we're entirely funded by philanthropy, which allows us to maintain our independence and do research that we think is important to combat climate change and protecting biodiversity.

That's what brought us here today. My colleague, Mary, and I drove down from Berkeley because we feel it's extremely important to keep existing nuclear power plants open, especially in California. That's something you don't hear from a lot of environmentally focused organizations. The electricity output from Diablo Canyon exceeds all of California's solar output by about 30 percent, and all of California's wind output by about 25 percent.

Before San Onofre closed, California's nuclear power plants produced more clean electricity than all of the state's wind, solar, and biomass combined. If we could replace Diablo Canyon entirely

with renewables, we would have to cover an area the size of San Jose with solar panels, or an area the size of Los Angeles and San Francisco combined with wind turbines. That is a huge impact on birds and other wildlife. Besides that, unfortunately, in the real world, when a nuclear power plant closes, it doesn't get replaced with renewables. It gets replaced with dirty fossil fuels. When San Onofre closed in 2012, it was replaced by natural gas, which increased California's power sector carbon emissions by 25 percent just in one year.

Even in renewables-focused Germany, their phase out of nuclear power has led to a boom in coal production. Their carbon emissions have been going up, even though they're building tons of solar and wind, it's just not enough. Even in Japan, where no one died from radiation at the Fukushima accident, tens of thousands of people have died since from local air pollution because their burning of coal and natural gas just shot up 50 percent when they shut down their nuclear power plants, and that's a much more -- I've been to Fukushima.

I've seen the effect of that accident. But the impact from their increased fossil fuels burning is much more significant to public health and the

environment. The reason we care about this, and I'm sure you all understand, it's been mentioned, is that these increased carbon emissions and other air pollution, like particulates, sulfates, heavy metals from burning coal and gas, have a huge impact on the natural environment. While I understand the concern about the impact on aquatic life from Diablo Canyon's cooling system, which is a legitimate concern, but the impacts from not having Diablo Canyon would be so much greater. That's really the choice that we're facing today, and I think people need to keep that in mind.

If Diablo Canyon was to close, even though it could safely operate for another 50 years, producing clean and reliable energy, it would most likely be replaced with fossil fuels, like fracked natural gas, which do have a much larger impact on the climate. So I encourage the Commission and the community to really focus on that decision, which is what we're making today.

MR. HAGAR: The speaker after Fred will be Bill Denneen. Is Bill here? He's gone. Then it'll be Joe Ivora. Joe, you're next.

MR. FRANK: My name is Fred Frank. I'm speaking for four generations of the Franks who have lived in the county for a long time. I also was a -- I'm

a former fire chief for the county and had emergency response responsibility for Diablo Canyon for several years. I think when I first heard about the EIS scoping meeting, I was a little reluctant to suggest it should be supported because it seemed like there was too many uncertainties at this point. But I think it's a good idea that we look at some of the uncertainties at this point because when it really comes down to it, we need to look at all the options. The EIS will provide an opportunity to look at alternatives, as well as, perhaps, not relicensing. Costs are going to be the critical issue for everyone here, including the employees.

I think a smooth transition is important. A decommissioning study to allow for support for the employees, to make sure that there's not too much displacement, and some benefits or some tax reimbursements to offset the impacts is going to be really important. But let's look at the situation as far as costs are concerned. I think the scoping should include a very detailed analysis of the costs involved in alternatives.

If you look at the energy cost and the cost of relicensing, as well as the alternatives, we have to consider how much it costs to build a plant. Generally

speaking, the cost of the construction has been grossly underestimated. As a matter of fact, it costs $5 billion, ten times the original estimates. Replacement of steam generators, reactor heads, transformers, turbine blades and so forth costs over another $1 billion. Dry cask storage system, over $200 billion and rising. Lost revenues associated with shutdowns and delays because of failures of equipment, millions more. What can we expect? We're talking about 30 years from now -- we're going to talk about running this plant for 30 years. What can we expect in the next 30 years?

I think the past performance can give some indication of that. We have had -- it's pretty obvious what's going on is that the cost of Diablo is going up, and the cost of alternatives are going down. I think we should be very careful here. We understand right now that Diablo and some of the other big plants have to actually pay to put energy on the grid sometimes right now, even with the --

PARTICIPANT: Time.

MR. FRANK: -- drought.

MR. HAGAR: Your time is up.

MR. FRANK: Thank you very much for being here.

MR. HAGAR: The speaker after Joe Ivora will be Simone Malboeuf. Simone, you're next.

MR. IVORA: My name is Joe Ivora. I'm a retired civil engineer, a passionate environmentalist that retired from Diablo Canyon. I want Diablo to be relicensed because it is so clean. It emits no CO2, no nitric oxide, no ozone or any other pollutants. It does not produce any ash to pollute the land or water. All the high-level waste is collected and safely controlled. The so-called waste is about 95 percent unspent fuel that can be reprocessed and re-used. This is not a technical problem.

It is only a political problem. The waste has no effect on the environment since it is contained in steel and concrete containers. The waste has a very small footprint at Diablo Canyon, and I would invite you to take a public tour and see for yourselves. Diablo Canyon does not emit any radiation to the general public, and no one has ever died from radiation from a commercial nuclear power plant anywhere in the world. Millions die from combustion of coal, oil, and natural gas to produce electricity at the fossil fuel plants.

Diablo Canyon produces about 10 percent of California's low-cost, carbon-free, very reliable electricity for nearly three million Californians,

without the approximately six and a half million tons of greenhouse gasses that would be emitted annually by a fossil fuel plant. Diablo Canyon runs 24/7 to meet the energy needs of California, no matter if we are in a drought season, a rainy season, or if it is night, or if there's no wind. At the same time, it meets all the air quality requirements, all the EPA requirements. Fossil fuel plants cannot meet the future EPA requirements with the current technology. Nuclear power provides about 63.3 clean energy in the US.

Solar and wind have a very limited capacity to meet the energy needs of the future and, therefore, Diablo Canyon must be included because it has a very high capacity factor, around 90 percent. Diablo Canyon has to be part of the future energy mix so our children and their children can have an abundant, reliable, and clean energy. Thank you very much.

MR. HAGAR: The speaker after Simone will be Barbara Harmon. Let me say something about the time. We've got about 30 more minutes in the scheduled meeting time. We've got more than 30 minutes' worth of speakers. NRC staff has decided to extend the meeting closing time for probably another 30 minutes, so I think with that, we'll have enough time to get through all the speakers.

MS. MALBOEUF: "The distinction between the past, present and future is only a stubbornly persistent illusion" - Albert Einstein. Like Houdini, the American corporate industrial nuclear juggernaut continues to weave its illusions throughout the public psyche in order to keep its fingers deep in the rate payers' and tax payers' pots of gold. If nuclear power plants such as Diablo were safety, nuclear power industry would not need the protection of the Price-Anderson Act. This sellout of public trust continues to drastically limit legal liability. The nuclear power industry, including PG&E, would not have survived without this sellout. If you think nuclear power is so safe, then why are you not willing to accept product liability lawsuits?

Some of the many illusions created by PG&E's inventive propaganda programs are: (1) That the nuclear power industry should continue to receive public subsidies that renewable energy power sources of wind, solar and wave companies are denied. Subsidies give nuclear power control over the competitive power industry leaving customers no choice in this so-called free market society.

(2) Illusion. If an emergency evacuation situation does occur, the citizens of San Luis Obispo

County will -- this is a illusion, that the citizens will proceed along the evacuation route in an orderly fashion and arrive safely on the other side without being irradiated by nuclear fallout where they will happily ever after.

Another illusion, that anyone living beyond the designated 10-mile evacuation zone will not be affected at all by radiation release or core meltdown.

Another illusion, that the NRC is capable of honestly performing both its assignments without prejudice, promoting nuclear power industry while simultaneously regulating safety issues for the public's protection.

Another illusion, that low-level radiation exposure does not pose a threat to anyone and is in fact healthy for them as long as they don't eat too many bananas or exceed the current definition of daily or yearly safe limits of radiation exposure.

Another illusion, that the producers of manmade radioactivity waste have no more obligation to clean up the toxic waste dump of decommissioned nuclear power plants or to solve the problems of stockpiling millions of tons of radioactive waste around the globe.

Another illusion, that it is morally all

right to force weaker cultures such as Native Americans and Mongolians to accept highly radioactive waste on their homelands and condemn generations of their people to a terrible life of living in irradiation environments. We ask you to deny the request to re-authorize this license. And I remind you that the distinction between the past, present and future is only a stubbornly persistent illusion by Albert Einstein.

(Applause)

MR. HAGAR: Thank you. Speaker after Barbara Harmon will be Liz Curren. Liz, are you here?

(No audible response)

MR. HAGAR: Okay. Good.

MS. HARMON: Greetings. My name is Barbara Harmon. I'm a member of the Arroyo Grande City Council. It is important for me to emphasize that I am not speaking on behalf of the council or the City of Arroyo Grande. I'm speaking as a resident of San Luis Obispo County and one who supports the continued licensing of Diablo Canyon Power Plant.

I support licensing renewal because of the numerous comprehensive and ongoing safety measures, environmental benefits and economic benefits. These benefits include 24/7 electricity production, a clean reliable cost-effective energy resource, zero

emissions which reduces greenhouse gas emissions by 6 to 7 million tons per year, environmental stewardship of 12,000 acres, vital charitable contributions and event sponsorship for our community, contributions to school education programs.

Our county general fund receives approximately $6.7 million. There are four unified school districts that receive a combined total of approximately $10.5 million, our community college, 1.1 million, our roads, 295,000, and our harbor district 380,000 all due to yearly tax revenue allocations, not to mention the very important head of household jobs provided.

Lastly, I encourage everyone who doubts these benefits to schedule a tour of the plant. PG&E is a welcome part of our community. PG&E does what is asked of them and they do it well. Please renew the licensing, and thank you very much for this consideration.

(Applause)

MR. HAGAR: The speaker after Liz will be Kaila Anderson. Kaila, are you here?

MS. ANDERSON: Yes.

MS. CURREN: Hello, I am Liz Curren from Los Osos and I am speaking for the future generations.

I have family who experienced the disaster in Fukushima. My granddaughter at the time was two and experienced high levels of radiation from the disaster. And unfortunately as much as the government tried to reassure people everything was fine, it is still not under control. It is still releasing radiation and there have been people who have died. And I don't know why, but I have another family member who has developed inoperable cancer.

And so, in spite of it being a very safe plant, accidents happen, and that's why I am very scared about Diablo Canyon with the waste, the half-life of plutonium is like 24,000 years. It's unforeseeable that there won't be some kind of terrible disaster happening. There's no idea what will be happening in the next hundreds and thousands of years.

So, I just want to say I do live in foggy Los Osos. I have solar panels on my roof and I am very excited to say that those solar panels produce not only enough to power my house, a solar car, but enough to give back to the community and the environment, to PG&E. So, thank you very much.

(Applause)

MR. HAGAR: After Kaila the speaker will be Eric Greening. Eric, are you here?

MR. GREENING: Yes, I am.

MS. ANDERSON: So, hello. My name is Kaila Anderson and I'm the project coordinator for the Economic Vitality Corporation here in San Luis Obispo County. Thank you for having me here. I just want to briefly speak about the economic benefits that Diablo Canyon Power Plant brings, not only to this region, but to California as a whole. And it also does so in an environmentally conscious way.

So, the first thing -- oh, I'm going to speak very briefly because a lot of my comments were -- a lot of my issues were addressed earlier.

So, I know that Lynn Compton brought up the fact that the two units at Diablo produce enough energy to meet most of the needs of the Californians here in Northern Central California, and this is nearly 10 percent of California's energy portfolio and more than 20 percent of the power that PG&E produces as a whole.

And then for 30 years Diablo Canyon has continued to safely produce clean and reliable energy without using greenhouse gases, which is extremely important, thus avoiding 6 or 7 million tons per year of greenhouse gases that would otherwise be emitted by conventional generation resources.

And then lastly I just want to touch on that

nuclear energy produces more clean air energy than any other source and it is the only one that can produce large amounts of electricity 24 hours a day, 7 days a week.

And then just to conclude, the EVC as an organization, we stand behind PG&E and the work that Diablo Canyon does and the economic benefit that it brings to this county. Thank you.

(Applause)

MR. HAGAR: The speaker after Eric Greening will be Terri Strickland. Terri, are you here?

(No audible response)

MR. HAGAR: Okay.

MR. GREENING: Thank you. I am Eric Greening, and you're interested in new information that has come up since this process started. On May 30th, 2015 published in the Journal of Geophysical Research an article by Mark. R Legg and three other co-authors entitled, "High Resolution Mapping of Two Large-Scale Transpressional Fault Zones in the California Continental Border Lands: Santa Cruz-Catalina Ridge and Ferrelo Faults." We're talking about faults that had thought not to be capable of large earthquakes now appearing to be capable of large earth quakes. They are

well offshore in Southern California.

So far most of the emphasis on tsunami dangers has been looking northward at the Cascadia Subduction Zone and the Triple Junction. There's been probably unwarranted self-reassurance that, well, that's far away and the waves would be traveling parallel to the coast, etcetera, etcetera. Well, maybe so; maybe not. We know now that a major tsunami from the south could come. We know that such a tsunami could affect the road out. And in that context I would like some real world scoping of what our so-called evacuation plan is all about.

We know we can't get everybody out: non-drivers, housebound, etcetera, and even people in cars in traffic out of here in even 12 hours, not to mention whenever the radiation might arrive. So there are going to be places that are supposed to shelter-in-place, people who are supposed to shelter-in-place. I don't know where the homeless go.

But here is the question, here is the real world question: In the wake of Fukushima our county has done table top exercises for a day or two assuming everything is fine after that and everybody goes home. What does shelter-in-place mean in the context of an emergency that is still in the uncontrolled emission

phase? Shelter-in-place until when? Until what happens? Who is going to do what to make the environment safe for the people who've sheltered-in-place while radioactive water or no water comes out of their faucet and they run out of their groceries and their baby runs -- well, anyway.

Let's look at some real world scenarios. Let's look at the elders. Even if somebody comes for them and somebody is supposed to if they're on a list, what if she won't leave her cats? She has a good reason not to. Look at what happened to the pets in Fukushima. Her cat may be her emotional center. These are real world situations. We haven't even begin to rehearse them. The bus drivers who are expected to make return trips back into harm's way. We could go on and on. And I will write.

(Laughter)

MR. HAGAR: Thank you.

(Applause)

MR. HAGAR: Okay. Our next speaker will be Terri Strickland.

MS. STRICKLAND: That's me.

MR. HAGAR: That's you. Okay. Sorry. Got out of sequence. Barbara Scott will be next. Barbara?

MS. STRICKLAND: Terri Strickland. I'm a 35-year resident of San Luis Obispo County and most everything I wanted to say has been said. I'll keep this short.

PG&E has been a good neighbor to the residents of San Luis Obispo County for all the years they've been operating and I'm in support of their license being renewed for all the reasons that have been stated previously. I had a bunch of letters from celebrities, but I'm not going to read them --

(Laughter)

MS. STRICKLAND: -- because their opinion isn't any more important than the rest of ours. Thank you.

(Applause)

MR. HAGAR: Our next speaker will be Polly Cooper. Polly?

MS. SCOTT: I'm not a scientist and I'm not a movie star, but I am here just recognizing that the temperature in this room could be lowered a couple of degrees.

(Laughter)

MS. SCOTT: And that would save a little bit. And if we're talking about a lot of places that we go to, we could consider this.

I was going to talk about terrorism, but I thought it needed a little lightening in this room, and so I made up this story. If we were in a film and the film was about a nuclear power plant being put on earthquake faults, we'd walk out of the movie and we'd say that is so unbelievable. Who would ever dream of doing something like that? Well, indeed it is the truth. So that film will end. It will be put somewhere in an archive and I think the Nuclear Regulatory Commission needs to put Diablo Canyon in an archive. Thank you.

(Applause)

MR. HAGAR: Okay. The next speaker will be Marianne Mellow. Marianne Mellow, are you here?

MS. MELLOW: I'm here.

MR. HAGAR: Okay.

MS. WELBERT: I am Rosemary Welbert from San Luis Obispo. Polly Cooper had to leave and she donated her time to me.

I want to speak about two issues among the many that have me terribly concerned. The first one, as people have mentioned, is the waste issue. The word "waste" is really a misnomer. It sounds like something that's weak and half worn out. But the waste that comes out of this power plant is a million times more

radioactive than the material that went in. My mind can hardly grasp that, but I've researched that and I wanted to put it out.

The other issue is the evacuation issue, among many others. Last Friday my husband and I drove home from Los Angeles on Friday afternoon. The road -- the traffic was in soup all the way to Santa Barbara from people just trying to escape Los Angeles for the weekend. My mind also can't grasp what it would be like for the people in San Luis Obispo to hit the roads in the case of an emergency.

So obviously I am urging the NRC not to allow relicensing of this aged worn out plant.

(Applause)

MR. HAGAR: Next speaker will be Jill Zamek. Jill, are you here?

MS. MELLOW: My name is Marianne Mellow. I've lived in SLO county for over 60 years and I welcome all of the folks that came to support us.

Earthquake faults lie under, around and near the Diablo Canyon Nuclear Power Plant. Had that fact been revealed before construction of the nuclear plant began, the plant would never have been allowed to be licensed or built.

It is reported that PG&E and the NRC have

determined that the Diablo plant can withstand any likelihood of an earthquake that could appear on this fault. The facts are and the truth is neither the NRC or PG&E can predict or determine with any certainty how great any earthquake those faults will generate, only that they will occur.

Others have relied on assurances from experts and believed their nuclear plants were safe. Their debris is now washing ashore on American beaches. Previous lives have been lost and their land rendered uninhabitable for generations to come. So might ours. There is still no facility in which to store deadly spent fuel that the Diablo Canyon Nuclear Power Plant produces, so it is stored on site. This is a further risk to our residents. That plant would never have been built or licensed had a nuclear dump been allowed to be on it.

San Luis Obispo County has an evacuation plan which is to be used when there is an accident at the Diablo plant. The evacuation plan is unworkable. We all know that it will not be possible to have a timely evacuation of those in peril from nuclear radiation. We will be told to shelter-in-place which will provide virtually no protection from nuclear radiation fallout, as you all know. Our citizens will pay the ultimate

price to ensure profits for PG&E.

You know the truth. It would be an irresponsible disregard of public safety to extend the Diablo Canyon Nuclear Power Plant and operating license for another 20 years. We deserve more. Thank you.

(Applause)

MR. HAGAR: The next speaker will be Gary Corsiglia. Gary, are you here?

(No audible response)

MS. ZAMEK: Hi, I'm Jill Zamek with San Luis Obispo Mothers for Peace and I live in Arroyo Grande. The topic I'd like the NRC to look at is human performance deficiencies.

There are an unacceptable number of human performance deficiencies at the Diablo Canyon facility, particularly involving identification and resolution of problems. There were 29 violations documented by the NRC in 2014, and overwhelmingly the root cause of these violations pointed to human performance deficiencies. These violations involved fire protection, inoperable emergency diesel generators, occupational radiation safety, poor maintenance planning on safety-related equipment, failure to follow procedures, problems with design control and multiple

instances of failure to identify and evaluate system interactions regarding seismically-induced systems. Eleven of the violations involved security or materials control.

One finding identified a violation dating back to the original construction welding process from 1974. Three of the violations involved the Corrective Action Program identifying and resolving problems. There is an enormous backlog of problems involving operable but long-standing degraded conditions at the plant. Some problems were simply not identified in a timely manner, some disregarded and not put into the Corrective Action Program and other inappropriately delayed.

As of August 2014 there were 29 documented degraded conditions affecting safety-related equipment, the oldest dating from June 2008. The median age of the problems was 1,176 days post-identification. In the words of the NRC from the inspection report there exists, quote, "a large number of long-standing degraded or non-conforming conditions some of which had not been appropriately addressed by compensatory measures or interim corrective actions."

A more recent blunder was revealed in May of this year. Nineteen of its thirty-four dry casks

used to store spent fuel were loaded to the manufacturer's technical specifications particularly as they relate to the proper ratio of older and newer spent fuel. The root cause was determined to be reactor engineering personnel misinterpreting the technical specifications.

At the June 24th, 2015 NRC PG&E 2014 performance assessment in San Luis Obispo Ed Halpin referring to these performance flaws as gaps in excellence. The numerous documented gaps demonstrate the enormous risk we face. The plant should not only be denied relicensing, it should cease to operate now.

(Applause)

MR. HAGAR: After Gary the speaker will be Mike Brown.

MR. CORSIGLIA: Hello. My name is Gary Corsiglia. I'm a resident of San Luis Obispo. I'm a retired electrical engineer from PG&E. I worked on geothermal power plants, on fossil power plants, and I worked at Diablo Canyon Nuclear Plants.

I've heard many people say today earthquake faults are in and around Diablo Canyon. Well, I'd like to say earthquake faults lie in and around every major and minor city in California. How can we as citizens continue to allow that to happen and yet the tallest

building west of the Mississippi is now under construction in downtown San Francisco on bay fill? We do it because we've studied. We've learned how to do things as engineers, as scientists and as citizens to support that.

Two people lost their lives in Paso Robles when a building fell during an earthquake. I would like to say that Diablo Canyon is a safe plant. I believe it is. I believe the people that work there, the people who designed the plant and that the NRC licensing process continues to make nuclear power plants safe. And I will continue to live here and I will continue to support electrical power.

My son works for Tesla. They sold 11,000 electric vehicles last quarter. Those vehicles are going to be powered by nuclear power that's generated at night because those cars are going to be plugged into people's homes. So please continue supporting Diablo Canyon Nuclear Plant.

(Applause)

MR. HAGAR: Gary, right?

MR. BROWN: Mike Brown.

MR. HAGAR: Mike Brown. Okay. After Mike the speaker will be Natalia --

MS. MERZOYAN: Merzoyan.

MR. HAGAR: -- Merzoyan. Natalia, you're next.

MR. BROWN: I'm Mike Brown. I'm the Director of the Coalition for Labor, Agriculture and Business of SLO County and I'm also speaking here on behalf of the Coalition of Labor, Agriculture and Business of Santa Barbara County. COLAB of Santa Barbara County has 1,500 members and is the largest civic organization in Santa Barbara County. COLAB of San Luis County has 700 members and contributors and is one of the largest civic organizations in this county. We support relicensing. In fact, we'd like to see further development of the nuclear industry.

We represent farmers, ranchers, fishermen that were talked about here today, all manner of professional engineering, architectural firms, home builders, general contractors and a whole lot of civic-minded folks out there. And we know that the plant is the county's largest private sector employer. It's the largest property tax payer. And in terms of payroll, purchases, direct economic impact, indirect economic impact and imputed economic impact it's worth about $950 million in the economy of Southern SLO County and Northern Santa Barbara County. So per, I think it's slide 5, the economic and social impacts. We hope those

get into the scope. Moreover, as part of that study we think that the NRC should talk to the county assessor in this county about the impact of either phasing out the plant over some period or closing it altogether and what that would mean.

Similarly, our farmers and ranchers pump water to grow your grapes that make wine, that grow your vegetables, that grow your fruit and nuts and grow the feed for the cattle and so forth. And so, a reliable even affordable source of electricity is absolutely essential for our members for your ability to have food and sustenance. So we think it's very important that in terms of that reliability any transitions or anything that that be scoped in and very clearly studied.

I can tell you this: Before I did this I was a 42-year local government professional and municipal finance expert, and to casually tamper with this could be a huge disaster here. Thank you very much.

(Applause)

MR. HAGAR: Speaker after Natalia will be Debbie Nicholas. Debbie, are you here?

MS. MERZOYAN: Which one do I talk into this one?

MR. HAGAR: This one. Well, hold on a

second. Debbie? Then Greg McMillan. Terry Madonna.

MS. MERZOYAN: Hello, my name is Natalia Merzoyan and I've lived in this county for 48 years and in California my entire life. And one of my ancestors came here with Father Serra in 1769 and we've lived here continuously since then.

I'm not affiliated with any alternative energy company. I don't have anything that's financially motivating me like some people who are employees or past employees of PG&E. As you probably all know, PG&E bonuses their employees with stock in their company. So it's not completely speaking from their heart without any ulterior motives that this sea of green has appeared.

And I just would like to say I agree that the Fukushima meltdown was not entirely seismically-related, that there was failure in the grid which also could happen here for reasons besides an earthquake such as the solar flare from an EMP that occurred in 1868 and a couple of other ones here in California -- I mean, in the United States, and that would wipe out the grid. And nothing has been done to insulate the grid. So I certainly hope that this facility is not re-licensed just for that reason until something is done about insulating the grid against an

EMP or some other kind of cause for a grid failure that we would do well to not re-license them. And I hope you will think of doing that.

I wish I had brought my notes, but I didn't have time to prepare them. Thank you.

(Applause)

MR. HAGAR: Okay. Thank you. Speaker after Terry Madonna is Brent Christianson. Brent, are you here?

(No audible response)

MR. HAGAR: I don't see Brent, so Heinrich -- can't quite -- Groot? Is that right?

MR. GROOT: Henrietta.

MR. HAGAR: Okay. Oh, Henrietta? Pardon me. Henrietta, you're next.

MR. MADONNA: Hello. I'm Terry Madonna. I'm with the Plumbers and Pipefitters Local 403 in San Luis Obispo, and I think I'll keep my comments directed at the NRC.

And, Diablo Canyon, the obvious -- Diablo Canyon Nuclear Power Plant produces emissions when it produces electricity. Diablo Canyon has run 30 years plus without incident. PG&E continuously updates its safety, its security, its equipment. I mean, this has been going on from the start. Every outage things are

checked out. Equipment is checked, repaired if necessary, worked on. And this is safety -- the safety equipment, anything like that. So they've been doing a good job keeping the plant up.

I've worked out there off and on for 31 years and I do -- well, I will make this short, but I do want to say to the NRC that myself and my members appreciate the hard work that you people in regulating and keeping the nuclear power industry safe. Thanks.

(Applause)

MR. HAGAR: Okay. The speaker after Henrietta will be Amber Johnson. Amber, are you here?

(No audible response)

MR. HAGAR: Then Andrea Sestran. Andrea?

(No audible response)

MR. HAGAR: Okay.

MS. GROOT: Yes, my name is Henrietta Groot. I'm associated with the Mothers for Peace, also the Alliance for Nuclear Responsibility. I give credit to these organizations of concerned citizens.

I started out today asking a question, if you may recall, asking who asked for this meeting? And I don't think I got a satisfactory answer. The NRC apparently put this show on without a request from PG&E because apparently PG&E is not ready with all the

problems that they still have to answer. So the NRC meanwhile picked up the ball anyway.

And that brings me to this question of the danger of regulatory capture.

(Applause)

MS. GROOT: David Sirota is a senior writer of the International Business Times, and he talks about that danger of regulatory capture. And the definition is when a government agency is effectively captured by and subservient to the industry that the agency is supposed to be regulating. And I think I ask you is this is what is going on here? If PG&E didn't ask for this, why did the NRC do this? We learned a lot of interesting things today, never mind, but it should not have happened today.

(Applause)

MS. SEASTRAND: Which one do I use?

MR. HAGAR: Speaker after Andrea will be Sherry Danno. Sherry, are you here?

(No audible response)

MR. HAGAR: Then Bruce Campbell. Bruce Campbell, are you here?

MR. CAMPBELL: I am.

MR. HAGAR: Okay. This one.

MS. SEASTRAND: This one? All right.

Well, thank you. I do thank the NRC for having this meeting. I am for civil discourse and I am excited any time there is a meeting to express my opinion, and I applaud both sides to be here expressing that opinion. And only in America. I love it.

As a former congresswoman and a former assemblywoman for this area, I do want to express myself and say to the NRC that I strongly support PG&E and Diablo Canyon. It was an interesting time working with the different professionals at the Diablo facility. And I just want to say that for 30 years Diablo Canyon has continued to safely produce clean and reliable energy without greenhouse gases, avoiding 6 to 7 million tons per year of greenhouse gases that would be emitted by other conventional generation resources.

And I might add we're starting to say -- from what I'm reading, we do not have the ability as yet with wind and solar, the renewables, at this point in time and we need our energy for California and for America if we are going to be an economic power in the free world. In my opinion nuclear power should be officially recognized as a green energy, a renewable energy, and it should be placed in the renewable portfolio.

So bottom line, I'm for California needing

nuclear power. I'm for America. I understand it needs nuclear power to be an economic leader in the free world. Thank you.

(Applause)

MR. HAGAR: Speaker after Bruce Campbell will be Manilla Horowitz. Manilla Horowitz, are you here?

(No audible response)

MR. HAGAR: Then Ace Hoffman, you'll be next.

MR. CAMPBELL: I'm Bruce Campbell from Los Angeles. Hmm, lots of microphones.

MR. HAGAR: The one on the right.

MR. CAMPBELL: So I want to point out a couple of documents. This one's entitled, from the L.A. Times, "Helium Finding Adds New Wrinkle to Newport-Inglewood Fault," and they found helium-3, which they didn't expect to find from the Newport-Inglewood fault. As you may know, there's two obvious major coastal faults in California. One is the Newport-Inglewood fault and one is the Hosgri-San Simeon-San Gregorio fault. So anyway, they found helium-3 which indicates that it goes as deep as the earth's mantle.

So, and part of this -- a quote from this

article: "Helium, or more accurately the isotope helium-3, is a vestige of the big bang and comes from the earth's mantle, the layer beneath the lower crust, he said. In order for helium to be escaping from the Newport-Inglewood fault the fissure must go deep enough through the lower crust and connect somehow to the mantle, said Bowles, whose study was published in the Journal of Geochemistry, Geophysics and Geosystems."

I will seek another L.A. Times article from this decade which indicated that there could be a statewide quake on the San Andreas fault. I'll also find the date of this, which didn't seem to print out when I printed it this morning.

Also that DEIS should study different segments of faults in the Diablo Canyon area going all at once and the DEIS should consider different segments of the San Andreas fault going all at once in the DEIS.

I was involved with the Diablo Canyon Waste Discharge Permit hearings in 1981 and '2. There's lots of emissions of heavy metals into Diablo Cove. I imagine the high numbers involved with allowing such emissions -- I think they might have -- they might be considering later on when it corrodes more. And so I -- please examine the likely -- the discharges of these heavy metals from -- well, could you please trace in the

DEIS how things would go over time as far as are there increasing emissions of toxic heavy metals over time due to the piping leaching or due to other things? This needs to be clarified.

Are there any studies assessing any negative impact of these heavy metal discharges on marine organisms or possible negative impact of a cumulative effect of heavy metal discharges and thermal discharges on marine organisms, whether or not you add radioactive discharges? Please make sure such studies are part of the DEIS.

Also, Holtec is a pathetic company with flimsy canisters and I understand rad waste was loaded improperly into a Holtec canister. It cracked after two years. The Holtec exec says it can leak -- it can go through the whole canister in 16, 17 years.

MR. HAGAR: Let's wrap it up.

MR. CAMPBELL: And by the way, if things are so clean here in San Luis Obispo County, if not for Diablo Canyon why does this county have the highest cancer rate in the State of California out of 58 counties.

MR. HAGAR: Your time is up.

MR. CAMPBELL: Fifty-eight counties.

MR. HAGAR: Time. Thank you. Okay. The

speaker after Ace Hoffman will be Sharon Hoffman.

MR. HOFFMAN: Thank you. We came up from Carlsbad, drove up this morning. So I want to tell you a little bit about what's going on with that reactor.

A couple of years before it shut down it had an emergency scram because a cable that had gone underneath a gigantic refrigerator-sized breakout box finally wore through after 30-35 years and it shut the reactor down. These reactors are getting old. And the reason that we don't replace them with new Gen IV and nuclear reactors is: (A) new reactors are way too expensive. And the most important reason is it's illegal in California to build a new reactor. But they keep putting new assemblies into the old reactors. And they keep doing this until they break. So what's going to happen when yours breaks up here? Well, what's going to happen is you're going to get a bill for all the profit that PG&E would have made until the end of the re-licensing period. That's what we're going to have to pay down in San Diego, $1,674 each meter. That's the estimate. Over $10 billion. And that's for a reactor that they broke by their own negligence.

And since I know we don't have a lot of time, I wrote a book about eight years ago and I have a bunch of copies of it. They're free. I'll hand them out.

You can also get it online. You don't need to embarrass yourself by asking for a copy if you're wearing a green shirt.

(Laughter)

MR. HOFFMAN: You can still read it. That goes everything that you're going through now.

And I have one last request of the green people. Those golf balls. We're going to have 150 canisters, these huge things the size of a school bus holding those golf balls. I wonder if you guys would be willing to take them from us, because we live in an area where there's tens of millions of people that are going to be impacted.

PARTICIPANT: (off microphone)

MR. HOFFMAN: No, 150.

PARTICIPANT: I'll take 150.

MR. HOFFMAN: Hundred and fifty? Okay. You guys will take them?

PARTICIPANT: We'll take them.

MR. HOFFMAN: All right. Good. I'm going to bring that back. I really wanted to get that answer. Thank you very much. I can't even go on, I'm so happy. We have a solution to our waste problem. Do you realize how many activists are trying to solve that problem, and they can't because there's no place to put

the waste. There's nobody that really wants it. And you're not going to end up taking it. You know you aren't.

PARTICIPANT: We'll take it.

MR. HOFFMAN: Thank you very much.

(Applause)

MR. HAGAR: Sharon? And Sharon will be our last speaker.

MS. HOFFMAN: My name is Sharon Hoffman and since I'm the last speaker in this part of the meeting, I'll try to be pretty brief.

I feel like we're not looking at the actual problem. The actual problem is that accidents do happen. Accidents can happen. And I don't know about the rest of you, but I've had radiation intentionally bombarded at me and I have seen my skin from it, and that was a very small controlled amount of radiation. So let us acknowledge that if there is an accident, it would be a disaster.

And then let's step back and think about the fact that this is a plant built and run and regulated by human beings, and we all have accidents. I venture to say that every person in this room has auto insurance, since it's required by the State of California and most other states, and we don't have auto insurance because

we think that something is going to go wrong. We have auto insurance in case there's an accident, because accidents happen to everybody.

So do you really want to gamble -- the NRC, who's actually going to make this decision, to you really want to gamble with the lives of all of the people in this area, future generations and all of the places that that radioactivity could spread, which is the whole globe. We all know that we all have residue from the bomb tests in the '50s in our bodies, everybody who's old enough. I think everybody in this room probably is. This is not something that goes away. This is not something you can say, well, we haven't had a problem here for however long and assume that there will not be a problem in the future.

So I urge the NRC to really look at the question of if you were licensing this plant, would you do it, and find that the answer is no. Thank you.

(Applause)

MR. HAGAR: I was mistaken. We have one more speaker.

(Laughter)

MR. HAGAR: So, Gary?

MR. KIRKLAND: Thank you. My name is Gary Kirkland, and what I wanted -- a couple things that I

hadn't planned to say, but I want to say now is I'm one of those people who believe in civil discourse. We had a Board of Supervisors presentation a few weeks ago about civil discourse, and some of the things I heard today were examples of non-civil discourse, in my opinion.

One of the things is false reasoning. And false reasoning, you say, well, you just think about it. Well, that's an insult. And one lady here; I think she left, she said weaker cultures. Well, I'm a Choctaw and that's an insult to my culture to call it a weak culture. And so, I don't believe in ad hominems and I also don't believe people should say "we" unless they have a mouse in their pocket, because they're not speaking for me. They're only speaking for themselves. And so I hope the NRC, when they read these things, will discount any false reasoning and name calling or any insulting of other people with their positions.

Now my position, now I'm talking about whenever somebody makes a decision in life, how they should make the decision is based on a cost-benefit ratio. And what you say is the possible benefits of this action, whatever it is, are they going to outweigh the benefit, the cost or are the costs likely to outweigh the benefits? Well, if you look at Diablo Canyon; and

I hope the NRC does this, if you look at all the benefits we've had for the last 30 years, of all the electricity that's been produced and all the lives that have been improved and economies benefitted, the benefits in my opinion far outweigh the costs. And therefore this decision should be easy to make, that we go forward. Sure, there are costs. Every activity in your life has a cost-benefit.

Another thing, we're talking about the radiation. Somebody mentioned a few minutes ago about helium-3 or whatever it was coming up from the mantle. Well, the reason the interior of the earth is hot is because it's radioactive. And so if you're trying to get away from radioactivity, you can't be in this universe. This whole universe is radioactive. Right here in this room is radioactive right now. You're not going to get away from radioactivity no matter where you go in this universe. Maybe you know some other universe that is. So you've got to live with it. And it's a benefit when you can use it in such a way that provides a benefit rather than just going to waste as the center of the earth is just staying hot. And outer space is highly radioactive and anywhere you go is radioactive. There's background radiation here. Thank you very much.

(Applause)

MR. HAGAR: Okay. Now we're done. And thank you all for staying with us for an extended meeting and thank you all for being -- hold on a second.

Two things I want to close this meeting out. One if you have any suggestions about how the NRC can improve its public meetings, please provide us a feedback form. There are some out on the table outside.

And the second is I'd like to have some closing comments from Jane Marshall. Jane is one of the managers at NRC who's responsible for license renewal.

MS. MARSHALL: Thanks. I'd just like to express my appreciation to each of you for coming out this afternoon, spending the afternoon with us and sharing your thoughts and feelings about this regulatory action that we're going to be looking at at NRC.

I'd like to remind you, please, if you have some more comments you would like to submit or if you would like to submit your comments that you made today in writing, do get them to us by -- was it August 31st, so that we can have time to review those and go through them.

PARTICIPANT: I'd like to thank the NRC for making nuclear power the safest power that's ever been

used in the United States. You know, it's because of you guys going around and checking that it's been so pristine and perfect. Diablo Canyon I think of course is the best, but the other ones are good, too.

MS. MARSHALL: Thank you. Appreciate that. And thanks to everyone again for coming out.

(Applause)

MR. HAGAR: All right. Now the meeting is adjourned. You all have a good evening.

(Whereupon, the above-entitled matter went off the record at 4:51 p.m.)